



DEPARTMENT OF CITY PLANNING RECOMMENDATION REPORT

City Planning Commission

Date:	July 12, 2018	Case No.:	CPC-2016-3575-GPA-VZC-HD-MCUP-DB-SPR-WDI
Time:	After 8:30 a.m.*	CEQA No.:	ENV-2016-3576-EIR SCH. No. 2016121002
Place:	Los Angeles City Council Chambers, Room 340 200 North Spring Street, Los Angeles, CA 90012	Related Cases:	VTT-74537
Public Hearing:	May 22, 2018	Council No.:	14 – Huizar
Appeal Status:	General Plan Amendment not appealable. All other entitlements are appealable to City Council.	Plan Area:	Central City North
Expiration Date:	July 19, 2018	Plan Overlay:	None
		Certified NC:	Historic Cultural
		Land Use:	<i>Existing:</i> Heavy Manufacturing <i>Proposed:</i> Regional Center Commercial
		Zone:	<i>Existing:</i> M3-1-RIO <i>Proposed:</i> [T][Q]C2-2D-RIO
		Applicant:	AVA Arts District, L.P.
		Representative:	Edgar Khalatian, Mayer Brown LLP

PROJECT LOCATION: 668 South Alameda Street, 1516-1570 Industrial Street & 675 Mill Street, Los Angeles, CA 90021

PROPOSED PROJECT: The 668 Alameda Project is a mixed-use live/work development comprised of 475 live/work units, and approximately 61,200 square feet of commercial retail, restaurant, and art production area. Parking would be provided in accordance with Los Angeles Municipal Code (LAMC). The project will have an FAR of 3.55:1. The project includes demolition and removal of all existing structures (an 131,350 square-foot, two- to three-story warehouse distribution facility, comprised of four buildings) to be replaced with an approximately 516,100 square-foot mixed-use live/work structure consisting of four levels of parking (three below grade and one at grade), commercial uses on the ground level, and live/work spaces on the upper levels, with a maximum building height of 85 feet (seven stories).

REQUESTED ACTIONS:

ENV-2016-3576-EIR

1. Pursuant to CEQA Guidelines, Sections 15162 and 15164, in consideration of the whole of the administrative record, find that the project was assessed in the previously certified 668 Alameda Project EIR No. ENV-2016-3576-EIR and SCH No. 2016121002; and no subsequent EIR or addendum is required for approval of the project;

668 S. Alameda Street

CPC-2016-3575-GPA-VZC-HD-MCUP-DB-SPR-WDI

2. Pursuant to Section 555 of the City Charter and Section 11.5.6 of the Municipal Code, a **General Plan Amendment** to the Central City North Community Plan to change the Land Use Designation of the site project site from 'Heavy Manufacturing' to 'Regional Center Commercial' land use;
3. Pursuant to LAMC Section 12.32, a **Vesting Zone Change and Height District Change** from M3-1-RIO (Heavy Manufacturing, Height District 1 within the River Improvement Overlay) to [T][Q]C2-2D-RIO (Commercial Zone, Height District 2 within the River Improvement Overlay);
4. Pursuant to LAMC 12.22-A,25(g)(2), a **Density Bonus Compliance Review** for the project to include an affordable housing component to:
 - a. Utilize an On-Menu incentive to allow reduced open space by up to 20 percent; and
 - b. Utilize a Waiver of Development Standard to provide relief from LAMC 12.21.A.5.c to permit 24 percent (114 spaces) of the number of primary parking spaces for each live/work unit (475 spaces) be designed as compact spaces in lieu of standard parking spaces for each unit;
5. Pursuant to LAMC Section 12.24-W, 1, a **Master Conditional Use** to permit the sale and dispensing of a full line of alcoholic beverages for off-site consumption for one establishment, and on-site consumption for up to five establishments;
6. Pursuant to LAMC Section 12.37-I,3, a **Waiver of Street Dedication and Improvement** on Industrial Street adjacent to the project site to allow for the implementation of two sidewalk bump-outs and a waiver of a one-foot dedication; and maintaining the existing half-width roadway of 20 feet on the south side of Industrial Street in accordance with the Collector Street standards of the LA Mobility Plan;
7. Pursuant to LAMC Section 16.05, a **Site Plan Review** for a project which creates, or results in an increase of 50 or more dwelling units.

RECOMMENDED ACTIONS:

ENV-2016-3576-EIR

1. **Determine**, based on the independent judgment of the decision-maker, after consideration of the whole of the administrative record, the project was assessed in the 668 Alameda Project EIR No. ENV-2016-3576-EIR, SCH No. 2016121002; and pursuant to CEQA Guidelines, Sections 15162 and 15164, no subsequent EIR or addendum is required for approval of the project;
FIND the City Planning Commission has reviewed and considered the information contained in the Environmental Impact Report prepared for this project, which includes the Draft EIR, No. ENV-2016-3576-EIR (SCH No. 2016121002) dated, September, 2017, and the Final EIR, dated April, 2018 (668 Alameda Project EIR), as well as the whole of the administrative record.

CPC-2016-3575-GPA-VZC-HD-MCUP-DB-SPR-WDI

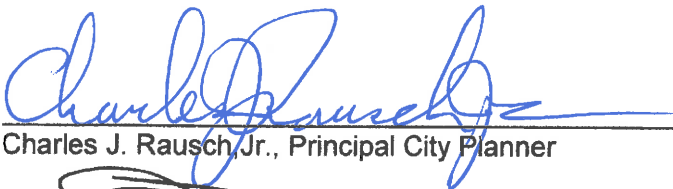
2. **Recommend** that the Mayor and City Council approve a **General Plan Amendment** to the Central City North Community Plan to change the Land Use Designation of the site project site from 'Heavy Manufacturing' to 'Regional Center Commercial' land use;
3. **Recommend** that the City Council approve a **Vesting Zone Change and Height District Change** from M3-1-RIO to [T][Q]C2-2D-RIO;
4. **Approve** a **Density Bonus Compliance Review** to allow reduced open space by up to 20 percent and permit 24 percent (114 spaces) of primary parking spaces for each live/work unit (475 spaces) be designed as compact spaces;
5. **Approve** a **Master Conditional Use** to permit the sale and dispense of a full line of alcoholic beverages for off-site consumption for one establishment, and on-site consumption for up to five establishments;
6. **Approve** a **Wavier of Street Dedication and Improvement** on Industrial Street adjacent to the project site to allow for the two sidewalk bump-outs, a waiver of a one-foot dedication and maintaining the existing half-

668 S. Alameda Street

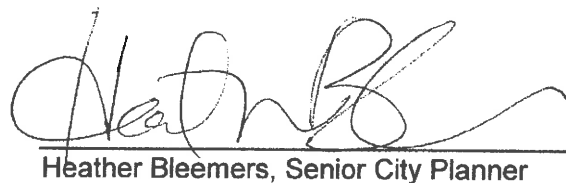
width roadway of 20 feet on the south side of Industrial Street to provide a 33 foot half-width right-of-way in accordance with the Collector Street standards of the LA Mobility Plan;

7. **Approve a Site Plan Review** for a development project that creates 50 or more dwelling units;
8. **Adopt** the attached Findings;
9. **Advise** the applicant that, pursuant to California State Public Resources Code Section 21081.6, the City shall monitor or require evidence that mitigation conditions are implemented and maintained throughout the life of the project and the City may require any necessary fees to cover the cost of such monitoring; and
10. **Advise** the applicant that pursuant to State Fish and Game Code Section 711.4, a Fish and Game Fee and/or Certificate of Fee Exemption may be required to be submitted to the County Clerk prior to or concurrent with the Environmental Notice of Determination ("NOD") filing.

VINCENT P. BERTONI, AICP
Director of Planning



Charles J. Rausch, Jr., Principal City Planner



Heather Bleemers, Senior City Planner



Sergio Ibarra, City Planner
Phone: (213) 847-3633

ADVICE TO PUBLIC: *The exact time this report will be considered during the meeting is uncertain since there may be several other items on the agenda. Written communications may be mailed to the Commission Secretariat, 200 North Spring Street, Room 532, Los Angeles, CA 90012 (Phone No. 213-978-1300). While all written communications are given to the Commission for consideration, the initial packets are sent to the week prior to the Commission's meeting date. If you challenge these agenda items in court, you may be limited to raising only those issues you or someone else raised at the public hearing agendized herein, or in written correspondence on these matters delivered to this agency at or prior to the public hearing. As a covered entity under Title II of the Americans with Disabilities Act, the City of Los Angeles does not discriminate on the basis of disability, and upon request, will provide reasonable accommodation to ensure equal access to this programs, services and activities. Sign language interpreters, assistive listening devices, or other auxiliary aids and/or other services may be provided upon request. To ensure availability of services, please make your request not later than three working days (72 hours) prior to the meeting by calling the Commission Secretariat at (213) 978-1300.

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PROJECT ANALYSIS

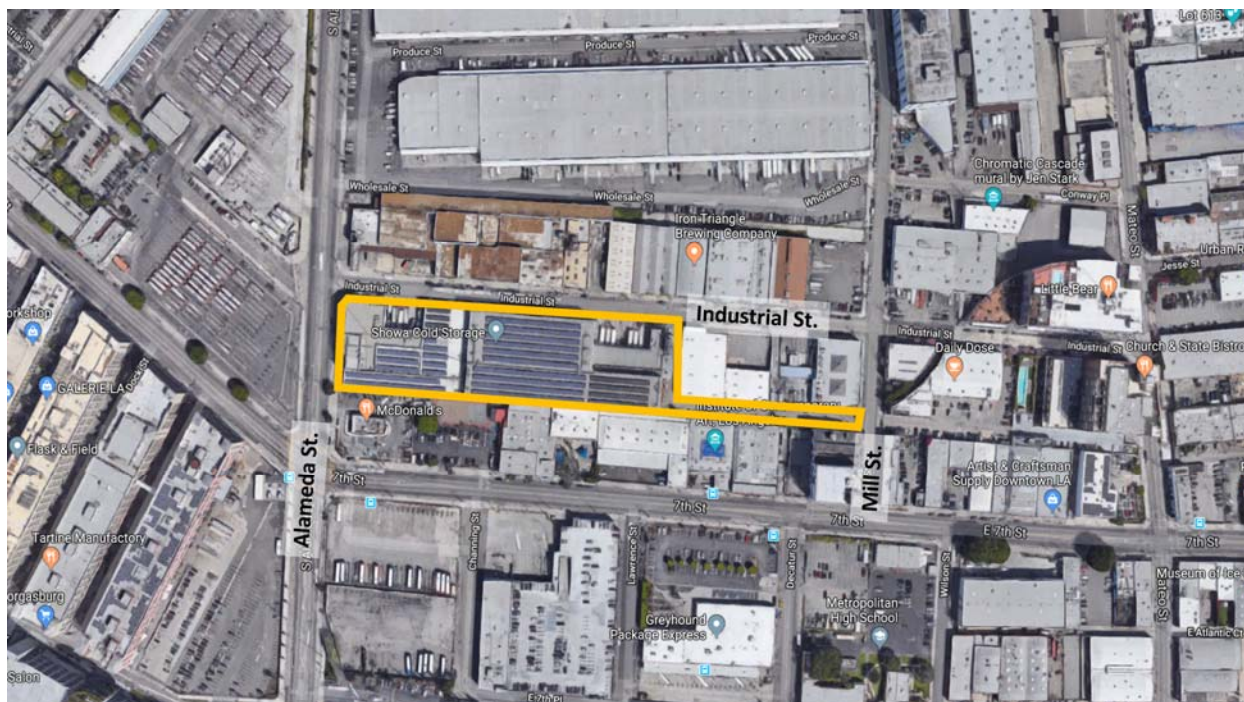
Project Summary

The project proposed removal of all existing structures and the construction of a seven-story (85 feet) building containing up to 475 live/work units and up to 61,200 square feet of commercial, retail, restaurant, and/or art production/gallery space with 11 percent (53 units) of the density reserved for Very Low Income Households, of which 24 units are to be offered for a five% set aside for a Density Bonus. The project proposes a three-level subterranean parking garage that would have been located beneath the building, and additional parking would be provided on the ground level of the Project to create a total of 842 parking spaces. The project includes a minimum of 44,620 square feet of open space. Project ingress/egress would occur from Industrial Street and only service vehicles would be allowed ingress from Mill Street and egress from Alameda Street. The ground floor of the project would allow for commercial uses such as retail, restaurant, and arts production space. The second floor would include an outdoor courtyard with amenities such as a pool, fitness, and clubroom for the residents. The upper levels of the project (second – seventh floor) would contain live/work units. The project will include two publicly accessible paseos that will promote pedestrian access through and around the site.

Background

Location and Setting

The project site is located in the center portion of the Central City North Community Plan area, along Industrial Street to the north between Alameda Street to the West and Mill Street to the East. The project is located in the Arts District neighborhood, which was originally planned and zoned for industrial uses. However, the neighborhood is evolving into a unique district that includes industrial uses, live-work units, commercial and retail uses, and mixed-use developments. While not necessarily reflected in the land use designation of the area, through the historic granting of Zoning Administrator's Determinations on adjacent properties, many of the formerly industrial buildings within proximity of the subject site have been converted into commercial and live-work uses.



Project Site and Characteristics

The Subject Property is a relatively flat, irregular lot, comprised of twelve parcels that, when combined, are approximately 3.75 acres in size (approximately 162,457 square feet). The Subject Property's easterly boundary has an approximately 43-foot frontage along Mill Street, its northern boundary, Industrial Street is approximately 752 linear feet and its westerly boundary has an approximately 190-foot frontage along Alameda Street. The Subject Property is legally described as a portion of Lots FR F (Arb 1-8) of Industrial Tract, and "Unnumbered Lot" (Arb 102, Arb 105, Arb 106) of Tract City Lands of Los Angeles.

The site is zoned M3-1-RIO and is designated for Heavy Manufacturing land uses, corresponding to the M3 Zone. The project site is currently developed with four (4) two- to three-story cold storage buildings, totaling 131,350 square-feet of containing frozen food storage/shipping distribution businesses as tenants and surface parking/loading dock areas. The existing buildings, built between 1984 and 2001, cover the majority of the site. The project site is enclosed by a chain-link fence, with gated entrances to two surface parking areas fronting Industrial Street, one side surface parking area fronting Mill Street, and one surface parking area fronting Alameda Street.

Adjacent Uses

The surrounding urban environment is predominantly developed with newly constructed mixed-use live/work and office developments, older industrial buildings that have been converted into live/work dwelling units, restaurants, and industrial uses.

- North: The properties located to the north of the Subject Property along Industrial Street are within the M3-1-RIO and [T][Q]C2-2D-RIO zones. The property within the [T][Q]C2-2D-RIO

Zone is an industrial building with a loading dock and freight truck/storage area. However, a Determination Letter was issued on August 10, 2017 (CPC-2013-2993-GPA-VZC-HD-DB-MCUP-SPR) for the demolition of the existing industrial building and construction of a 336,304 square-foot, 85 feet mixed-use building. The properties within the M3-1-RIO Zone are improved with a one- and two-story industrial buildings.

- West: The properties located to the west of the Subject Property across Alameda Street are within the M2-2D and PF-2D zones and are used for public facilities and storage for Los Angeles County Metropolitan Transportation Authority's buses.
- South: The properties located to the south of the Subject Property, are within the M3-1-RIO Zone, and are improved with a one-story fast-food restaurant, two-story school (Para Los Ninos), and one- to two-story industrial buildings.
- East: The properties located to the east of the Subject Property, along Mill Street, are within the M3-1-RIO Zone and are currently improved with one- to two-story industrial buildings and an eight-story adaptive-reuse building at 1745 7th Street with 57 Live-Work units and groundfloor commercial.

Streets and Circulation

Alameda Street – adjoining the subject site to the west, is a designated Avenue I per the Mobility Plan 2035, dedicated to a width of approximately 100 feet and is improved with paved roadway, concrete curb, gutter, sidewalk, and street trees. The street generally runs in a north and south direction. The Bureau of Engineering is requiring suitable surfacing to join the existing pavement and complete a 35-foot half roadway.

Industrial Street – adjoining the subject site to the north, is a designated Collector Street per the Mobility Plan 2035, dedicated to a width of approximately 66 feet and is improved with paved roadway, concrete curb, gutter, and sidewalk. The street generally runs in an east and west direction. The Bureau of Engineering is requiring that a two-foot wide strip of land be dedicated along Industrial Street adjoining the tract to complete a 34-foot wide half right-of-way in accordance with Industrial Collector Street Standards of LA Mobility Plan. As part of the Waiver of Dedication and Improvement Application, the applicant seeks a one-foot waiver of the two-foot dedication.

Mill Street – adjoining the subject site to the east, is a designated Collector Street per the Mobility Plan 2035, dedicated to a width of approximately 66 feet and is improved with paved roadway, concrete curb, gutter, sidewalk, and street trees. The street generally runs in a north and south direction. The Bureau of Engineering is requiring that a four-foot wide strip of land be dedicated along Mill Street adjoining the tract to complete a 34-foot wide half right-of-way in accordance with Industrial Collector Street Standards of LA Mobility Plan.

Freeway Access

Regional access to the Project Site is provided by the SR-101 and I-10 freeways. The SR-101 runs northeast-south and is located approximately 0.8 miles east of the Project Site. The nearest on- and off-ramps to the freeway are accessed from 7th Street. Interstate I-10 generally runs in the southwest direction and is located approximately 0.65-miles south and 1 mile east of the

668 Alameda Street

T-5

Project Site. Access to and from I-10 is available via on- and off-ramps at 8th Street and at 7th Street.

Public Transit

The following provides a brief description of the bus lines providing service in the Project vicinity:

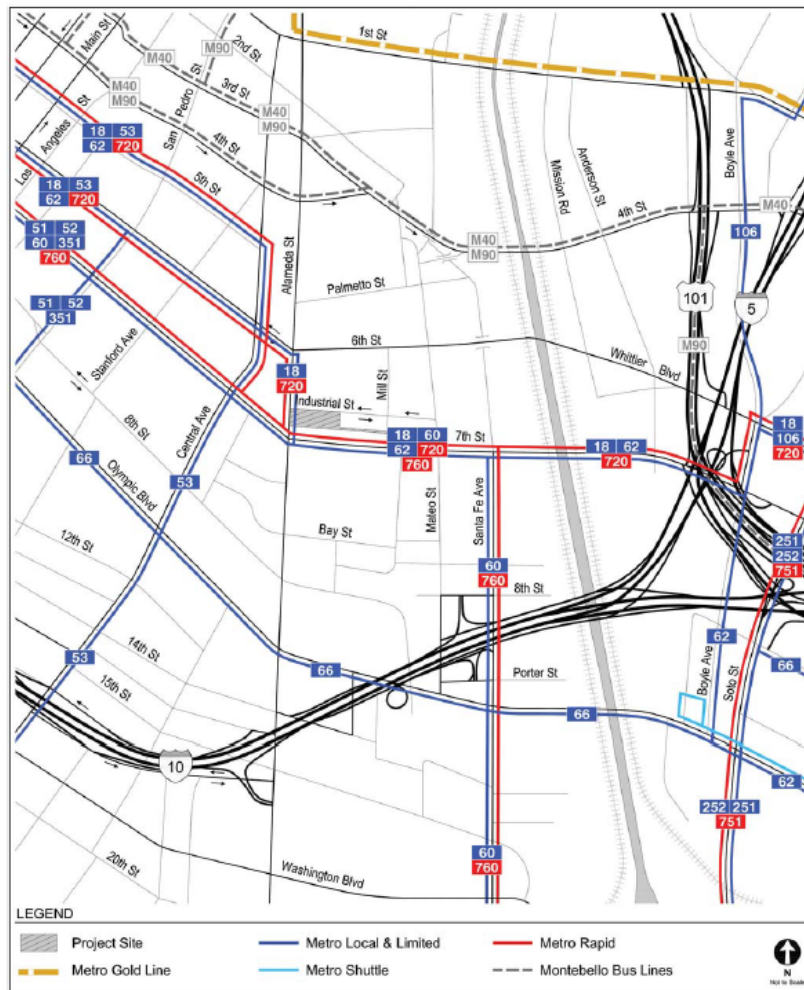


TABLE 4.12-3
EXISTING TRANSIT SERVICE PATRONAGE – LINES SERVING THE PROJECT SITE

Provider	Route	Number of Runs During Peak Hour ^a	Capacity ^b	Maximum Load ^c	Load Factor - Maximum Load/Capacity	Residual Capacity per Run	Residual Capacity in Peak Hour ^d
A.M. Peak Period							
Metro	18	11	50	24	0.48	26	286
	60	14	50	31	0.62	19	266
	62	5	50	30	0.60	20	100
	760	8	75	27	0.36	48	384
Total Residual Capacity in Peak Hour							1,036
P.M. Peak Period							
Metro	18	17	50	30	0.60	20	340
	60	17	50	31	0.62	19	323
	62	5	50	38	0.76	12	60
	760	8	75	43	0.57	32	256
Total Residual Capacity in Peak Hour							979

Notes:

^a Number of runs in both directions combined during peak hour.

^b Capacity assumptions based on discussions with Metro: Regular Bus - 40 seated / 50 seated and standing; Articulated Bus - 66 seated / 75 seated and standing.

^c Maximum Load is the maximum number of people per bus in the peak direction.

^d Maximum residual capacity in peak hours = (Maximum residual capacity per run) x (number of peak hour runs).

Metro Rapid line 760 is 0.3 miles from the project site, while Metro Rapid Line 720 is a few feet away from the project site. In addition to the bus lines that provide service within the Project vicinity, the Metro Gold Line operates within the Project Site vicinity approximately one mile north of the project. The Metro Gold Line runs between Azusa and East Los Angeles. The Metro Gold Line has connecting service to the Metro Red Line and Purple Line at Union Station, approximately 1.5 miles north of the Project Site.

In addition, as shown in the Mobility Plan, within the Study Area the Bicycle Enhanced Network designates Central Avenue, 6th Street east of Central Avenue, and 7th Street west of Central Avenue for Tier 1 protected bicycle lanes. The Bicycle Lane Network consists of Tier 2 and Tier 3 bicycle lanes. The Bicycle Lane Network would include Tier 2 bicycle lanes on Mateo Street between 7th Street and 4th Street, Santa Fe Avenue north of 4th Street, 7th Street east of Central Avenue, Olympic Boulevard east of Central Avenue, 10th Street west of Central Avenue and Pico Boulevard west of Central Avenue.

Land Use Policies

Central City North Community Plan

The Project Site is located within the Artists-in-Residence District (more commonly referred to as the “Arts District”), which is bounded by First Street to the north, the Los Angeles River to the east, Sixth Street to the south, and Alameda Street to the west. This area located just outside the Little Tokyo boundaries, is primarily made up of industrial/warehouse structures that are transitioning into artists’ studios and workshops, live/work spaces, and neighborhood-serving retail and commercial uses. Metro Red or Purple Line Stations are also being studied for this area at Santa Fe Avenue and 3rd Street and/or south of the new 6th Street Bridge pursuant to a motion

made by the Metro Board on January 19, 2017. The Community Plan encourages the continued and expanded development of a thriving artists-in-residence community in the plan and proposed redevelopment areas.

The existing land use designation for the Project Site in the Community Plan is Heavy Manufacturing. The Project Site is currently zoned M3-1-RIO (Heavy Industrial Zone, Height District 1, Los Angeles River Improvement Overlay District). Uses that are allowed in an M3 Zone include all of the uses allowed in the M1, M2, and MR2 zones and, as such, generally include those uses allowed in the C1, C1.5, and C2 zones (see LAMC Section 12.20[A][1]). Permitted uses include, among others: restaurants, business and professional offices, medical clinics and laboratories, grocery stores, retail and service stores, pharmacies, drugstores, manufacturing and industrial activities, research and development, storage, and parking. Buildings containing dwelling units or guest rooms are prohibited in the M3 Zone. The M3-1 Zone corresponds to Height District 1. Pursuant to LAMC Section 12.21.1(A)(1), Height District 1 allows a maximum floor area ratio (FAR) of 1.5:1 and does not limit the height of structures in M designated zones.

The City has initiated a General Plan Amendment to amend the project site from a Heavy Manufacturing land use designation to Regional Center Commercial. In addition, the applicant is requesting a Zone and Height District Change from the M3-1-RIO Zone to the [T][Q]C2-2D-RIO Zone, consistent with the range of zones corresponding to the Regional Center Commercial land use designation.

DTLA 2040

DTLA 2040 is the update of the Central City Community Plan and the Central City North Community Plan, which comprise Downtown Los Angeles. The City has hosted a public scoping meeting for the Community Plan Update, published preliminary land use documents, and is currently in process of preparing an Environmental Impact Report for the Plan. The following core principles represent the long-term priorities for downtown:

- Accommodate anticipated growth through 2040
- Support and sustain downtown's ongoing revitalization
- Reinforce downtown's jobs orientation
- Grow and support the residential base
- Promote a transit, bicycle, and pedestrian friendly environment
- Strengthen neighborhood character
- Create linkages between districts
- Create world-class streets and public realm

The Department has also released a Plan Concept Map for public review, which identifies the site within the Hybrid Industrial plan designation. The maximum FAR in the Hybrid Industrial ranges from 3:1 to 6:1. Hybrid Industrial areas are considered to have a distinct urban form characterized by medium and low scale development with an industrial legacy. The Community Plan Update Plan Concept encourages that these places preserve productive activity and prioritize space for employment, including light industrial, new industry, commercial, and vertically integrated businesses, with careful introduction of live-work uses. The DTLA 2040 draft states that "Hybrid Industrial places have a distinct urban form characterized by medium and low scale development with an industrial legacy. High-quality new construction and repurposed structures collectively

promote a resourceful approach to urban development that can evolve over time. These areas preserve productive activity and prioritize space for employment, including light industrial, new industry, commercial, and vertically-integrated businesses, with careful introduction of live-work uses. The industrial legacy is reflected with a network of irregular streets, punctuated by occasional passageways. The street, block and building pattern has evolved into an inviting environment for pedestrians and cyclists.”

The Project is consistent with the planned uses, FAR ranges, and applicable policies in the Community Plan Update. The project has been designed to reflect the industrial character of the area with concrete and metal panels and modulated design motifs and will provide new green space and public gathering space via the publicly accessible pedestrian paseos and outdoor gathering areas. In addition, the project will provide 61,200 square feet of commercial uses which will help to meet the goal of expanding employment in the area. Furthermore, the project will provide 475 live/work units thereby provide additional housing options in the downtown area while allowing for the operation of small businesses having up to five employees in each unit which furthers the employment opportunities in the area. Given the proximity to numerous transit options, the project is in line with the City’s efforts of providing an engaging mix of live/work and commercial uses adjacent to regional tourism and major employment centers.

River Improvement Overlay (RIO)

The River Improvement Overlay District (RIO) was established by Ordinance Nos. 183144 and 183145 to support implementation of the Los Angeles River Revitalization Plan and established landscaping, design criteria, and administrative review procedures for projects within the RIO. The project has been conditioned to comply with the provisions of the Overlay with regard to landscaping, fencing/screening, and exterior lighting.

Walkability

The Citywide Design Guidelines complement and expand upon the Walkability Checklist, (adopted by the City Planning Commission on August 23, 2007), which provides guidance and tools for encouraging pedestrian activity, promoting high quality urban form, and place-making within project sites. The Checklist reinforces many of the same principles identified in the Citywide Design Guidelines, and addresses such topics as building orientation, building frontage, landscaping, off-street parking and driveways, building signage, and lighting within the private realm; and sidewalks, street crossings, on-street parking, and utilities in the public realm.

The proposed project is consistent with the goals and implementation strategies identified in the Walkability Checklist. In general, the site design creates active environments by supporting a variety of pedestrian activities, and buildings are oriented and easily accessible from adjacent public streets and open spaces. Driveways are minimized within the site, while providing essential vehicle ingress and egress to internal parking areas. Improvements to the public right-of-ways include updated sidewalks, street trees, and street lighting. The project also provides on-street parking along Industrial Street that will provide a buffer between pedestrians and the road. These on- and off-site project features and improvements will lend themselves to create a safe and engaging pedestrian environment, and will enrich the quality of the public realm around the project site, consistent with the objectives of the Walkability Checklist.

On-Site Relevant Cases

Case No. VTT-74537: On June 13, 2018 the Deputy Advisory Agency approved a Tentative Tract application for the merger and re-subdivision of the the-acre site into one Master Lot and three airspace lots for the development of a mixed-use live/work development comprising 475 live/work dwelling units, and approximately 61,200 square feet of commercial space within a seven-story structure. On June 22, 2018, a timely appeal of the entire decision was filed and will be considered at the July 12, 2018 City Planning Commission meeting.

ENV-2016-3576-EIR: Environmental Impact Report (EIR) for the proposed 668 South Alameda Street Project. On June 13, 2018, the Deputy Advisory Agency certified ENV-2016-3576-EIR (SCH No. 2016121002), and adopted the findings, Statement of Overriding Considerations and accompanying mitigation measures, Mitigation Monitoring Program as the environmental clearance for the project. However due to the June 22, 2018 appeal of the Vesting Tentative Tract Map, will be considered by the City Planning Commission on July 12, 2018. The Notice of Availability of the Final Environmental Impact Report was issued on April 27, 2018.

Ordinance No. 183,144: Effective August 20, 2014, the Los Angeles City Council adopted this ordinance amending Section 12.04 of the LAMC to establish the Los Angeles River Improvement Overlay (RIO) District and amend the zoning map accordingly.

Ordinance No. 183,145: Effective August 20, 2014, the Los Angeles City Council adopted this ordinance to authorize the establishment of the River Improvement Overlay (RIO) Districts and River Design Guidelines for designated areas adjacent to the City's waterways.

Case No. CPC-2008-3125-CA: On February 14, 2012, the Los Angeles City Planning Commission approved the addition of a River Improvement Overlay (RIO) District as part of Los Angeles River Revitalization Master Plan (LARRMP) resulting in Ordinance No. 183,145.

Case No. CPC-2007-3036-RIO: On February 14, 2012, the Los Angeles City Planning Commission approved the implementation of Los Angeles River Improvement Overlay (RIO) District resulting in Ordinance No. 183,144.

Ordinance No. 164,855-SA2170: Effective June 27, 1989, the Los Angeles City Council adopted this ordinance changing the zones and height districts on a number of properties within the Central City North Community Plan, including the Subject Property (subarea 2170), adding Height District 1 to the current zoning of M3-3.

Off-Site Relevant Cases

Case No. CPC-2016-1080-GPA-ZC-HD-MCUP-ZV-SPR: On June 8, 2017, the City Planning Commission approved a General Plan Amendment, Zone Change, Height District Change, Master Conditional Use Permit and Site Plan Review for the adaptive reuse of a 7-story building into retail, café and artist studios.

Case No. CPC-2016-3853-GPA-VZC-HD-ZAD-SPR: On June 14, 2018, the City Planning Commission approved a request for mixed-use live/work development comprising 600 live/work dwelling units, and approximately 60,000 square feet of commercial retail and office floor area. At the time of this report, no letter of determination has been issued for this case.

Case No. CPC-2016-2683-GPA-VZC-HD-CUB-DB-SPR: On May 10, 2018, the City Planning Commission approved a General Plan Change, Vesting Zone Change, Height District Change, Master Conditional Use Permit, and Site Plan Review for a 129,440 square foot mixed-use building with a maximum of 122 dwelling units and 9,500 square feet of commercial space located at 1800 East 7th Street.

Case No. ZA-2015-4211-MCUP-CUX-ZV: On March 27, 2018, the Zoning Administrator approved a Master Conditional Use for the on-site sale of alcohol in 19 establishments, with live entertainment and dancing at five establishments for a property located at 1301 E. 8th Street.

Case No. VTT-74309: On March 23, 2018, the Advisory Agency approved a Vesting Tentative Tract Map for 6 lots (one master ground lot and five airspace lots), located at 1800 East 7th Street for a mixed-use building with a maximum 122 residential apartments units and 9,500 square feet of commercial space.

Case No. VTT-61360: On September 10, 2018, the Advisory Agency approved a Vesting Tentative Tract Map for 2 ground lots and 3 airspace lots, located at 673 South Mateo Street for a maximum of 229 live/work Artist-In-Residence condominium units and four commercial condominiums. On November 9, 2005, the Advisory Agency approved the modification of the Vesting Tentative Track Map for a maximum of 222 Artist-In-Residence condominium and four commercial condominiums.

Case No. CPC-2013-2993-GPA-VZC-HD-DB-MCUP-SPR: On August 10, 2017, the City Planning Commission approved a General Plan Change, Vesting Zone Change, Height District Change, Master Conditional Use Permit, and Site Plan Review for a 336,304 square foot mixed-use project located at 1525 E. Industrial Street.

Case No. VTT-74112: On January 5, 2017, the Advisory Agency approved a Vesting Tentative Tract Map for 14 lots (one master ground lot and 13 airspace lots), located at 1525 East Industrial Street for a mixed-use building with a maximum 344 live-work units and 29,544 square feet of commercial space.

Case No. ZA-2013-4082-MCUP: On May 30, 2014, the Zoning Administrator approved a request for a Master Conditional Use Permit to allow the sale and dispensing of a full line of alcoholic beverages for on-site consumption in seven lease spaces with live music at certain times in the common pedestrian courtyard areas, all within a mixed-use development located at 100 South Santa Fe Avenue in the (T)(Q)C2-2D Zone.

Case No. ZA-2003-6888-ZAD: On May 24, 2014, the Zoning Administrator approved a Zoning Administrator's Determination to permit 95 units of Joint Living and Work Quarters for artists and artisans, located at 500 S. Molino Street.

Case No. ZA-2011-2095-ZV-ZAD: On October 31, 2012, the Zoning Administrator approved a Zoning Administrator's Determination to permit the conversion of an industrial building into 57 Joint Living and Work Quarter for an artist or artisan and to permit to maintain the existing zero-foot yards of the building and the roof-top and ground level additions located at 1737 E. 7th Street.

Case No. TT-71705: On September 6, 2012, the Advisory Agency approved a Tentative Tract Map for one-lot, located at 1737-1745 East 7th Street for a 57-unit Joint Live and Work Quarters condominium and one 6,000 square-foot commercial condominium units.

Case No. ZA-2011-519-MCUP: On July 29, 2011, the Zoning Administrator approved a Master Conditional Use to permit the on-site sale of alcohol at an existing restaurant and proposed bar/lounge, and the off-site sale of alcohol at an existing gourmet shop, all within the ground floor of a live/work condominium building located at 1855 E. Industrial Street.

Case No. ZA-2011-401-ZAA-SPR: On March 22, 2011, the Zoning Administrator approved a Site Plan Review for a project resulting in 439 residential units, located at 1000 E. 1st Street.

Case No. CPC-2008-3417-GPA: On November 17, 2008, the City Planning Commission approved a General Plan Change to expand the boundaries of the Artists-in-Residence District of the Central City North Community Plan.

Case No. CPC-2007-778-GPA-ZC-SPR-ZAA: On January 8, 2008, the City Planning Commission approved a General Plan Amendment and a Zone and Height District Change for a mixed-use building comprised of 439 residential units and 51,250 square feet of commercial/retail uses, located at 1000 E. 1st Street.

Case No. ZA-2005-3672-ZAD-ZAA: On March 3rd, 2006, the Zoning Administrator approved 297 units for Joint Living and Work Quarters in the M3-1 Zone, located at 530 S. Hewitt Street.

Case No. ZA-2004-3332-ZV-ZAD-SPR: On September 10, 2004, the Zoning Administrator approved a Zoning Administration Determination and Site Plan Review for the conversion of two existing buildings and construction of one building into Joint Living and Work Quarters and retail space located at 673 S. Mateo Street.

Case No. VTT-60507-CC: On May 24, 2004, the Advisory Agency approved a Vesting Tract Map for the conversion of 61 units of Live-Work Units to Condominium Live-Work units and the adaptive reuse of an existing warehouse into an addition 30 Live-Work units, located at 500 S. Molino Street.

Case No. ZA-2002-6833-ZAD: On March 14, 2003, the Zoning Administrator approved a Zoning Administrator's Determination to permit a Joint Living and Work Quarter for an artist or artisan, located at 1327 E. Willows Street.

Case No. TT-54050-CC: On December 19, 2002, the Advisory Agency approved a Tentative Tract Map for one-lot, located at 1855 East Industrial Street for a maximum of 130 live/work residential condominium units and 3 commercial units.

Case No. ZA-2000-1712-CUZ-SUB-ZV-SPR-ZAI: On July 17, 2001, the Zoning Administrator approved a Zoning Administrator's Determination to allow 408 Joint Living and Work Quarters, located at 970 E. 3rd Street.

Case No. ZA-1989-1365-CUZ: On March 28, 1990, the Zoning Administrator approved a Condition Use Request for use of the existing building as a Joint Living and Work Quarters for Artists in the Industrial Zone for a total of two artist studios, located at 511 Molino Street.

Case No. ZA-1986-907-CU: On November 7, 1986, the Zoning Administrator approved the conversion of an existing warehouse building into 41 Joint/Live and Working Quarter Units for Artists or Artisans, located at 437 Molino Street.

Case No. ZA-1988-601-CUZ: On August 30th, 1988, the Zoning Administrator approved a Conditional Use Request to permit the development of five artist-in-residence studios on the second floor of an existing building in the M3-3 Zone, located at 1323 Willow Street.

Development Proposal

The project proposed removal of all existing structures and the construction of a seven-story building containing up to 475 live/work units and up to 61,200 square feet of commercial, retail, and/or office area with 11 percent of the density reserved for Very Low Income Households. A three-level subterranean parking garage would be located beneath the building, and additional parking would be provided on the ground level of the Project for a total of 842 parking spaces. The project includes 44,623 square feet of open space in the form of landscaped paseos and podium level amenities for residents. Project ingress/egress would occur from Industrial Street and only service vehicles would be allowed ingress from Mill Street and egress at Alameda Street. The ground floor of the project would allow for commercial uses such as retail, restaurant, and arts production space. The second floor would include an outdoor courtyard with amenities such as a pool, fitness, and clubroom for the residents. The upper levels of the project (second – seventh floor) would contain live/work units. The project promotes pedestrian access with two paseos. The first paseo entrance is from Industrial Street running north-south connecting to the second paseo that runs east-west along the rear of the project.



Access and Circulation

The proposed project will include pedestrian-scale features, landscape and streetscape elements, and transparent retail and lobby spaces. The project's design enhances the streetscape and activates the pedestrian realm near the project site, allowing for direct pedestrian access to each of the project components from the adjacent public streets. Short-term bicycle parking would be located indoors behind the public plaza facing Industrial Street referred to as The Landing, easily accessible from Industrial Street through the plaza. Long-term bicycle parking would be housed in the basement level parking of the development, accessible from the lobby elevators or through direct entry. Vehicular access to the site has been designed to limit curb-cuts surrounding the site, and would be provided via one access point along Industrial Street. The loading would be

provided through the fire lane via Alameda and Mill Streets. The project's main pedestrian entrances are along Industrial Street, where there is a residential lobby for the live-work units, as well as secondary elevators dispersed throughout, including near the eastern and western ends of the project, where there is a pedestrian entry for the parking garage and live-work units through the paseo.

Urban Design

The Citywide Design Guidelines, adopted by the City Planning Commission on June 9, 2011, establish a baseline for urban design expectations and present overarching design themes and best practices for residential, commercial, and industrial projects. Commission policy states that approved projects should either substantially comply with the Guidelines or through alternative methods to achieve the same objectives, and that the Guidelines may be used as a basis to condition an approved project. These design guidelines focus on several areas of opportunity for attaining high quality design in mixed-use projects, including: enhancing the quality of the pedestrian experience along commercial corridors; nurturing an overall active street presence; establishing appropriate height and massing within the context of the neighborhood; maintaining visual and spatial relationships with adjacent buildings; and optimizing high quality infill development that strengthens the visual and functional quality of the commercial environment.

The 668 Alameda project achieves these goals through several features. The site design of the mixed-use development creates an active pedestrian experience along all street frontages to create a strong functional pedestrian linkage between Alameda and Industrial Streets and the development along these budding commercial corridors, with development approved across the Industrial Street for another live-work building and along Alameda Street with the recently opened the Row DTLA, a mixed-use adaptive reuse project feature over a million square feet of commercial. Further, the project proposes a through-block paseo along the southern edge, allowing pedestrians, including the public, to traverse the site from Industrial Street to Mill Street. To engage the public sidewalk areas, the buildings contain active uses and appropriate code-compliant signage along the ground-floor levels. These ground-floor elevations incorporate pedestrian-scaled entrances and entry plazas, as well as articulated and transparent storefronts and an office and residential lobby entrances with high ceiling heights. The parking is either subterranean or concealed with active uses such as commercial, with no levels of parking exposed. Additional pedestrian amenities include wide sidewalks (13 and 15 feet along Industrial and Alameda, respectively), new street trees and street lighting. Overall, the building elevations utilize a variety of architectural features, building materials, and changes in building depth and color in order to create a consistent rhythm and cohesive theme for the development. The scale, massing, and style of the buildings is also appropriate in the larger context of the neighborhood, which is developed with other large-scale developments.

Entitlements:

In order to develop the project, the project requires the following land use entitlements:

- Consideration of the Environmental Impact Report document; adoption of the Statement of Overriding Considerations for unmitigatable impacts with regards to construction noise, construction traffic, and operational traffic impacts at three intersections; and adoption of a Mitigation Monitoring Program to off-set any potential environmental impacts the project may have on the environment.

- A **General Plan Amendment** from Heavy Manufacturing to Regional Center Commercial over the entire site.
- A **Zone Change** and **Height District Change** to [T][Q]C2-2D-RIO over the entire site, with a "D" Development Limitation to restrict the floor area ratio to 3.55:1;.
- A **Density Bonus Compliance Review** for the project to include an affordable housing component to: Utilize an On-Menu incentive to allow reduced open space by up to 20 percent; and Utilize a Waiver of Development Standard to provide relief from LAMC 12.21.A.5.c to permit 24 percent (114 spaces) of the number of primary parking spaces for each live/work unit (475 spaces) be designed as compact spaces in lieu of standard parking spaces for each unit.
- A **Master Conditional Use** to permit the sale and dispensing of a full line of alcoholic beverages for off-site consumption for one establishment, and on-site consumption for up to five establishments;
- A **Waiver of Street Dedication and Improvement** on Industrial Street adjacent to the project site to allow for the three sidewalk bump-outs and waiver of a one-foot dedication and suitable surfacing to join the existing pavement to the 20 foot half roadway in accordance with the Collector Street standards of the LA Mobility Plan.
- A **Site Plan Review** to review the site design for orderly development, compatibility with adjacent uses and infrastructure, and potential impacts to public safety and the environment.

In addition, a **Vesting Tentative Tract Map** (VTT-74537) for the merger and resubdivision of the site into four separate lots (one master lot and three airspace lots) was approved on June 13, 2018 by the Advisory Agency. The approval was appealed on June 22, 2018, and is under consideration as application concurrent request under Case No. VTT-74537-1A.

Issues

Live/Work Use and Neighborhood Compatibility

Department of City Planning staff worked with the applicant at various stages of the planning process to ensure that the project would be compatible with the surrounding built and future environment, both in terms of the proposed development program and the physical design of the project.

Historically, the area surrounding the site has been industrial in nature with large warehouses, loading docks, and light manufacturing uses. Over time, new uses have been introduced to the area in response to market trends and through the granting of Zoning Administrator actions that have allowed for the conversion of industrial buildings into live/work uses. Non-industrial uses introduced to the vicinity include the six-story Toy Factory Lofts and Biscuit Company Lofts, located approximately 500 feet north of the project site which contain 119 residential units and ground floor retail space, as well as new productive uses, such as creative office, retail, live/work units and artists' lofts, artisanal breweries, and art galleries. More recently, media and technology firms from Warner Music to Hyperloop One have begun to establish creative offices in the area,

and new live-work buildings are underway, including at 695 S. Santa Fe Avenue (AMP Lofts), located 1,000 feet east of the project site, and at 1745 E. 7th Street, adjacent to the proposed project on the corner of 7th Street and Mill Street, is an eight-story building currently being rehabilitated into 57 live/work units and commercial uses (1745 East 7th Street). Additionally, directly across the site to the north is a recently entitled mixed-use development that will contain up to 344 live-work units at a height of 85 feet. Additional nearby commercial development includes the ROW DTLA at 777 S. Alameda Street, a seven-story adaptive reuse project on a 30 acre site featuring 1.3 million square feet of creative office and 200,000 square feet of groundfloor commercial space in the former LA Terminal Market building. The transition from traditional industrial uses toward artistic and creative sectors has increased the demand for housing and services to support this growing employment base.

As a condition of initiating the plan amendment, the Department of City Planning established parameters to ensure that the proposed development would be compatible with the character of the Arts District. One objective was to retain or promote jobs-producing uses, which will be realized by the provision of 15,185 square feet of arts and production space as well as 475 live-work units. The ground floor of the building (Type 1 construction) features a minimum 16-foot high ceilings and open floor plates to accommodate a range of productive uses. Furthermore, all proposed residential units have an average size of at least 895 square feet with a minimum workspace area of 150 square feet to allow for the creation of arts and crafts or production. The live-work units each provide a minimum clearance of 10 feet as measured from the top of the flooring to the ceiling. Another Department objective was to provide affordable housing, which the project realized through the provision of setting aside 11% of the total units Very Low Income households.

The project has been designed to be consistent with the character of the neighborhood. Proposed architectural materials include concrete and metal panels, perforated metal and glass fiber panel accent walls, and large industrial-style windows. The buildings exhibit varying changes in facades planes throughout the project, with the groundfloors further differentiated with concrete panels and floor-to-ceiling windows. Consistent with good planning practice, the project features a high degree of street façade transparency (floor to ceiling windows on the ground floors), and the above-grade parking is lined by commercial uses on all frontages facing a public right-of-way. The paseo along the southern edge of the project is also lined with commercial uses and ample transparency. Along Industrial Street there are restaurant uses and the main lobby for the live-work units. Industrial and Alameda are burgeoning nodes of commercial activity and the project contributes to the growing pedestrian life in this area. As designed, the proposed project would enhance the subject site and would be compatible with the evolving Arts District, which is transitioning from purely light industrial uses towards accommodating new forms of employment and residential uses.

Architectural Design

The project has been designed in a contemporary architectural style that compliments the surrounding industrial buildings by providing metal and concrete paneling, mesh finishes and clean, linear lines. The project also intends to accommodate art murals by the local community within their project.

The project was reviewed by Urban Design Studio staff and the Professional Volunteer Program (PVP) on February 21, 2017, resulting in the following comments with regard to the architectural design of the project:

- Residential lobby difficult to locate.
- Lobby seems small for so many units.
- Not enough elevators for 500 units.
- Can bikes circulate through courtyard if outdoor restaurant space will also be utilizing courtyard? (A204)
- Any river identity references?
- Need good programming for open space, especially long strip at the end of project (which acts as fire lane)
- Stormwater management needed on long strip.
- The south elevation seems randomly broken down. Courtyard on that side should read better.

Based on the PVP meeting, the applicant

Environmental Analysis

The following is a summary of the environmental review process and final impacts resulting from the proposed project. The City published a Notice of Preparation (NOP), which was sent to State, regional, and local agencies, and members of the public for a 30-day review period starting on December 1, 2016, and ending January 6, 2017. The purpose of the NOP was to formally convey that the City was preparing a Draft EIR for the proposed Project, and to solicit input regarding the scope and content of the environmental information to be included in the Draft EIR. A Public Scoping Meeting was held on December 15, 2016. The meeting was held in an open house or workshop format and provided interested individuals, groups, and public agencies the opportunity to view materials, ask questions, and provide oral and written comments to the City regarding the scope and focus of the Draft EIR. The Draft EIR was circulated for a 45-day public comment period beginning on September 28, 2017, and ending on November 13, 2017. A Notice of Completion was sent on September 28, 2017 to the Governor's Office of Planning and Research State Clearinghouse, property owners within 500 feet, and interested parties, and the notice was also provided in newspapers of general and/or regional circulation. The Final EIR was distributed on April 27, 2018.

On May 22, 2018, a subdivision hearing was held by the Deputy Advisory Agency. The Deputy Advisory Agency certified the EIR on June 13, 2018 in connection with its approval of the vesting tentative tract map VTT-74537 for the project. The approval was appealed on June 22, 2018 and is under consideration under concurrent Case No. VTT-74537-1A. The Environmental Impact Report identified impacts that would have 1) no impacts or less than significant impacts, 2) potential significant impacts that could be mitigated to less than significant, and 3) significant and unavoidable impacts. The impacts are summarized below:

Impacts found to have No Impact or Less Than Significant include the following:

Archaeological and Paleontological Resources

Agricultural and Forest Resources

Air Quality

Aesthetics
Biological Resources
Geology and Soils
Greenhouse Gas Emissions
Hazards and Hazardous Materials
Historic and Tribal Resources
Hydrology and Water Quality
Land Use and Planning
Mineral Resources
Operational Noise and Vibration
Population and Housing
Public Services
Transportation
Utilities and Energy

Impacts Found to be Significant and Unavoidable even with the implementation of all feasible mitigation include the following:

Operational Traffic

Agency Reports Received:

Letters were received from the Department of Public Works (Bureau of Engineering and Bureau of Street Lighting), Department of Transportation, Fire Department, Department of Building and Safety (Zoning Division and Grading Division), Wastewater (Bureau of Sanitation) and Recreation and Parks prior to the completion of the Hearing Officer's report. These recommendations were included in the conditions for the Vesting Tentative Tract Map VTT-74537 and are included in the T Conditions within this report. Conditions applicable to the zone change have been incorporated as [Q] or [T] conditions of approval.

Conclusion

The project is a mixed-use project that provides 475 live-work units, active ground-floor commercial uses, including art production spaces available to the public, groundfloor and podium level amenity spaces, two publicly accessible paseos, and various streetscape and transit-oriented improvements to the immediate area. The project enhances the built environment through the unified development of the site, and would include essential and beneficial uses by including commercial and live/work components near Downtown's transit-rich regional center of commerce, tourism, and entertainment. The project's replacement of 131,350-square-foot cold storage facility buildings with 475 live-work units and 61,200 square feet of commercial, retail, restaurant, and/or art production/gallery space supports the Arts District's identity as an employment area and supports the city's desire to preserve employment as a primary focus of the Arts District.

The proposed development would be compatible with the site's proposed Regional Center Commercial designation and the policies of the General Plan. The requested C2 Zone, Height District 2, and D limitations are in conformance with the public necessity, convenience, general welfare, and good zoning practice. Staff recommends approval of the Regional Center

Commercial designation and [T][Q]C2-2D-RIO Zone with the attached [Q] Qualified conditions, [T] Tentative conditions, and D limitations, which support the policies of the Land Use Element of the General Plan.

The project results in a development that includes a beneficial mix of uses that allow for a cohesive site design, creating active and safe pedestrian environments, and offering a variety of amenities and open space features. The project's location, uses, height, and other features would be compatible with the surrounding neighborhood, and would not adversely affect public health, welfare, and safety. Furthermore, overriding considerations of economic, social, aesthetic, and environmental benefits for the Project justify adoption of the Project and utilization of the previously certified EIR. Therefore, Department of City Planning staff recommends that the City Planning Commission approve the proposed project and corresponding entitlement requests.

**CONDITIONS FOR EFFECTUATING [T]
TENTATIVE CLASSIFICATION REMOVAL**

Pursuant to Section 12.32-G of the Municipal Code, the (T) Tentative Classification shall be removed by the recordation of a final parcel or tract map or by posting of guarantees through the B-permit process of the City Engineer to secure the following without expense to the City of Los Angeles, with copies of any approval or guarantees provided to the Department of City Planning for attachment to the subject planning case file.

Dedication(s) and Improvement(s). Prior to the issuance of any building permits, the following public improvements and dedications for streets and other rights of way adjoining the subject property shall be guaranteed to the satisfaction of the Bureau of Engineering, Department of Transportation, Fire Department (and other responsible City, regional and federal government agencies, as may be necessary):

Responsibilities/Guarantees.

1. As part of early consultation, plan review, and/or project permit review, the applicant/developer shall contact the responsible agencies to ensure that any necessary dedications and improvements are specifically acknowledged by the applicant/developer.

2. **Bureau of Engineering.** Prior to issuance of sign-offs for final site plan approval and/or project permits by the Department of City Planning, the applicant/developer shall provide written verification to the Department of City Planning from the responsible agency acknowledging the agency's consultation with the applicant/developer. The required dedications and improvements may necessitate redesign of the project. Any changes to project design required by a public agency shall be documented in writing and submitted for review by the Department of City Planning.

a. **Dedication Required**

- i. That a two-foot wide strip of land be dedicated along Industrial Street adjoining the tract to complete a 34-foot wide half right-of-way in accordance with Industrial Collector Street Standards of LA Mobility Plan. Additional 15-foot by 15-foot or 20-foot radius property line return be dedicated at the intersection with Alameda Street. Above dedications including the corner cut shall be limited to 15-foot above the finished sidewalk grade and 10-foot below finished sidewalk grade. In the event that Community Plan for this area has been upgraded and adopted by full City Council prior to the recordation of the final map allowing lesser public street dedications and street improvements then the subdivider has the option to comply with the new street standards for all the streets adjoining this tract. These conditions shall not preclude the Department of City Planning from granting a Waiver of Dedication and Improvements prior to the recordation of the final map.
- ii. That a four-foot wide public sidewalk easement be provided along Mill Street adjoining the tract.

b. Improvements Required –

i. Improve Industrial Street being dedicated and adjoining the subdivision by the construction of the following:

- (1) A Concrete curb, a concrete gutter, and a 13-foot full-width concrete sidewalk with tree wells.
- (2) Suitable surfacing to join the existing pavement to the 20-foot half roadway in accordance with Collector Street Standards of LA Mobility Plan.
- (3) Any necessary removal and reconstruction of existing improvements.
- (4) The necessary transitions to join the existing improvement.

ii. Improve Mill Street adjoining the subdivision by the construction of the following:

- (1) A concrete curb, a concrete gutters, and 10-foot concrete sidewalk with tree wells.
- (2) Suitable surfacing to join the existing pavement to the 20-foot half roadway.
- (3) Any necessary removal and reconstruction of existing improvements.
- (4) The necessary transitions to join the existing improvement.

iii. Improve Alameda Avenue being dedicated and adjoining the subdivision by the construction of the following:

- (1) A Concrete curb, a concrete gutter, and a 15-foot full-width concrete sidewalk with tree wells.
- (2) Suitable surfacing to join the existing pavement and to complete 35-foot half roadway.
- (3) Any necessary removal and reconstruction of existing improvements.
- (4) The necessary transitions to join the existing improvement.

3. BUREAU OF STREET LIGHTING

- i. Install street lighting facilities to serve the tract as required by the Bureau of Street Lighting. Construct new street lights: seven (7) on Industrial St., two (2) on Alameda St., and one (1) on Mill St.

4. URBAN FORESTRY

Plant street trees and remove any existing trees within dedicated streets or proposed dedicated streets as required by the Urban Forestry Division of the Bureau of Street Services. All street tree plantings shall be brought up to current standards. When the City has previously been paid for tree plantings, the sub divider or contractor shall notify the Urban Forestry Division (213-847-3077) upon completion of construction to expedite tree planting.

[Q] QUALIFIED CONDITIONS OF APPROVAL

Pursuant to Section 12.32-G of the Municipal Code, the following limitations are hereby imposed upon the use of the subject property, subject to the “Q” Qualified classification.

A. Development Conditions:

2. **Site Development.** The use and development of the property shall be in substantial conformance with the Site Plans, Floor Plans, Building Elevations, Landscape Plan (Exhibit A, dated July 2, 2018) of the subject case file. No change to the plans will be made without prior review by the Department of City Planning, and written approval by the Director of Planning. Each change shall be identified and justified in writing. Minor deviations may be allowed in order to comply with the provisions of the Municipal Code or the project conditions.
3. **Development Services Center.** Prior to sign-off on building permits by the Department of City Planning’s Development Services Center for the project, the Department of City Planning’s Major Projects Section shall confirm, via signature, that the project’s building plans substantially conform to the conceptual plans stamped as Exhibit “A”, as approved by the City Planning Commission.

Note to Development Services Center: The plans presented to, and approved by, the City Planning Commission (CPC) included specific architectural details that were significant to the approval of the project. Plans submitted at plan check for condition clearance shall include a signature and date from Major Projects Section planning staff to ensure plans are consistent with those presented at CPC.

4. **Affordable Housing.** A minimum of 11% of the total dwelling units, shall be reserved as Very Low Income units, as defined by the State Density Bonus Law 65915(C)(2). The project shall be limited to a maximum of 475 residential units, inclusive of Density Bonus units.

Prior to issuance of a building permit, the owner shall execute a covenant to the satisfaction of the Los Angeles Housing and Community Investment Department (HCIDLA) to make 53 units (11% of total units built) available as Very Low Income Units, for sale or rental as determined to be affordable to such households by HCIDLA for a period of 55 years. Enforcement of the terms of said covenant shall be the responsibility of HCIDLA. The applicant will present a copy of the recorded covenant to the Department of City Planning for inclusion in this file. The project shall comply with the Guidelines for the Affordable Housing Incentives Program adopted by the City Planning Commission and with any monitoring requirements established by the HCIDLA.

5. **Live/Work Housing.** The live/work units will be designed to comply with Section 419 of the Los Angeles Building Code. The units are designed to be larger than average with taller floor to ceiling heights to accommodate arts and production uses and a minimum 150 square-foot designated work area in each unit. All residential units shall have a minimum clearance of 10 feet from floor to ceiling for the live-work space.

6. **Waiver of Dedication and Improvement.** The project shall provide a one-foot dedication along Industrial Street in lieu of the two-foot dedication otherwise required. The project shall include three bump outs as shown on Exhibit A, dated July 2, 2018.

7. **River Improvement Overlay District**

- a. Landscaping. At least 75 percent of any Project's newly landscaped area shall be planted with any combination of the following: native trees, plants and shrubs, or species defined as WatershedWise, or species listed in the Los Angeles County River Master Plan Landscaping Guidelines and Plant Palettes.

- b. Screening/Fencing.

- i. Loading areas and off-street parking facilities of three spaces or more, either on a surface lot or in a structure, shall be screened from the abutting public right-of-way and the River. However, such screening shall not obstruct the view of a driver entering or leaving the loading area or parking facility, or the view from the street of entrances and exits to a loading area or parking facility, and shall consist of one or a combination of the following:

1. (i) A strip at least five feet in width of densely planted shrubs or trees which are at least two feet high at the time of planting and are of a type that may be expected to form, within three years after time of planting, a continuous, unbroken, year round visual screen; or
2. (ii) A wall, barrier or fence of uniform appearance. Such wall, barrier or fence may be opaque or perforated, provided that not more than 50 percent of the face is open. The wall, barrier or fence shall, when located in either the rear or side yards, be at least four feet and not more than six feet in height.

- ii. Electrical transformers, mechanical equipment, water meters and other equipment shall be screened from public view. The screening may be opaque or perforated, provided that not more than 50 percent of the face is open. The screen shall be at least six inches taller than the equipment and not more than two feet taller than the equipment.

- iii. Exterior trash enclosures shall:

1. (i) be designed to complement the primary building with a wall height that exceeds the disposal unit it is designed to contain by at least 18 inches;
2. (ii) have a solid roof to deter birds and block views from adjacent properties;
3. (iii) have solid metal doors that accommodate a lock and remain closed when not in use; and
4. (iv) not be constructed of chain link or wood.

8. **Public Paseos.** The Paseos shall run east and west from Mill Street towards Alameda Avenue and a secondary Paseo from Industrial Street connecting to the main east/west Paseo as a design feature of the project as shown on Exhibit A. The Paseos shall be open to the public from 8:00 am to 8:00 pm, daily from the Industrial Street and Mill Street.
9. **Greywater.** The project shall be constructed with an operable recycled water pipe system for onsite greywater use, to be served from onsite non-potable water sources such as showers, washbasins, or laundry and to be used as untreated subsurface irrigation for vegetation or for cooling equipment. The system specifics shall be required as determined feasible by DWP in consultation with DCP.
10. **Signage.** There shall be no off-site commercial signage on construction fencing during construction.
11. **Billboards.** There shall be no Billboards on the project site, any existing Billboards shall be removed.
12. **Arts Production Space.** The project shall provide a range of Arts Production spaces, including smaller spaces designed to accommodate small businesses and configurable floor plates to accommodate a range of productive uses.
13. **Bicycle Parking.** Bicycle Parking shall be provided for the project pursuant to LAMC 12.21 A.16.
14. **Solar Panels.** The project shall provide solar panels for 10% of the total roof area for the project, to the satisfaction of the Department of Building and Safety.
15. **Exterior Site lighting.**
 - a. All site and building mounted lighting shall be designed such that it produces a maximum initial luminance value no greater than 0.20 horizontal and vertical foot candles at the site boundary, and no greater than 0.01 horizontal foot candles 15 feet beyond the site. No more than 5.0 percent of the total initial designed lumens shall be emitted at an angle of 90 degrees or higher from nadir (straight down).
 - b. All low pressure sodium, high pressure sodium, metal halide, fluorescent, quartz, incandescent greater than 60 watts, mercury vapor, and halogen fixtures shall be fully shielded in such a manner as to not exceed the limitations above.

B. Environmental Conditions.

1. **Mitigation Monitoring Program.** The project shall be in substantial conformance with the mitigation measures in the attached MMP and stamped "Exhibit B" and attached to the subject case file. The implementing and enforcing agencies may determine substantial conformance with mitigation measures in the MMP. If substantial conformance results in effectively deleting or modifying the mitigation measure, the Director of Planning shall provide a written justification supported by substantial evidence as to why the mitigation measure, in whole or in part, is no longer needed and its effective deletion or modification will not result in a new significant impact or a more severe impact to a previously identified significant impact.

If the Project is not in substantial conformance to the adopted mitigation measures or MMP, a modification or deletion shall be treated as a new discretionary action under CEQA Guidelines, Section 15162(c) and will require preparation of an addendum or subsequent CEQA clearance. Under this process, the modification or deletion of a mitigation measure shall not require a Tract Map Modification unless the Director of Planning also finds that the change to the mitigation measures results in a substantial change to the Project or the non-environmental conditions of approval.

2. **Mitigation Monitor (Construction).** During the construction phase and prior to the issuance of building permits, the Applicant shall retain an independent Construction Monitor (either via the City or through a third-party consultant, the election of which is in the sole discretion of the Applicant), approved by the City of Los Angeles Department of City Planning which approval shall not be reasonably withheld, who shall be responsible for monitoring implementation of project design features and mitigation measures during construction activities consistent with the monitoring phase and frequency set forth in this MMP.

The Construction Monitor shall also prepare documentation of the Applicant's compliance with the project design features and mitigation measures during construction every 90 days in a form satisfactory to the Department of City Planning. The documentation must be signed by the Applicant and Construction Monitor and be included as part of the Applicant's Compliance Report. The Construction Monitor shall be obligated to report to the Enforcement Agency any non-compliance with mitigation measures and project design features within two businesses days if the Applicant does not correct the non-compliance within a reasonable time of written notification to the Applicant by the monitor or if the non-compliance is repeated. Such non-compliance shall be appropriately addressed by the Enforcement Agency.

C. Administrative Conditions:

1. **Approval, Verification and Submittals.** Copies of any approvals, guarantees or verification of consultations, review or approval, plans, etc., as may be required by the subject conditions, shall be provided to the Planning Department for placement in the subject file.
2. **Code Compliance.** Area, height and use regulations of the zone classification of the subject property shall be complied with, except where herein conditions are more restrictive.
3. **Covenant.** Prior to the issuance of any permits relative to this matter, an agreement concerning all the information contained in these conditions shall be recorded in the County Recorder's Office. The agreement shall run with the land and shall be binding on any subsequent property owners, heirs or assign. The agreement must be submitted to the Planning Department for approval before being recorded. After recordation, a copy bearing the Recorder's number and date shall be provided to the Planning Department for attachment to the file.

4. **Definition.** Any agencies, public officials or legislation referenced in these conditions shall mean those agencies, public officials, legislation or their successors, designees or amendment to any legislation.
5. **Enforcement.** Compliance with these conditions and the intent of these conditions shall be to the satisfaction of the Planning Department and any designated agency, or the agency's successor and in accordance with any stated laws or regulations, or any amendments thereto.
6. **Building Plans.** Page 1 of the grants and all the conditions of approval shall be printed on the building plans submitted to the City Planning Department and the Department of Building and Safety.
7. **Project Plan Modifications.** Any corrections and/or modifications to the Project plans made subsequent to this grant that are deemed necessary by the Department of Building and Safety, Housing Department, or other Agency for Code compliance, and which involve a change in site plan, floor area, parking, building height, yards or setbacks, building separations, or lot coverage, shall require a referral of the revised plans back to the Department of City Planning for additional review and final sign-off prior to the issuance of any building permit in connection with said plans. This process may require additional review and/or action by the appropriate decision-making authority including the Director of Planning, City Planning Commission, Area Planning Commission, or Board.
8. **Indemnification and Reimbursement of Litigation Costs.** The Applicant shall do all of the following:
 - (i) Defend, indemnify and hold harmless the City from any and all actions against the City relating to or arising out of, in whole or in part, the City's processing and approval of this entitlement, including but not limited to, an action to attack, challenge, set aside, void, or otherwise modify or annul the approval of the entitlement, the environmental review of the entitlement, or the approval of subsequent permit decisions, or to claim personal property damage, including from inverse condemnation or any other constitutional claim.
 - (ii) Reimburse the City for any and all costs incurred in defense of an action related to or arising out of, in whole or in part, the City's processing and approval of the entitlement, including but not limited to payment of all court costs and attorney's fees, costs of any judgments or awards against the City (including an award of attorney's fees), damages, and/or settlement costs.
 - (iii) Submit an initial deposit for the City's litigation costs to the City within 10 days' notice of the City tendering defense to the Applicant and requesting a deposit. The initial deposit shall be in an amount set by the City Attorney's Office, in its sole discretion, based on the nature and scope of action, but in no event shall the initial deposit be less than \$50,000. The City's failure to notice or collect the deposit does not relieve the Applicant from responsibility to reimburse the City pursuant to the requirement in paragraph (ii).
 - (iv) Submit supplemental deposits upon notice by the City. Supplemental deposits may be required in an increased amount from the initial deposit if found necessary by the City to protect the City's interests. The City's failure to notice or collect the deposit does not relieve the Applicant from responsibility to reimburse the City pursuant to the requirement in paragraph (ii).

- (v) If the City determines it necessary to protect the City's interest, execute an indemnity and reimbursement agreement with the City under terms consistent with the requirements of this condition.

The City shall notify the applicant within a reasonable period of time of its receipt of any action and the City shall cooperate in the defense. If the City fails to notify the applicant of any claim, action, or proceeding in a reasonable time, or if the City fails to reasonably cooperate in the defense, the applicant shall not thereafter be responsible to defend, indemnify or hold harmless the City.

The City shall have the sole right to choose its counsel, including the City Attorney's office or outside counsel. At its sole discretion, the City may participate at its own expense in the defense of any action, but such participation shall not relieve the applicant of any obligation imposed by this condition. In the event the Applicant fails to comply with this condition, in whole or in part, the City may withdraw its defense of the action, void its approval of the entitlement, or take any other action. The City retains the right to make all decisions with respect to its representations in any legal proceeding, including its inherent right to abandon or settle litigation.

For purposes of this condition, the following definitions apply:

"City" shall be defined to include the City, its agents, officers, boards, commissions, committees, employees, and volunteers.

"Action" shall be defined to include suits, proceedings (including those held under alternative dispute resolution procedures), claims, or lawsuits. Actions includes actions, as defined herein, alleging failure to comply with any federal, state or local law.

Nothing in the definitions included in this paragraph are intended to limit the rights of the City or the obligations of the Applicant otherwise created by this condition.

D LIMITATIONS

Pursuant to Section 12.32-G of the Municipal Code, the following limitations are hereby imposed upon the use of the subject property, subject to the D limitation.

A. Development Limitations:

1. **Floor Area Ratio.** Floor area over the entire site, as identified in the Ordinance Map, shall not exceed six times the buildable area of the site (3.55:1), not to exceed a total of 577,301 square feet of floor area.
2. **Building Height.** Building height shall be limited to a maximum height of 85 feet consistent with Exhibit A.

CONDITIONS OF APPROVAL

Pursuant to Sections 12.24, and 16.05 of the Los Angeles Municipal Code, the following conditions are hereby imposed upon the use of the subject property:

1. **Uses.** All other use, height and area regulations of the Municipal Code and all other applicable government/regulatory agencies shall be strictly complied with in the development and use of the property, except as such regulations are herein specifically varied or required. Uses. The project size shall not exceed the following: a) 475 live/work units; b) 15,185 square feet of arts and production/commercial space; c) a 15,815 square-foot full-service grocery store; d) 9,943 square feet of commercial/retail space and e) 16,140 square feet for restaurant, café, or bar uses and 4,200 square feet of other supporting space. Uses allowed in the C2 Zone are allowed in the project.
2. **Development.** The use and development of the property shall be in substantial conformance with the plot plan submitted with the application and marked Exhibit "A", stamp dated July 2, 2018, except as may be revised as a result of this action. No change to the plans will be made without prior review by the Department of City Planning, and written approval by the Director of Planning, with each change being identified and justified in writing. Minor deviations may be allowed in order to comply with provisions of the Municipal Code, the subject conditions, and the intent of the subject permit authorization.
3. **Graffiti.** All graffiti on the site shall be removed or painted over to match the color of the surface to which it is applied within 24 hours of its occurrence.
4. A copy of the first page of this grant and all Conditions and/or any subsequent appeal of this grant and its resultant Conditions and/or letters of clarification shall be printed on the building plans submitted to the Development Services Center and the Department of Building and Safety for purposes of having a building permit issued.
5. **Electric Vehicle Parking.** The project shall include at least 20 percent of the total code-required parking spaces capable of supporting future electric vehicle supply (EVSE). Plans shall indicate the proposed type and location(s) of EVSE and also include raceway method(s), wiring schematics and electrical calculations to verify that the electrical system has sufficient capacity to simultaneously charge all electric vehicles at all designated EV charging locations at their full rated amperage. Plan design shall be based upon Level 2 or greater EVSE at its maximum operating ampacity. In addition, five percent of the total code required parking spaces shall be further provided with EV chargers to immediately accommodate electric vehicles within the parking areas. When the application of either the required 20 percent or five percent results in a fractional space, round up to the next whole number. A label stating "EVCAPABLE" shall be posted in a conspicuous place at the service panel or subpanel and next to the raceway termination point.
6. The project shall comply with the Los Angeles Green Building Code, Section 95.05.211, to the satisfaction of the Department of Building and Safety.
7. **Landscaping.** All open areas not used for buildings, driveways, parking areas, recreational facilities or walks shall be attractively landscaped, including an automatic irrigation system, and maintained in accordance with a landscape plan prepared by a licensed landscape

architect or licensed architect, and submitted for approval to the Department of City Planning.

8. Lighting. All outdoor lighting shall be shielded and down-casted within the site in a manner that prevents the illumination of adjacent public rights-of-way, adjacent properties, and the night sky (unless otherwise required by the Federal Aviation Administration (FAA) or for other public safety purposes). Areas where retail and restaurant uses are located shall be maintained to provide sufficient illumination of the immediate environment so as to render objects or persons clearly visible for the safety of the public and emergency response personnel.

Conditional Use for the Sale and Dispensing of On-Site Alcoholic Beverages

9. Authorized herein is the sale and dispensing of a full line of alcoholic beverages for off-site consumption for one establishment, and on-site consumption for up to five establishments, subject to the following limitations:
 - a. The hours of operation shall be limited to 7:00 a.m. to 2:00 a.m., daily for on-site consumption.
 - b. No after-hour use is permitted, except routine clean-up. This includes but is not limited to private or promotional events, special events, excluding any activities which are issued film permits by the City.
10. MVIP – Monitoring Verification and Inspection Program. Prior to the utilization of this grant, fees required per L.A.M.C section 19.01 E (3) for Monitoring of Conditional Use Permits and Inspection and Field Compliance Review of Operations shall be paid to the City. Within 12 to 18 months from the beginning of operations or issuance of a Certificate of Occupancy, a City inspector will conduct a site visit to assess compliance with, or violations of, any of the conditions of this grant. Observations and results of said inspection will be documented and included in the administrative file. The owner/operator shall be notified of the deficiency or violation and required to correct or eliminate the deficiency or violation. Multiple or continued documented violations or Orders to Comply issued by the Department of Building and Safety which are not addressed within the time prescribed, may result in additional corrective conditions imposed by the Zoning Administrator.
11. Prior to the utilization of this grant, a covenant acknowledging and agreeing to comply with all the terms and conditions established herein shall be recorded in the County Recorder's Office. The agreement (standard master covenant and agreement form CP-6770) shall run with the land and shall be binding on any subsequent owners, heirs or assigns. The agreement with the conditions attached must be submitted to the Department of City Planning for approval before being recorded. After recordation, a certified copy bearing the Recorder's number and date shall be provided for inclusion in case file. Fees required per L.A.M.C section 19.01 E (3) for Monitoring of Conditional Use Permits and Inspection and Field Compliance Review of Operations shall be paid to the City prior to the final clearance of this condition.
12. Should there be a change in the ownership and/or the operator of the business, the business owner or operator shall provide the prospective new business owner/operator with a copy of the conditions of this action prior to the legal acquisition of the property and/or the

business. Evidence that a copy of this determination including the conditions required herewith has been provided to the prospective owner/operator shall be submitted to the Department of City Planning in a letter from the new operator indicating the date that the new operator/management began and attesting to the receipt of this approval and its conditions. The new operator shall submit this letter to the Department of City Planning within 30-days of the beginning day of his/her new operation of the establishment along with any proposed modifications to the existing the floor plan, seating arrangement or number of seats of the new operation.

13. The Zoning Administrator reserves the right to require that the new business owner or operator file a Plan Approval application, if it is determined that the new operation is not in substantial conformance with the approved floor plan, or the operation has changed in mode or character from the original approval, or if documented evidence be submitted showing a continued violation(s) of any condition(s) of this grant resulting in a disruption or interference with the peaceful enjoyment of the adjoining and neighboring properties. The application, in association with the appropriate fees, and a 500-foot notification radius, shall be submitted to the Department of City Planning within 30 days of the date of legal acquisition by the new owner or operator. The purpose of the plan approval will be to review the operation of the premise and establish conditions applicable to the use as conducted by the new owner or operator, consistent with the intent of the Conditions of this grant. Upon this review, the Zoning Administrator may modify, add or delete conditions, and if warranted, reserves the right to conduct this public hearing for nuisance abatement/revocation purposes.
14. All graffiti on the site shall be removed or painted over to match the color of the surface to which it is applied within 24 hours of its occurrence.
15. All graffiti on the site shall be removed or painted over to match the color of the surface to which it is applied within 24 hours of its occurrence.
16. Prior to approval of any Plan Approval filed subsequent to this approval, each individual business owner or operator shall prepare a security plan which shall be submitted to the Police Department's Central Area's Vice Section for review and approval. The security plan shall address security measures applicable to the restaurant.
17. Prior to the utilization of this grant, surveillance cameras shall be installed which cover all common areas of the venues, including all high-risk areas, entrances and exits to each tenant space, including cameras that provide a view of the street.
18. Prior to the utilization of this grant, an electronic age verification device shall be purchased and retained on each premise to determine the age of any individual attempting to purchase alcoholic beverages and shall be installed on at each point-of-sales location. This device shall be maintained in operational condition and all employees shall be instructed in its use.
19. No conditional use for dancing has been requested or approved herein. Dancing is prohibited, unless permitted by an individual Conditional Use for Public Dancing in each individual venue and approval by the Police Permit Commission.
20. There shall be no use of the subject premises which involves Section 12.70 of the Los Angeles Municipal Code uses (Adult Entertainment).

21. The applicant shall maintain on the premises and present upon request to the Police or other enforcement agency, a copy of the Business Permit, Insurance Information, Conditional Use Permit Conditions, ABC Alcohol Permit and valid emergency contact phone number for any Valet Service utilized and for any Security Company Service employed.
22. The applicant shall be responsible for maintaining the area adjacent to the premises over his/her control free of litter.
23. The applicant and tenant(s) shall monitor the areas under their control to prevent loitering of persons around their venues.
24. The property owner/operator shall keep a log of complaints received, the date and time received, and the disposition of the response. This shall be available for inspection by the Department.

Site Plan Review

25. **On-site Landscaping.** All planters containing trees shall have a minimum depth of 48 inches.
26. **Trash and Recycling.**
 - a. All trash collection and storage areas shall be located on-site and shall not visible from the public right-of-way.
 - b. Trash receptacles shall be stored in a fully enclosed building or structure.
 - c. Trash/recycling containers shall be locked when not in use.

FINDINGS

A. GENERAL PLAN / CHARTER FINDINGS.

The City-initiated General Plan Amendment and requested Zone and Height District Change are in substantial conformance with the purposes, intent, and provisions of the General Plan as explained below:

1. General Plan Land Use Designation.

The subject property is located within the Central City North Community Plan area (effective December 15, 2000), which designates the property for Heavy Manufacturing land uses with the corresponding zone of M3. The site is currently zoned M3-1-RIO. The City-initiated General Plan Amendment will change the land use designation to Regional Center Commercial having the corresponding zones of CR, C1.5, C2, C4, RAS3, RAS4, R3, R4, and R5. The applicant is in request of a Zone Change to the C2 Zone, which is consistent with the range of zones under the Regional Center Commercial land use designation. The subject property is located within the Arts District neighborhood near Downtown Los Angeles that has recently undergone a transition of uses. In an area historically characterized by warehouse and industrial uses, the Arts District is now comprised of a diversity of land uses that includes creative offices, incubator spaces, artist production spaces, retail and restaurant uses, live/work dwelling units in both new buildings and older adaptive reuse buildings, and new industrial spaces that reflect land uses which have evolved due to technological advances and development of new industry sectors. The proposed project would include uses which are consistent with the existing neighborhood such as a mix of arts and production space, retail and restaurants, and new live/work units that can also accommodate home-based small businesses.

Approval of a General Plan Amendment is necessary to modify the project site's land use designation to Regional Center Commercial to accommodate the aforementioned changes while retaining critical job-producing uses in new ways, while also acknowledging the need for live/work units that provide both housing and workspace. The City-initiated General Plan Amendment will support employment where jobs and housing can coexist, while retaining a jobs focus. The project has been designed to continue the production of jobs at this site through 475 new live/work units as well as 61,200 square feet of new commercial uses, comprised of 16,140 square feet of restaurant, café or bar use and 15,815 square feet for a grocery store, 15,185 square feet of arts and production space, and 9,943 square feet of general commercial space. Each unit will meet the standard for live/work units found in Section 419 of the Los Angeles Building Code. The project site is within the Artist-In-Residence District identified in the Central City North Community Plan. The Community Plan states that "Artists-In-Residence occupy a large area of Central City North between the Santa Ana Freeway and the Santa Monica Freeway and Between Alameda Street and the Los Angeles River". The Arts District has undergone substantial change over the last few years and there has been a significant amount of live/work and commercial development in an area that was predominately characterized by warehouse and industrial uses. The existing Community Plan goals for the area no longer reflects current development trends for the area, however the 2040 Plan envisions the area for hybrid industrial uses. Furthermore, the project supports the General Plan by contributing to the housing stock within the City and towards alleviating the city's housing crisis, as well as the Mayor's initiative to build 100,000 homes by 2020. The

City-initiated General Plan Amendment will locate live/work housing near the jobs-rich Downtown while also allowing for jobs-producing uses in an area of the City that is becoming a hub for such uses.

Framework Element

The General Plan Framework, adopted in December 1996 and re-adopted in August 2001, establishes the City's long-range comprehensive growth strategy and provides guidance on Citywide land use and planning policies, objectives, and goals. The Framework defines Citywide policies for land use, housing, urban form and urban design, open space and conservation, transportation, infrastructure and public spaces.

The General Plan Framework identifies Regional Centers as focal points of regional commerce, identity, and activity. Generally, Regional Centers range from a floor area ratio of 1.5:1 to 6:1 and are characterized by high-density buildings ranging from six- to twenty-stories, or higher. Regional Centers typically provide a significant number of jobs and many non-work destinations and function as transit hubs. The project supports and will be generally consistent with the General Plan Framework Land Use Chapter as it will allow for the mixing of uses in the community and will increase opportunities for employees to live near jobs and residents to live near shopping, entertainment and other amenities in a high quality transit area.

The proposed project is consistent with the goals, objectives and policies of the General Plan Framework as explained below:

Goal 3F: Mixed-use centers that provide jobs, entertainment, culture, and serve the region

Objective 3.10: Reinforce existing and encourage the development of new regional centers that accommodate a broad range of uses that serve, provide job opportunities, and are accessible to the region, are compatible with adjacent land uses, and are developed to enhance urban lifestyles.

Policy 3.10.3: Promote the development of high-activity areas in appropriate locations that are designed to induce pedestrian activity in accordance with the Pedestrian-Oriented District Policies 3.16.1 through 3.16.3, and provide adequate transitions with adjacent residential uses at the edges of the centers.

Policy 3.10.4: Provide for the development of public streetscape improvements, where appropriate

Policy 3.10.5: Support the development of small parks incorporating pedestrian-oriented plazas, benches, other streetscape amenities and, where appropriate, landscaped play areas.

Policy 3.10.6: Require that Regional Centers be lighted to standards appropriate for nighttime access and use.

The initiated General Plan Amendment to Regional Center Commercial land uses would be consistent and compatible with the recent pattern of development and with the expansion of

live/work and commercial uses in the area. Non-industrial uses introduced to the arts district include the six-story Toy Factory Lofts and Biscuit Company Lofts, located approximately 500 feet north of the project site which contain 119 live/work units and ground floor retail space, as well as new productive uses, such as creative office, retail, live/work units and artists' lofts, artisanal breweries, and art galleries. More recently, media and technology firms from Warner Music to Hyperloop One have begun to establish creative offices in the area, and new live-work buildings are underway, including at 695 S. Santa Fe Avenue (AMP Lofts), located 1,000 feet east of the project site, and at 1745 E. 7th Street, adjacent to the proposed project on the corner of 7th Street and Mill Street, is an eight-story building currently being rehabilitated into 57 live/work units and commercial uses (1745 East 7th Street). Additionally, the recently entitled mixed use Camden Project is directly across the street from the project at 656 Alameda Street with 344 live-work units and also measures 85 feet in height. Additional commercial development has also occurred nearby, including the ROW DTLA at 777 S. Alameda Street, a seven-story adaptive reuse project on a 30 acre site featuring 1.3 million square feet of creative office and 200,000 square feet of groundfloor commercial space in the former LA Terminal Market building. The site is in a Transit Priority Area and is well-served by LADOT and Metro buses.

The project site is not in a designated Pedestrian-Oriented District, however the project meets the design policies aimed at improving pedestrian activity. The building is located at or near the property lines and creates a strong, articulated street wall with active ground floor uses including a pedestrian paseo. Parking is located in three levels of subterranean space and one level of ground floor parking that are lined with commercial uses. The project will also improve the adjacent streetscape by providing public improvements in the form of publicly accessible intersecting paseos that connect Industrial Street and Mill Street. The project proposes additional pedestrian amenities including seating, communal tables and local art gallery spaces.

The project's proposed Regional Center Commercial land use designation supports the mix of uses located in the vicinity of the site while activating the site by replacing an underutilized, warehouse distribution facility that comprises of four buildings, ranging in two- to three-stories in height with a surface parking lot for the construction of a mixed-use building with live/work units, office/commercial space, restaurant space, and amenity space. The proposed project meets the policies for the Regional Center Commercial land use and will activate an underutilized site.

Goal 4A: *An equitable distribution of housing opportunities by type and cost accessible to all residents of the City.*

Objective 4.1: *Plan the capacity for and develop incentives to encourage production of an adequate supply of housing units of various types within each City subregion to meet the projected housing needs by income level of the future population to the year 2010.*

Objective 4.2: *Encourage the location of new multi-family housing development to occur in proximity to transit stations, along some transit corridors, and within some high activity areas with adequate transitions and buffers between higher-density*

developments and surrounding lower-density residential neighborhoods.

The project will provide live/work units for a mix of income levels and unit types. Of the proposed 475 live/work units, 53 of the units will be reserved for Very Low Income Households and the remaining units will be market rate. The project is also located in a Transit Priority Area and appropriately situated near public transit options such as LADOT and Metro bus stops, with connections and ease of access to jobs, entertainment, and other amenities and is located among other live/work uses within the Central City North Community Plan.

The proposed project meets Objective 7.2 of the Framework Element (*“Establish a balance of land uses that provides for commercial and industrial development which meets the needs of local residents, sustains economic growth, and assures maximum feasible environmental quality”*), by providing commercial space, restaurant, and live/work uses. Further, Chapter 3, Land Use, of the Framework Element states: *“As indicated in the Economic Development Chapter of the Framework Element, some existing industrially zoned lands may be inappropriate for new industries and should be converted for other land uses.”* The proposed General Plan Amendment will enable such a conversion.

Land Use Element

The Land Use chapter encourages growth to be located in neighborhood districts, commercial and mixed-use centers, along boulevards, industrial districts, and in proximity to transportation corridors and transit stations. The Land Use Chapter also identifies “Targeted growth areas” which refer to those districts, centers, and boulevards where new development is encouraged and within which incentives are provided by the policies of the Framework Element. These are located in proximity to major rail and bus transit corridors and stations; in centers that serve as identifiable business, service, and social places for the neighborhood, community, and region; as reuse of the City's boulevards; and as reuse of the City's industrial districts to facilitate the development of new jobs-generating uses.

As previously discussed, the project site is located within the Arts District neighborhood of the Central City North Community Plan area. The surrounding neighborhood had a significant economic identity from the industrial uses that have historically populated the area. As that economy has evolved, heavy manufacturing uses are transitioning to more digital and creative uses. The project would be in keeping with this economic identity and evolution as it would replace the outdated warehouse buildings with a project that will activate the area through the introduction of 475 live/work units, including 53 Very Low Income units, on-site resident production space, approximately 16,140 square feet of restaurant space, approximately 25,750 square feet of commercial/arts and production space and approximately 15,102 square feet of grocery store space. The live/work units will be designed to comply with Section 419 of the Los Angeles Building Code. The project provides approximately 608 square feet of live/work gallery space on the ground floor, with amenities such as a clubroom and fitness facility for the residents. Historically artists have sought spaces with large floor plates, by moving into underutilized warehouse buildings in the Arts District. With that trend in mind, the proposed Project provides 475 live/work units ranging in 400 to 1,400 square feet in size that provides dedicated non-residential workspace within the units. Each unit's non-residential workspace will provide for new employment opportunities to the area.

The proposed project also has significant physical identity as a mixed-use project near regional transit in the Los Angeles area. The project site is located within an area of Los Angeles which is well-served by local and regional transit lines. The project area is currently served by three MTA Rapid Bus Lines, including lines 720 and 760, and 13 MTA Local Bus Lines, including lines 18, 53, 60 and 62. These lines provide connections to the downtown subway stations, which include Civic Center and Pershing Square. Additionally, the Greyhound Bus Terminal is located within 500 feet southeast of the Project Site on 7th Street, which provides inter-city bus service to various locations outside of the Los Angeles area. The project site is also served by the Metro Gold Line rail system located at the Little Tokyo/Arts District station near 1st Street and Alameda Street. The Metro Gold Line offers service to East Los Angeles to the east and Pasadena to the northeast. The Metro Gold Line connects to Union Station, providing access to Metrolink, the Metro Silver Bus Line, and Metro Rail Red and Purple Lines.

In addition, Metro is currently considering extending both the Santa Ana Line and Purple Line through the Arts District, and is considering multiple stations in the project vicinity. Development of this mixed-use site would provide potential additional transit riders and will act as a further inducement for Metro to further improved transit in the area. The project is also located within 500 feet of Metro's Bike Share system with a "Dock Point" located on Industrial Street at Mateo Street.

As indicated in the *Economic Development* Chapter of the Framework Element, some existing industrially-zoned lands may be inappropriate for new industries and should be converted to other land uses considering such criteria as demonstrating that existing parcelization precludes effective use for industrial or supporting functions and where there is no available method to assemble parcels into a unified site that will support viable industrial development; where the size and/or the configuration of assembled parcels are insufficient to accommodate viable industrial development; and where the conversion of industrial lands to an alternative use will not create a fragmented pattern of development and reduce the integrity and viability of existing industrial areas (Policy 3.14.6).

The subject property is currently developed with 131,350-square feet of warehouse distribution buildings. The existing warehouse buildings are currently outdated in that they are too small to support a viable modern cold storage business. Based on available data (a) the average capacity of public cold storage facilities in the US is six million cu. ft.; (b) the existing building only provides about two% of this square footage; and (c) the unusual flag shape of the site and narrow north-south dimension makes the project site unsuitable for other industrial uses in that this unusual shape does not allow for a "cross dock" (i.e., an area that can be accessed on both sides by trucks to facilitate the efficient transfer of goods between trucks), which is a key feature of modern light industrial, distribution and warehouse uses. Moreover, it is not feasible to assemble parcels into a larger unified site that will support viable industrial development, as the subject property is surrounded by development to the south and east of the site. The project would replace the existing warehouse buildings with a modernized live/work mixed-use development having ground floor commercial retail and restaurant spaces, pedestrian plaza areas, publicly accessible open space amenities and enhanced landscaped features in an area of the City that greatly lacks greenspace.

Housing Element

The Housing Element 2013-2021 was adopted on December 3, 2013 and identifies the City's housing conditions and needs, and establishes the goals, objectives and policies that are the foundation of the City's housing and growth strategy. The mixed-use project is consistent with several objectives and policies of the Housing Element. The plan text includes the following relevant housing objectives and policies:

Objective 1.1: Produce an adequate supply of rental and ownership housing in order to meet current and projected needs.

Policy 1.1.2: Expand affordable rental housing for all income groups that need assistance.

Policy 1.1.3: Facilitate new construction and preservation of a range of different housing types that address the particular needs of the city's households.

Policy 1.1.4: Expand opportunities for residential development, particularly in designated Centers, Transit Oriented Districts and among Mixed-Use Boulevards.

Objective 1.3: Forecast and plan for changing housing needs over time in relation to production and preservation needs.

Policy 1.3.5: Provide sufficient land use and density to accommodate an adequate supply of housing units by type and cost within the City to meet the projections of housing needs, according to the policies and objectives of the City's Framework Element of the General Plan.

The proposed General Plan Amendment to Regional Center Commercial would increase the land area available for the production of live/work housing near jobs-rich Downtown. The project would provide new housing stock, contributing towards the Mayor's Initiative to provide 100,000 housing units by 2020, while also retaining a focus on jobs producing uses. The proposed project would provide 475 live/work units, including 11 percent of the total units will be set aside as restricted affordable units, without directly displacing any existing housing or residents. The project would provide unique housing opportunities that are designed to accommodate arts production and small businesses within the units. Additionally, the project is located in a transit priority area, where an area is within one-half mile of a major transit stop that is existing or is planned. By adding dwelling units into the transit priority area, residents will have access to multi-modal transportation options, reducing the usage of single-occupancy vehicles to travel to and from the area.

Objective 2.2: Promote sustainable neighborhoods that have mixed-income housing, jobs, amenities, services and transit.

Policy 2.2.3: Promote and facilitate a jobs/housing balance at a citywide level.

Objective 2.5: Promote a more equitable distribution of affordable housing opportunities throughout the City.

Policy 2.5.2: Foster the development of new affordable housing units citywide and within each Community Plan area.

The proposed project will introduce new live/work units in an area with a limited housing stock. The project is adjacent to Downtown and located near transit, amenities and jobs. The project will provide 475 live/work units, including 11 percent of the density set aside as restricted affordable units, while also providing arts production space, commercial/retail space, a grocery store, and restaurant space on site. The mix of uses and affordability levels will contribute towards a sustainable neighborhood and a jobs/housing balance. The project will provide much needed affordable housing within a live/work typology including affordable live/work units. The project's strategic downtown location also provides residents and visitors with an abundance of transit options.

Urban Form and Neighborhood Design Chapter

Goal 5A: A livable City for existing and future residents and one that is attractive to future investment. A City of interconnected, diverse neighborhoods that builds on the strengths of those neighborhoods and functions at both the neighborhood and citywide scales.

Objective 5.5: Enhance the livability of all neighborhoods by upgrading the quality of development and improving the quality of the public realm.

Objective 5.9: Encourage proper design and effective use of the built environment to help increase personal safety at all times of the day.

Policy 5.9.2: Encourage mixed-use development which provides for activity and natural surveillance after commercial business hours through the development of ground floor retail uses and sidewalk cafes. Mixed-use should also be enhanced by locating community facilities such as libraries, cultural facilities or police substations, on the ground floor of such building, where feasible

The proposed project complies with the aforementioned goals, objectives, and policies. The addition of new commercial, restaurant and live-work uses would complement the Arts District neighborhood that is developed with a variety of unique restaurants, artist galleries and production spaces, creative office space, live-work units, and boutique retail shops. The project would enhance the livability of the neighborhood with the addition of new ground floor commercial uses that would draw patrons to the site and which builds upon the mix of uses already found in the area. In addition, there would be two intersecting paseos on the ground floor with an east-west between Mill Street and Alameda Street and a midblock paseo running north-south from Industrial Street to the paseo. The paseos would facilitate resident connectivity from the commercial uses to the live-work units and amenity spaces. In addition, the project provides substantial landscaping, new street trees, and courtyard areas along the paseos that may include outdoor dining opportunities for ground floor restaurants.

Open Space Chapter

Objective 6.2: Maximize the use of the City's existing open space network and recreation facilities by enhancing those facilities and providing connections,

particularly from targeted growth areas, to the existing regional and community open space system.

Policy 6.4.7: Consider as part of the City's open space inventory of pedestrian streets, community gardens, shared school playfields, and privately-owned commercial open spaces that are accessible to the public, even though such elements fall outside the conventional definitions of "open space." This will help address the open space and outdoor recreation needs of communities that are currently deficient in these resources.

The project would include two publicly accessible paseos that includes a walking path, green space, gathering areas, and outdoor dining for the public and live/work users and open space on the second level for live work and commercial use patrons. The project provides a public courtyard on the ground floor fronting Industrial Street. There is also private open space on the second floor that is accessible from the public courtyard area stairs.

Economic Development Chapter

Goal 7A: A vibrant economically revitalized City.

The proposed project would replace a warehouse distribution building with a mixed-use development containing 475 live/work units, including needed affordable units, approximately 16,000 square feet of restaurant space, 15,815 square feet of arts and production space, 9,943 square feet of commercial space, and approximately 15,100 square feet for a grocery store. In addition to commercial/restaurant space, the live-work units and arts production space can facilitate small businesses and home-based occupations, which will further contribute to meeting this goal.

Goal 7B: A City with land appropriately and sufficiently designated to sustain a robust commercial and industrial base.

Objective 7.2: Establish a balance of land uses that provides for commercial and industrial development which meets the needs of local residents, sustains economic growth, and assures maximum feasible environmental quality.

Policy 7.2.3: Encourage new commercial development in proximity to rail and bus transit corridors and stations.

Policy 7.2.5: Promote and encourage the development of retail facilities appropriate to serve the shopping needs of the local population when planning new residential neighborhoods or major residential developments.

The project will further the above goal, objective and policies by providing new live/work units, new commercial/retail uses, within proximity to bus lines and the Metro Gold Line Station which will allow residents and visitors easy access to the goods and services provided by the project. The live/work units will be designed to comply with Section 419 of the Building Code and will be able to accommodate up to five employees in each unit. The units will range from 400 to 1,400 square feet in size and provides dedicated non-residential workspace within the units. Each unit's non-residential workspace will provide for new employment opportunities to the area. These features will promote job creation and economic growth, strengthen the commercial sector, and contribute to a better balance of land uses that meets the needs of residents while redeveloping an underutilized site that is not well suited for industrial development, as previously noted.

According to the Central City North Community Plan, there are 1,180 acres (approximately 60 percent of the 2,005-acre total) of industrially zoned property in the Plan area. The project site comprises of approximately 3.75 acres, or 0.3 percent of the industrially zoned property and 0.2 of the total land in the Plan area. Therefore, after approval of the recommended General Plan Amendment and Zone Change, there will be more than adequate quantities of land for emerging industrial sectors.

General Plan Framework Policy 3.14.6 provides for the potential re-designation of marginal industrial lands for alternative uses by amending the community plans based on specified criteria, including: (a) where it can be demonstrated that the existing parcelization precludes effective use for industrial or supporting functions and where there is no available method to assemble parcels into a unified site that will support viable industrial development; (b) where the size and/or the configuration of assembled parcels are insufficient to accommodate viable industrial development; (c) where the conversion of industrial lands to an alternative use will not create a fragmented pattern of development and reduce the integrity and viability of existing industrial areas; (d) where the conversion of industrial lands to an alternative use will not result in an adverse impact on adjacent residential neighborhoods, commercial districts, or other land uses; and/or (e) where it can be demonstrated that the reduction of industrial lands will not adversely impact the City's ability to accommodate sufficient industrial uses to provide jobs for the City's residents or incur adverse fiscal impacts.

The above criteria are met with respect to the project. The subject property is an under-utilized site containing an outdated cold storage facility that is no longer viable for its intended use and is not an adaptable building to accommodate new uses.

Development of the project will not result in a fragmented pattern of development. In general, the surrounding urban environment is comprised of a mix of industrial buildings, warehouses, live/work lofts, commercial/retail, office, restaurant, parking, and neighborhood amenities. The subject site is located adjacent to a café's and coffee shops, and the sites located immediately to the east and west of the subject property are either developed or are in the process of being developed with creative office projects. In general, the surrounding urban environment is comprised of a mix of industrial buildings, warehouses, live/work lofts, commercial/retail, office, restaurant, parking, and neighborhood amenities. Development of the project will reinforce current development trends and allow for a mix of compatible uses on subject site.

The subject site represents only 0.3 percent of the industrially-zoned property and 0.2 of the total land in the Plan area. In addition, the project will result in a development capable of generating more jobs than the current uses on site. Therefore, development of the project will not adversely impact the City's ability to accommodate sufficient industrial uses to provide jobs for the City's residents or incur adverse fiscal impacts.

The Industrial Land Use Policy (ILUP) does not preclude City Council approval of the recommended Zone Change and General Plan Amendment. Now over a decade old, the ILUP no longer reflects the City's land use objectives for this area. It was based on outdated data that does not reflect the evolution of the area that has resulted in numerous live/work and commercial development. Furthermore, the ILUP was never adopted by the City Council and in no way limits the City Council's ability to exercise its legislative authority to approve the recommended Zone Change and General Plan Amendment.

Goal 7D: A City able to attract and maintain new land uses and businesses.

The project will further the above goal through the introduction of up to 16,000 square feet of restaurant space, 15,815 square feet of arts and production space, 9,943 square feet of commercial space, and approximately 15,100 square feet for a grocery store. In addition, the live/work units will be designed to comply with Section 419 of the Building Code and will be able to accommodate up to five employees in each unit. The units range from 400 to 1,400 square feet in size and provides dedicated non-residential workspace within the units. Each unit's non-residential workspace will provide for new employment opportunities to the area.

Goal 7G: A range of housing opportunities in the City.

The project will provide a range of housing opportunities in the form of 475 live-work units, including very low income affordable units, within studio, one- and two-bedroom configurations.

Central City North Community Plan

The Central City North Community Plan, one of 35 Community Plans that the Land Use Element of the General Plan is comprised of, was adopted on December 15, 2000 with an update currently underway (DTLA 2040). The Community Plan designates the uses of land and is intended to guide development in order to create a healthful, pleasant environment. The existing district that comprises the area around the Arts District consists of a mix of buildings and uses with varied scale with industrial and storage uses, live/work uses, pockets of pedestrian-oriented commercial development that include creative office, restaurant, retail, and artist uses. The transition of allowable uses in the Arts District and adjacent areas started as far back as 1981, with each new development or adaptive reuse project in the area with a live/work component requiring discretionary review. As a result, the area has seen an increase in the conversion of obsolete industrial buildings to live/work units and studios, as well as some new, ground-up residential construction on land designated for Commercial uses, primarily located in the northern end of the Arts District adjacent to the Little Tokyo/Arts District Metro Gold Line Station. Within the immediate neighborhood, there are adaptive reuse buildings with live-work units and ground floor commercial spaces.

The Community Plan goals and objectives include: preserving and enhancing the positive characteristics of existing residential neighborhoods while providing a variety of housing opportunities with compatible new housing; improving the function, design, and economic vitality of the commercial corridors, preserving and enhancing the positive characteristics of existing uses which provide the foundation for community identity, such as scale, height, bulk, setbacks, and appearance; maximizing the development opportunities of future transit systems while minimizing any adverse impacts; and planning the remaining commercial and industrial development opportunity sites for needed job producing uses that will improve the economic and physical condition of the Central City North area.

The project, which would provide a mixed-use live/work/commercial development, would conform to the goals, objectives, and land uses identified in the Community Plan. The plan text includes the following relevant residential and commercial land use objectives and policies:

Objective 1-1: To provide for the preservation of existing housing and for the development of new housing to meet the diverse economic and physical needs of the existing residents and projected population of the Central City North Plan area to the year 2010.

Objective 1-2: To locate new housing in a manner which reduces vehicular trips and makes it accessible to services and facilities.

Policy 1-2.1: Encourage multiple residential development in commercial zones.

Objective 1-4: To promote and insure the provision of adequate housing for all persons regardless of income, age, or ethnic background

Policy 1-4.1: Promote greater individual choice in type, quality, price, and location of housing.

Policy 1-4.2: Ensure that new housing opportunities minimize displacement of the existing residents.

The proposed project would provide 475 live/work units with 11 percent of the units (53 units) reserved for Very Low Income Households and will not displace any existing housing or residents. The units will vary in size and will be constructed to meet the building code requirements for live/work units, providing unique housing and economic opportunities to meet the needs of the existing and projected population of Central City North. Furthermore, as requested in the zone change to the C2 Zone with a Regional Center Commercial land use designation, the project would bring 475 live/work units to the a commercially-designated area, consistent with the allowable uses under the land use designation.

Vehicular trips will be reduced through the mix of uses offered onsite, the proximity to nearby jobs, commercial uses, restaurants and entertainment, and the proximity to transit. The residents of the proposed project would have access to a variety of transit options nearby including the Metro Rapid Bus lines 720, 751 and 760, providing access through Downtown, including connections to the Metro Red and Purple lines, and west to Santa Monica; Metro Rapid Bus Line 760 providing access through Downtown, including connections to the Metro Blue, Expo, Red and Purple lines, and south to Lynwood, connecting with the Metro Green Line; Metro local bus lines 18, 53, 60 and 62; the Little Tokyo/Arts District Metro Gold Line Station approximately one mile to the north, providing access to Pasadena, Azusa and East Los Angeles; Union Station; and the Greyhound Bus Terminal within 500 feet southeast of the site.

Objective 2-1: To conserve and strengthen viable commercial development in the community and to provide additional opportunities for new commercial development and services.

Objective 2-2: To attract uses which strengthen the economic base and expand market opportunities for existing and new businesses.

Policy 2-2.2: New development needs to add to and enhance existing pedestrian street activity.

Policy 2-2.3: Require that the first floor street frontage of structures, including mixed use projects and parking structures located in pedestrian oriented districts, incorporate commercial uses.

Objective 3-2: Encourage the continued development and maintenance of the artists-in-residence community in industrial areas of the proposed redevelopment plan areas and of the plan, as appropriate.

The proposed project is a mixed-use development that includes 475 live/work units, approximately 16,000 square feet of restaurant space, 15,815 square feet of arts and production space, 9,943 square feet of commercial space, and approximately 15,100 square feet for a grocery store. The addition of new commercial uses would complement the recent development trend in the Arts District and would further strengthen the commercial viability of the neighborhood. The live/work units will provide unique opportunities for an array of uses, including artists and related small businesses. The proposed live/work units will not be restricted to artists but will support the artists-in-residence community by providing new units with larger than average unit sizes, open floor plans, and on-site production spaces.

The project is designed to create a strong street wall with continuous, uniform setbacks along Alameda Street and Industrial Street and an active ground floor, which will enhance pedestrian activity near the site. The project has a public courtyard that is accessible from Industrial Street and from Mill Street. The existing site conditions include large, blank facades, curb cuts, warehouse docks, wired fencing surrounding the existing building, and a lack of landscaping. The proposed mixed-use project will greatly enhance the pedestrian experience by improving street and sidewalk conditions, adding street trees, locating retail, restaurant and live/work lobbies on the ground floor, and adding public open space such as plazas and paseos adjacent to the street. There would be two intersecting paseos on the ground floor, one running east-west Connecting Alameda Avenue to Mill Street and a paseo running north-south from Industrial Street to the main paseo. The project will locate parking in three subterranean levels and behind active uses on the first floor.

Urban Design

As proposed, the project would comply with the Urban Design policies in Chapter 5 of the Community Plan with respect to site planning, height and building design, parking structures, and landscaping.

Site Planning

- Locating surface parking to the rear of structures;
- Minimizing the number of widths of driveways providing sole access to the rear of commercial lots;
- Maximizing retail and commercial service uses along frontages of commercial developments;
- Providing front pedestrian entrances for businesses fronting on main commercial streets;
- Providing through arcades from the front of buildings to rear parking for projects within wide frontages;
- Providing landscaping strips between driveways and walkways accessing the rear properties;

- Requiring site plans which include ancillary structures, service areas, pedestrian walkways, vehicular paths, loading areas, drop off and landscaped areas;
- All multi-family residential projects of five or more units shall be designed around a landscaped focal point or courtyard to serve as an amenity for residents

The project proposes a pedestrian paseo on the ground level with direct access through the project site from Mill Street to Alameda Avenue, connected by a second paseo that runs north/south from Industrial Street. The pedestrian paseos would include landscaping, hardscape and seating areas. Vehicular access is provided by one driveway from Industrial Street, with three levels of subterranean parking and ground floor parking. Ground floor parking is enclosed and covered by commercial and retail uses. The ground level of the project will contain retail and commercial uses along Alameda Street, Industrial Street, as well as the paseos, further activating pedestrian circulation. Each commercial space would be accessed directly from the paseos, Alameda Street and Industrial Street.

Height and Building Design

- Requiring the use of articulations, recesses, surface perforations, and porticoes to break up long, flat building facades;
- Providing accenting, complimentary building materials to building facades;
- Maximizing the applications of architectural features or articulations to building facades;
- Designating architecturally untreated facades for signage;
- Screening of mechanical and electrical equipment from public view;
- Requiring the enclosure of trash areas for all projects;
- Requiring freestanding walls to use articulation, recesses, surface perforations, porticoes to break up long freestanding walls.
- Utilizing of complementary building materials in building facades;
- Integrating building fixtures, awnings, security gates, etc. into the design of a building;
- Screening all rooftop equipment and building appurtenances from adjacent properties.

Parking Structures

- Designing parking structure exteriors to match the style, materials and colors of the main building;
- Maximizing commercial uses, if appropriate, on the ground floor;
- Landscaping to screen parking structures not architecturally integrated with the main building;
- Utilizing decorative walls and landscaping to buffer residential uses from parking structures.

The building has been designed to complement the industrial concept of the surrounding Arts District's buildings in the neighborhood. The project has a two-story podium containing commercial uses including restaurant, grocery store and do-it-yourself art-production spaces and six-stories of live/work units for a maximum building height of 85 feet. The ground floor is differentiated from the upper live/work levels and includes Board Formed Concrete and Fiber Cement Paneling that complement the proposed street level landscaping and draw daylight into the proposed courtyard spaces. The upper live/work portions feature a white and dark metal panel clad with varying façade planes and proportions to create a sense of interest and contrast that also complement the ground floor materials and complements the surrounding warehouse/industrial buildings around the project. "Cut outs" for the upper floor courtyards at the second level create additional

architectural interest in the building and modulate the building mass along the length of the block. The paseos are designed to open up the building to the public and creates an invitation to explore the amenities of the project. The internal parking structure is integrated into the building and entirely screened from the surrounding streets by the live/work and commercial uses which further enhance the street experience. Trash receptacles would be located within the parking garage and not visible to the public, while rooftop mechanical equipment would be screened from public view.

Mobility Plan 2035

The Mobility Plan was adopted on August 11, 2015 and last amended on September 7, 2016.

Policy 2.3 Pedestrian Infrastructure: Recognize walking as a component of every trip, and ensure high-quality pedestrian access in all site planning and public right-of-way modifications to provide a safe and comfortable walking environment.

Policy 3.3 Land Use Access and Mix: Promote equitable land use decisions that result in fewer vehicle trips by providing greater proximity and access to jobs, destinations, and other neighborhood services.

Policy 3.8 Bicycle Parking: Provide bicyclists with convenient, secure and well-maintained bicycle parking facilities.

The proposed project will greatly improve the pedestrian experience along Alameda Street and Industrial Street. The existing site conditions include large, blank facades, fences, warehouse docks, lack of landscaping, and a chain-link fence enclosing the existing building. The project will comply with the Avenue I standards for Alameda Street and the Collector standards for Industrial Street. Pedestrian activity will also be improved with the incorporation of street trees along Alameda Street and Industrial Street, and the addition of public open space, including seating, tables, and two paseos: one along the southern boundary of the project site connecting with the midblock paseo running south from Industrial Street. Alameda Street, Industrial Street, and the paseos are all lined by active uses including restaurant space, retail space, and live-work units.

The proposed project will locate much needed housing near jobs-rich Downtown. The project is approximately one-mile south of the Metro Gold Line Station in Little Tokyo/Arts District and is served by many MTA Local and Rapid buses, such as bus lines 18, 53, 60 and 62. The location of the proposed project near jobs, entertainment, and transit as well as the mix of uses on-site and live/work units will reduce the number of vehicle trips. The project will also provide 269 bicycle parking spaces, including 47 short-term spaces and 222 secured, long-term spaces.

Air Quality Element

The **Air Quality Element** of the General Plan will be implemented by the recommended action herein. The Air Quality Element sets forth the goals, objectives and policies which will guide the City in the implementation of its air quality improvement programs and strategies. The Air Quality Element recognizes that air quality strategies must be integrated into land use decisions and represent the City's effort to achieve consistency with regional Air Quality,

Growth Management, Mobility and Congestion Management Plans. The Air Quality Element includes the following Goal and Objective relevant to the instant request:

Goal 5: Energy efficiency through land use and transportation planning, the use of renewable resources and less polluting fuels, and the implementation of conservation measures including passive methods such as site orientation and tree planting.

Objective 5.1: It is the objective of the City of Los Angeles to increase energy efficiency of City facilities and private developments.

The project is energy efficient through its provision of electric vehicle parking, provision of ample trees and its proximity to public transit and Downtown Los Angeles, a jobs-rich regional hub. Furthermore, the project will comply with the City of Los Angeles Green Building Code, which has stricter standards in comparison to the 2010 California Green Building Standards Code (CALGreen).

Sewerage Facilities Element

Improvements may be required for the construction or improvement of sewer facilities to serve the subject project and complete the City sewer system for the health and safety of City inhabitants, which will assure compliance with the goals of this General Plan Element.

2. **Charter Compliance - City Charter Section 555 (General Plan Amendment).** The proposed General Plan Amendment complies with the procedures as specified in Section 555 of the Charter, including:

Amendment in Whole or in Part. The General Plan Amendment before the City Planning Commission represents an Amendment to the Central City North Community Plan. The project site area has significant social, economic and physical identity. The project site is located in the Arts District, a neighborhood originally planned and zoned for industrial uses that is rapidly transforming to include new residential, commercial, and mixed-use developments and converted industrial space. The project proposes a General Plan Amendment from Heavy Manufacturing to Regional Center Commercial. The project site contains four cold storage buildings built between 1984 to 2001, that does not offer the basic design standards to convert such a building for live/work uses, nor does it employ the standards needed for a green building.

The project will remove the existing facility and replace it with a mixed-use development containing 475 live/work units, including needed affordable units, approximately 16,000 square feet of restaurant space, 15,815 square feet of arts and production space, 9,943 square feet of commercial space, and 15,100 square feet for a grocery store. While the proposed General Plan Amendment will change an industrial land use designation, the project is still oriented around the production of jobs, which will contribute to the significant economic identity of the area.

The surrounding neighborhood has a significant economic identity from the industrial uses that have historically populated the area. As that economy has evolved, heavy manufacturing uses are transitioning to more digital and creative uses. This project is in keeping with this economic identity and evolution as it replaces a frozen food product

warehouse distribution facility with limited employment opportunity with a project that will activate the area through the introduction of 475 live/work units, including needed affordable units, approximately 16,000 square feet of restaurant space, 15,815 square feet of arts and production space, 9,943 square feet of commercial space, and 15,100 square feet for a grocery store. In addition, the live/work units range from 400 to 1,400 square feet in size and provide dedicated non-residential workspace within the units. Each unit's non-residential workspace will provide for new employment opportunities to the area. Additionally, the project provides a range of creative office spaces, including smaller spaces designed to accommodate small businesses. Historically artists have sought spaces with large floor plates, by moving into underutilized warehouse buildings in the Arts District. However the 3.75 acre site is located in an area of former industrial buildings transitioning to residential, creative office, retail, and restaurants in both new buildings and adaptive reuse structures. In the immediate area are the Toy Factory and Biscuit Company lofts located 500 feet north of the site, the previously approved Camden Project at 656 Alameda and directly across Industrial Street from the site and the Walnut Growers lofts, at the corner of 7th and Mill Streets, directly to the south of this project's paseo. This constitutes 13.7 acres out of a 22.3 acre area surrounding the site, which also includes such non-industrial uses as a fast food drive through restaurant, the Para Los Niños educational campus, and a number of industrial buildings turned into Artist Lofts and restaurants.

The proposed project also has significant physical identity as a mixed-use project near regional transit in the Los Angeles area. The project site is located within an area of Los Angeles which is well-served by local and regional transit lines. The project area is currently served by three MTA Rapid Bus Lines, including lines 720 and 760, and eight MTA Local Bus Lines, including lines 18, 53, 60 and 62. These lines provide connections to the downtown subway stations, which include Pershing Square and 7th Street/Metro Center. Additionally, the Greyhound Bus Terminal is located within 500 feet southeast of the Project Site on 7th Street, which provides inter-city bus service to various locations outside of the Los Angeles area. The project site is also served by the Metro Gold Line rail system located at the Little Tokyo/Arts District station near 1st Street and Alameda Street one mile north of the project site. The Metro Gold Line offers service to East Los Angeles to the east and Pasadena to the northeast. The Metro Gold Line connects to Union Station, providing access to Metrolink, the Metro Silver Bus Line, and Metro Rail Red and Purple Lines.

In addition, Metro is currently considering extending both the Santa Ana Line and Purple Line through the Arts District, and is considering multiple stations in the project vicinity. Development of this mixed-use site would provide potential additional transit riders and will act as a further inducement for Metro to further improved transit in the area. The project is also located within 500 feet of Metro's Bike Share system with a "Dock Point" located on Industrial Street at Mateo Street.

Furthermore, the proposed project provides the opportunity for significant pedestrian connections with proximity to jobs, including walking distance to the recently opened the Row LA project, a mixed-use adaptive reuse project with over a million square feet of creative office and retail and restaurant located at 777 Alameda Street. The proposed project will contribute to the recent development of economic activity in this area by designing a project that will foster job production, by introducing new live/work units in a manner that preserves the surrounding industrial and artistic character. The live/work units will support city-wide goals of increasing the housing stock while doing so in a way that is compatible with the surrounding context. The project will facilitate a wide range of jobs from

the live/work units to the restaurants, retail space, and art and production space on the ground floor. As such, the proposed General Plan Amendment will contribute to and strengthen the social and economic identity of the surrounding area.

Nothing in the City Charter, including Section 555, imposes a minimum geographic size restriction on General Plan Amendments or otherwise restricts the City Council from approving the proposed Zone Change and General Plan Amendment. Charter 555 does not contain a limitation that the “geographic area” cannot include specific parcels, or that the geographic area necessarily must be a recognized part of the city, a physically constrained area, or an economic hub. Charter 555 does not preclude a site-specific amendment as long as, as demonstrated above, the geographic area “involved has significant social, economic or physical identity.”

The Planning Director properly initiated the subject General Plan Amendment pursuant to City Charter Section 555(b).

3. City Charter Finding 556.

When approving any matter listed in Section 558, the City Planning Commission and the Council shall make findings showing that the action is in substantial conformance with the purposes, intent and provisions of the General Plan. If the Council does not adopt the City Planning Commission’s findings and recommendations, the Council shall make its own findings.

The project site is located within the Central City North Community Plan, which is one of 35 community plans comprising the Land Use Element of the General Plan. The Community Plan designates the project site with the Heavy Manufacturing land use designation, corresponding to the M3 Zone. The site is presently zoned M3-1-RIO and is thus consistent with the existing land use designation.

As initiated, the amendment would re-designate the project site from Heavy Manufacturing to Regional Center Commercial land uses, which lists the following corresponding zones: CR, C1.5, C2, C4, RAS3, RAS4, R3, R4, and R5. The requested zone and height district change to [T][Q]C2-2D-RIO for the project site would be consistent with the adoption of the general plan amendment. The development of the project represents an opportunity to achieve the overarching goals of the Central City North Community Plan, which include improving the function, design, and economic vitality of the commercial corridors and uses a development opportunity site for needed job-producing uses and housing that will improve the economic and physical condition of the surrounding area. The project will also contribute to the goals of the Housing Element by expanding the rental live-work housing stock, providing affordable housing, and contributing to a range of housing types by providing unique live/work units. The project also meets Mobility Element goals by removing an underutilized site with blank walls and fencing and introducing a project with active ground floor uses, public open spaces, improved sidewalks, street trees, on-site bicycle parking, and close proximity to transit options.

Further, the proposed project meets Objective 7.2 of the Framework Element (“Establish a balance of land uses that provides for commercial and industrial development which meets the needs of local residents, sustains economic growth, and assures maximum feasible environmental quality”), by providing retail, art production, restaurant and live/work uses.

Further, Chapter 3, Land Use, of the Framework Element states: “As indicated in the Economic Development Chapter of the Framework Element, some existing industrially zoned lands may be inappropriate for new industries and should be converted for other land uses.” The proposed General Plan Amendment will enable such a conversion. As such, the proposed amendment would be in substantial conformance with the purpose, intent, and provisions of the General Plan to strengthen the commercial and economic base of the Community Plan area. The condition requiring EV-ready parking spaces (installed with chargers) onsite will support the adoption of low and zero emission transportation fuel sources by the project's occupants and visitors. The condition requiring solar roof panels will allow the building to provide alternative energy, reducing the site's dependence on fossil fuels and carbon generating public utility electrical power from thermostat usage. Taken together, these conditions provide for the public welfare and public necessity by reducing the level of pollution or greenhouse gas emissions to the benefit of the neighborhood and City in response to General Plan Health and Wellness Element Policies 5.1 (reduce air pollution), 5.7 (reduce greenhouse gas emissions); Air Quality Element policy 4.2.3 (ensuring new development is compatible with alternative fuel vehicles); Mobility Element Policy 4.1 (expand access to transportation choices) and 5.4 (encourage adoption of low emission fuel sources, new mobility technology and supporting infrastructure). The EV condition is also good zoning practice because they provide a convenient service amenity to the occupants or visitors who use electric vehicles. As such, the Project provides recreational and service amenities to improve habitability for the residents and to minimize impacts on neighboring properties.

As set forth above and in the record of proceedings, the action and the project are in substantial conformance with the purposes, intent and provisions of the General Plan.

4. City Charter Finding 558. The proposed Amendment to the Central City North Community Plan will be in conformance with public necessity, convenience, general welfare and good zoning practice.

The proposed Amendment to the Central City North Community Plan will be in conformance with public necessity, convenience, general welfare and good zoning practice.

The proposed amendment to the Central City North Community Plan would re-designate the project site from Heavy Manufacturing to Regional Center Commercial. The amendment, in conjunction with the requested zone and height district change to [T][Q]C2-2D-RIO, would allow for the removal of an existing warehouse distribution building and the development of a mixed-use project with 475 live/work units, public open space, on-site resident production space, approximately 16,000 square feet of restaurant space, 15,815 square feet of arts and production space, 9,943 square feet of commercial space, and 15,100 square feet for a grocery store. The project will have a total floor area ratio of 3.55:1 and a maximum height of 85 feet.

Public necessity, convenience and general welfare will be better served by adopting the proposed General Plan Amendment and corresponding Zone and Height District Changes, as this action would allow for an underutilized industrial site to be redeveloped with a mixed-use project that will provide new live/work units, including affordable units, near jobs-rich Downtown as well as new commercial floor area designed to accommodate restaurants, retail, and art production uses in a neighborhood that is transforming with the development of new live/work and commercial uses. The proposed project site is in a Transit Priority Area and is served by three Metro Rapid Bus Lines (720, 751 and 760), 13 Metro Local Bus Lines (18,

51, 52, 53, 60, 62, 66, 106, 251, 252, 352, 620, and 665), and two regional bus lines. These lines provide connections to Metro subway stations, including Pershing Square and 7th Street/Metro Center with connections to the Red, Purple, Blue, and Expo Lines. The Little Tokyo/Arts District Metro Gold Line station located approximately 1 mile north from the project site. The project will provide public open space and improved sidewalks with street trees. The proposed project will be lined by restaurants, retail stores, and art production spaces on the ground floor and parking will be screened by active uses, activating a site that currently contains a warehouse distribution facility with large blank expanses, loading docks, and fences.

The project provides job producing and live-work units in proximity to existing goods, services, and facilities. The site not only incorporates commercial uses that can serve its residents, as well as live-work units that combine residences with business uses, but is also close to new and proposed offices and commercial establishments providing residents the opportunity to walk to their destinations. Also, by locating live-work units close to major transit and the Downtown employment center and shopping areas and providing ample bicycle parking, the proposed project will facilitate resident's interaction with the community, bringing more people onto the street, without the need for their cars, and providing more customers for local businesses. It will create a public convenience by reducing reliance on the automobile, alleviating traffic congestion as a result.

The project is in conformity with public necessity, convenience, general welfare and good zoning practice because it includes necessary housing, including affordable housing, substantial infrastructure improvements, improved streetscapes, and public open space. The General Plan Amendment and Zone and Height District Changes will introduce a unique housing typology with new live/work units, including affordable units, each designed to accommodate up to five employees. The project will provide both housing and job opportunities in proximity to transit at an underutilized industrial site. The economic identity of this area continues to evolve from purely manufacturing uses to new hybrid uses that can accommodate digital and creative uses. The proposed project provides much needed housing while also facilitating jobs in a changing economy. The proposed project will be a better use of the site and will improve the general welfare of the community and the City.

- a) **Initiation of Amendments.** In compliance with this sub-section, the Director of Planning proposed the amendment to the Central City North Community Plan (General Plan Land Use Element), pursuant to the memo dated August 23, 2016.
- b) **Commission and Mayoral Recommendations.** The noticing and hearing requirements of the General Plan Amendment were satisfied, pursuant to LAMC Section 12.32-C,3. The hearing was scheduled, duly noticed, and held in City Hall on May 22, 2018. The City Planning Commission shall make its recommendation to the Mayor upon a recommendation of approval, or to the City Council and the Mayor upon a recommendation of disapproval.

This action is further subject to the following sections of Charter Section 555:

- c) **Council Action.** The Council shall conduct a public hearing before taking action on a proposed amendment to the General Plan. If the Council proposes any modification to the amendment approved by the City Planning Commission, that proposed modification shall be referred to the City Planning Commission and the Mayor for their

recommendations. The City Planning Commission and the Mayor shall review any modification made by the Council and shall make their recommendation on the modification to the Council in accordance with subsection (c) above. If no modifications are proposed by the Council, or after receipt of the Mayor's and City Planning Commission's recommendations on any proposed modification, or the expiration of their time to act, the Council shall adopt or reject the proposed amendment by resolution within the time specified by ordinance.

- d) **Votes Necessary for Adoption.** If both the City Planning Commission and the Mayor recommend approval of a proposed amendment, the Council may adopt the amendment by a majority vote. If either the City Planning Commission or the Mayor recommends the disapproval of a proposed amendment, the Council may adopt the amendment only by a two-thirds vote. If both the City Planning Commission and the Mayor recommend the disapproval of a proposed amendment, the Council may adopt the amendment only by a three-fourths vote. If the Council proposes a modification of an amendment, the recommendations of the Commission and the Mayor on the modification shall affect only that modification."

B. ENTITLEMENT FINDINGS

1. ZONE CHANGE AND HEIGHT DISTRICT CHANGE:

a) Pursuant to Section 12.32 C of the Los Angeles Municipal Code, the recommended zone change and height district change is in conformance with the public necessity, convenience, general welfare and good zoning practice.

The requested Zone Change and Height District Change from M3-1-RIO to [T][Q]C2-2D-RIO would allow for the development of a new mixed-use project containing 475 live-work units, public open space, approximately 16,000 square feet of restaurant space, 15,815 square feet of arts and production space, 9,943 square feet of commercial space, and 15,100 square feet for a grocery store. The total project will have a floor area ratio of 3.55:1 and will have a maximum building height of 85 feet.

Public necessity, convenience and general welfare will be better served as a result of adopting the proposed General Plan Amendment and corresponding Zone and Height District Changes, as they would allow an underutilized industrial site to be redeveloped with a mixed-use project that will provide new live/work units that allow up to five employees in each unit, including affordable units, near jobs-rich Downtown and the budding Arts District as well as new commercial floor area designed to accommodate restaurants, retail stores, and art production spaces in a neighborhood that is transforming with the development of new live/work and commercial uses. The proposed project site is in a Transit Priority Area and is served by three Metro Rapid Bus Lines (720, 751 and 760), 13 Metro Local Bus Lines, and two regional bus lines (Montebello Bus lines M40 and M90) serve the project area. These lines provide connections to Metro subway stations, including Pershing Square and 7th Street/Metro Center with connections to the Red, Purple, Blue, and Expo Lines. The Little Tokyo/Arts District Metro Gold Line station located approximately 1 mile north from the project site. The project will provide public open space and improved sidewalks with street trees. The proposed project will be lined by restaurants, retail stores, and art production spaces on the ground floor and all parking will be screened by active uses, activating a site that currently

contains an outdated cold storage facility with large blank expanses, loading docks, and fences.

The project is in conformity with public necessity, convenience, general welfare and good zoning practice because it includes necessary housing, including affordable housing, substantial infrastructure improvements, improved streetscapes, and public open space. The project will provide both live/work and job opportunities in proximity to transit at an underutilized industrial site. The economic identity of this area continues to evolve from purely manufacturing uses to new hybrid uses that can accommodate digital and creative uses. The proposed project provides much needed live/work units while also facilitating jobs in an area that can accommodate such uses. As part of the project, a former railroad spur will be repurposed into a pedestrian paseo that will allow for public movement through the site between Alameda Street and Mill Street and to Industrial Street. In addition, the paseo will provide much-needed green space and public gathering areas.

Per LAMC Section 12.32-G,1 and 2, the current action, as recommended, has been made contingent upon compliance with new “T” and “Q” conditions of approval imposed herein for the proposed project. The “T” Conditions are necessary to ensure the identified dedications, improvements, and actions are undertaken to meet the public’s needs, convenience, and general welfare served by the actions required. These actions and improvements will provide the necessary infrastructure to serve the proposed community at this site. The “Q” conditions that limits the scale and scope of future development on the site are also necessary to protect the best interests of and to assure a development more compatible with surrounding properties and the overall pattern of development in the community, to secure an appropriate development in harmony with the General Plan, and to prevent or mitigate the potential adverse environmental effects of the subject recommended action

2. CONDITIONAL USE FINDINGS:

- a. That the project will enhance the built environment in the surrounding neighborhood or will perform a function to provide a service that is essential or beneficial to the community, city, or region.**

LAMC Section 12.24-W,1 allows a Conditional Use Permit to be granted for the sale and dispensing of alcoholic beverages. The project requests a Conditional Use Permit for the sale and dispensing of a full line of alcoholic beverages for on-site consumption at up to five (5) restaurants and for off-site consumption at one (1) proposed grocery store. The restaurants will be located street level on Industrial Street and the grocery store will be located at the corner of Alameda Street and Industrial Street.

The project proposes the demolition of a 131,350 square-foot warehouse building for the construction of a 577,301 square-foot mixed-use development that contains containing 475 live-work units, public open space, approximately 16,000 square feet of restaurant space, 15,815 square feet of arts and production space, 9,943 square feet of commercial space, and 15,100 square feet for a grocery store. The surrounding built environment is substantially developed in character, and the immediate vicinity of the project is characterized by a mix of low- to medium-intensity industrial, commercial, and mixed-use buildings. Directly north of the project site along Industrial Street is a warehouse building that will be demolished for the construction of another mixed-use project that will provide the sale and distribution of alcoholic beverages for on-site consumption.

The proposed mixed-use project would enhance the built environment by bringing new compatible development to the area, and alcohol service would improve the viability and desirability of the proposed restaurants and market. The restaurants and grocery store will also provide a beneficial service for the residents, employees, and visitors to the area, as the availability of alcohol sales is a desirable amenity that is typical of many restaurants and markets. Further, as conditioned, the sale of alcoholic beverage will occur within a controlled environment within the store by trained employees, subject to security measures, limited hours of operation, STAR training, inspections, and evaluations of any nuisance complaints and the appropriateness of the use. The service of alcoholic beverages in food establishments has become accepted as a desirable and expected use that is meant to complement food service. Since alcoholic beverage service is a common and expected amenity with meal service for many patrons, the grant for alcohol sales will be desirable to the public convenience and welfare. The project will provide increased opportunities for quality food and may serve as a central meeting point for the neighborhood. The sale of alcoholic beverages is anticipated to be an ancillary use to the restaurant use. Therefore, as conditioned, the project will enhance the built environment in the surrounding neighborhood and provide a service that is beneficial to the community, city or region.

- b. **That the project's location, size, height, operations, and other significant features will be compatible with and will not adversely affect or further degrade adjacent properties, the surrounding neighborhood, or the public health, welfare and safety.**

The project proposes the demolition of a 131,350 square-foot warehouse building for the construction of a 577,301 square-foot mixed-use development that contains containing 475 live-work units, public open space, approximately 16,000 square feet of restaurant space, 15,815 square feet of arts and production space, 9,943 square feet of commercial space, and 15,100 square feet for a grocery store.

The subject property is located in the Arts District, situated at the intersection of Alameda Street and Industrial Street. Historically, the area surrounding the site has been industrial in nature with large warehouses, loading docks, and light manufacturing uses. Over time, new uses have been introduced to the area in response to market trends. Non-industrial uses introduced to the vicinity include the six-story Toy Factory Lofts and Biscuit Company Lofts, located approximately 500 feet north of the project site which contain 119 live/work units and ground floor retail space, as well as new productive uses, such as creative office, retail, live/work units and artists' lofts, artisanal breweries, and art galleries. More recently, media and technology firms from Warner Music to Hyperloop One have begun to establish creative offices in the area, and new live-work buildings are underway, including at 695 S. Santa Fe Avenue (AMP Lofts), located 1,000 feet east of the project site, and at 1745 E. 7th Street, adjacent to the proposed project on the corner of 7th Street and Mill Street, is an eight-story building currently being rehabilitated into 57 live/work units and commercial uses (1745 East 7th Street). Additionally, the recently entitled mixed use Camden Project is directly across the street from the project at 656 Alameda Street with 344 live-work units and also measures 85 feet in height. Additional commercial development has also occurred nearby, including the ROW DTLA at 777 S. Alameda Street, a seven-story adaptive reuse project on a 30 acre site featuring 1.3 million square feet of creative office and 200,000 square feet of groundfloor commercial space in the former LA Terminal Market building. Besides industrial uses, the

Arts District's productive uses generally include creative offices, retail stores, live/work units and artists' lofts, artisanal breweries, and art galleries.

Bordering south of the project along 7th Street is a charter school and approximately 500 feet southeast is a high school. No evidence was presented at the hearing or in writing that the sale of alcohol will be materially detrimental to the immediate neighborhood. The sales of alcohol would not be detrimental to nearby schools, since the establishments serving alcohol will be carefully controlled and monitored, and would be facing Industrial Street, with parking and other commercial spaces providing a buffer between the alcohol selling establishments and the schools. The project has been designed in a manner to enhance the public realm and improve the aesthetics and safety of the surrounding area. The inclusion of alcohol uses will allow for added vibrancy within the project, which is appropriate for a mixed-use transit priority project. The establishment serving alcohol will be carefully controlled and monitored, while being compatible with immediately surrounding uses that are industrial and/or mixed-use buildings. The proposed project will provide a place for residents and visitors to eat, drink, and socialize; as such, the sale of alcoholic beverages is a normal part of restaurant operation and an expected amenity.

Additionally, the conditions recommended herein will ensure that the establishment will not adversely affect or further degrade the surrounding neighborhood, or the public health, welfare, and safety. Approval of the conditional use will contribute to the success and vitality of the commercial development and help to reinvigorate the site and vicinity. Since the alcohol sales will be incidental to food service and community space, permitting alcohol sales on the site will not be detrimental to the development of the community.

Thus, as conditioned, the project's location, size, height, operations and other significant features will be compatible with and will not adversely affect or further degrade adjacent properties, the surrounding neighborhood, or the public health, welfare, and safety. Furthermore, this grant also includes conditions of approval intended to address alcohol-related issues to safeguard public welfare and enhance public convenience, such as proper employee training. In addition, as each operator comes in, they will be required to file a plan approval to allow for the Zoning Administrator to review the floor plan, and impose any other conditions as deemed appropriate.

The location of the project's alcohol-sale would continue to add to the diversification of commercial activities being conducted in the area and would not adversely affect the surrounding neighborhood. As mentioned, the alcohol-sales would be compatible and complement the surrounding live/work and mixed-use projects in the Arts District. The proposed hours of operation are reasonable and the sale of alcohol is incidental to food sales at the restaurants and at the grocery store. Therefore, as conditioned, it is anticipated that the project features and uses will not adversely affect or further degrade adjacent properties, the surrounding neighborhood, or public health, welfare, and safety.

- c. **That the project substantially conforms with the purpose, intent and provisions of the General Plan, the applicable community plan, and any applicable specific plan.**

The Central City North Community Plan designates the site with a land use designation of Heavy Manufacturing corresponding to the M3 Zone. As proposed, the initiated plan amendment would re-designate the project site from Heavy Manufacturing to Regional Center

Commercial, which lists the following corresponding zones: CR, C1.5, C2, C4, RAS3, RAS4, R3, R4, and R5. The requested zone and height district change to [T][Q]C2-2D-RIO for the project site would be consistent with the adoption of the recommended plan amendment. In conjunction with the requested Master Conditional Use Permit for the sale of alcoholic beverages, the project would be in substantial conformance with the following policies of the General Plan as it is reflected within the Central City North Community Plan:

Goal 2: A strong and competitive commercial sector which best serves the needs of the community through maximum efficiency and accessibility while preserving the historic commercial and cultural character of the district.

Objective 2-1: To conserve and strengthen viable commercial development in the community and to provide additional opportunities for new commercial development and services.

Policy 2-1.3: Insure the viability of existing neighborhood stores and businesses which support the needs of local residents and area compatible with the neighborhood.

Objective 2-2: To attract uses which strengthen the economic base and expand market opportunities for existing and new businesses.

Objective 2-4: To enhance the appearance of commercial districts.

Policy 2-4.1: Require that any proposed development be designed to enhance and be compatible with adjacent development.

The request to serve and sell alcohol at the site will be consistent with these objectives and policies through the creation of a mix of commercial uses that would attract a variety of consumers and tenants, actively promoting the area as a key economic center of the community. The proposed project's mix of commercial uses will bring even more pedestrian activity to the area. Alcohol service incidental to food sales is a common amenity in many sit-down restaurants in the neighborhood. Further, it is a common feature to have a retail store with off-site alcohol sales and a market within a restaurant to promote consumer convenience. The availability of alcohol for on-site consumption provides another option for a wide range of activities on site and as an option for leisure to cultivate community activity and to create an enjoyable experience for area residents. Overall, the project supports bringing commercial activity to an area with large new residential developments, creates a pedestrian-friendly environment, and promotes the welfare and economic well-being of the local residents.

The Central City North Community Plan is silent with regards to alcohol sales. In such cases, the City Planning Commission must interpret the intent of the Plan. The Los Angeles Municipal Code authorizes the City Planning Commission to grant the requested conditional use in the zones corresponding to the Plan land use designation. The proposed project is a permitted use by the requested Plan land use category and zone in the Central City North Community Plan. The conditional authorization for the sale of alcoholic beverages is allowed through the approval of the City Planning Commission subject to certain findings. The required findings in support of the Central City North Community Plan have been made herein. Given the numerous conditions of approval, and the fact that the sale of alcohol is conditioned to be incidental to food service, the proposed use can be deemed to be in harmony with the General Plan.

Additional required findings for the sale of alcoholic beverages:

d. The proposed use will not adversely affect the welfare of the pertinent community.

The surrounding urban environment is predominantly mixed-use developments and converted industrial spaces. The properties located to the north of the Subject Property along Industrial Street are within the M3-1-RIO and [T][Q]C2-2D-RIO zones. The property within the [T][Q]C2-2D-RIO Zone is currently an industrial building with a loading dock and freight truck/storage area. However, a Determination Letter was issued on August 10, 2017 for the demolition of the existing industrial building and construction of a 336,304 square-foot, 7 story, 85 foot mixed-use building with 344 live-work units (Case No. CPC-2013-2993-GPA-VZC-HD-DB-MCUP-SPR). The properties located to the west of the Subject Property across Alameda Street are within the M2-2D and PF-2D zones and are used for public facilities and storage for Los Angeles County Metropolitan Transportation Authority's buses. The properties located to the south of the Subject Property, are within the M3-1-RIO Zone, and are improved with a one-story fast-food restaurant, two-story school (Para Los Niños), and one- to two-story industrial buildings. The properties located to the east of the Subject Property, along Mill Street, are within the M3-1-RIO Zone and are currently improved with one- to two-story industrial buildings and an 8 story-adaptive reuse building with 57 live-work units and groundfloor commercial.

The area surrounding the site is a mix of commercial, industrial and residential buildings. The request for on-site alcohol sales will be compatible with the surrounding uses, providing a place for residents, visitors, and shoppers to eat, drink, socialize, and shop. The request for off-site alcohol sales will create convenience for nearby residents. This all contributes to the continued vitality of the neighborhood.

Alcoholic beverage service is an expected amenity for many patrons and approval of this grant would increase the available options for desirable dining and social experiences for patrons. The establishments will also benefit the City through the generation of additional sales tax revenue, fees, and employment opportunities.

Diversity amongst uses is common in the immediate surrounding area, and while there are residential dwelling units and other sensitive uses located in close proximity to the subject site, the establishments open to the public serving alcoholic beverages will be part of a controlled and monitored development.

In addition, numerous conditions have been imposed to integrate the use into the community as well as protect community members from adverse potential impacts.

Additional conditions have been recommended for consideration by the California Department of Alcoholic Beverage Control that regulate the sale of alcoholic beverages to prevent adverse impacts to the neighborhood. Other conditions imposed will maintain the order and ensure cleanliness of the project and its surroundings. Therefore, the granting of the request will not adversely impact the welfare of the pertinent community.

e. The granting of the application will not result in or contribute to an undue concentration of such establishments.

The project, as proposed, will be located within a Regional Center where a variety of uses is permitted and encouraged and an increased concentration of licenses is anticipated. In addition, the census tract in which the project is located is an active commercial area that is a destination point for many and where there is a demand and expectation for increased alcohol license issuances. According to the State of California Department of Alcoholic Beverage Control (ABC) licensing criteria, three (3) on-sale and one (1) off-sale licenses are allocated to subject Census Tract No. 2060.31. There are currently 50 total licenses in this Census Tract (38 on-site and 12 off-site). Of the 38 establishments with on-site licenses, eight (8) have Type 41 License for on-site sales and consumption of beer and wine, and twenty (20) have Type 47 License Type for on-site general sales and consumption as bona-fide public eating places, and two have a Type 42 License Type for a bar. The 12 establishments with an off-site license have four (4) Type 21 License for general off-site sales and eight Type 20 for the off-site sales of beer and wine. Within 1,000 feet of the subject site, there exists a total of eight alcohol serving establishments. These establishments include a combination of restaurants, bars, and markets. Although there are numerous restaurants that serve alcohol for on-site consumption in the project area; there are no other existing uses that are similar to what the project proposes including an on-site paseo and do-it-yourself production spaces.

It is not uncommon to have increased concentrations of crimes in a dense, urban area that is a regional and internationally known center and destination. According to statistics provided by the Los Angeles Police Department's Central Division Vice Unit, within Crime Reporting District No. 159, which has jurisdiction over the subject property, a total of 371 crimes and arrests were reported in 2017 (250 Part I Crimes and 121 Part II Arrests), qualifying as a "High Crime Reporting District" compared to the citywide total average of 191 offenses for the same reporting period. Of the 371 total crimes and arrests reported for the census tract, seven (7) arrests were made for liquor laws, five (5) arrests were made for being under the influence of alcohol, no arrests were made for disturbing the peace, ten (10) arrests was made for disorderly conduct, and six (6) arrests were made for driving under the influence, reported by LAPD. Given the project's location within a dense employment and residential center, the census tract's crime statistics related to alcohol are minimal and the issuance of an additional licenses to serve alcohol on-site or off-site is not anticipated to create a law enforcement problem. Furthermore, the requested entitlement for alcohol sales that are incidental to restaurant patronage is not anticipated to adversely affect crime rates, given the nature of the use which will primarily involve alcohol being consumed by patrons of the restaurants.

f. Approval of the application will not detrimentally affect nearby residential zones or uses.

The following sensitive uses are located within 1,000 feet of the subject site:

- A non-profit charter school and education center, Para Los Niños, is located behind the Property at 1647 East 7th Street.
- Metropolitan Continuation High School is also located within 1,000 feet at 727 Wilson St, on the southeast corner of 7th and Decatur Streets.
- Residential Dwelling Units

While there are residential dwelling units and other sensitive uses located in close proximity to the project site, the project will provide adequate security measures to discourage loitering, theft, vandalism and other nuisances. The project proposes to provide CCTV camera security systems, on-site security guards posted at the proposed alcohol uses, an alarm system installed as needed,

pedestrian appropriate illumination at entryways, alleys, etc., and controlled access into and out of the parking garage. All sales employees will receive STAR training in responsible alcohol sales; age verification devices and prompts will be part of the Point of Sale system to assist cashiers in prevention of sales to minors.

Furthermore, the proposed use will not detrimentally affect nearby residential properties and other sensitive uses because the urban environment mostly contains mixed-use buildings with residents that both expect and desire more commercial developments. While the sale of alcoholic beverages is important to the restaurants or retailers that will be located within the proposed project's tenant spaces, their sale and service will be incidental to primary operations and, as such, no detrimental effects should be expected from the proposed project.

2. Density Bonus/Affordable Housing Incentives Compliance Findings.

Pursuant to Section 12.22-A,25 of the LAMC and Government Code Section 65915(d), the City Planning Commission shall approve one incentive and one development waiver unless the Director finds that:

a. The incentives/waivers do not result in identifiable and actual cost reductions to provide for affordable housing costs as defined in California Health and Safety Code Section 50052.5 or Section 50053 for rents for the affordable units.

The record does not contain substantial evidence that would allow the Commission to make a finding that the requested incentives do not result in identifiable and actual cost reductions to provide for affordable housing costs per State Law. The California Health & Safety Code Sections 50052.5 and 50053 define formulas for calculating affordable housing costs for very low, low, and moderate income households. Section 50052.5 addresses owner-occupied housing and Section 50053 addresses rental households. Affordable housing costs are a calculation of residential rent or ownership pricing not to exceed 25 percent gross income based on area median income thresholds dependent on affordability levels.

The list of on-menu incentives in 12.22-A.25 were pre-evaluated at the time the Density Bonus Ordinance was adopted to include types of relief that minimize restrictions on the size of the project. As such, the Commission will always arrive at the conclusion that the density bonus on-menu incentives do result in identifiable and actual cost reductions, and are required to provide for, affordable housing costs because the incentives by their nature increase the scale of the project.

The requested Waiver of Development Standard to permit 24 percent (114 spaces) of the number of primary parking spaces for each live/work unit (475 spaces) be designed as compact spaces in lieu of standard parking spaces for each unit are not expressed in the Menu of Incentives Per LAMC Section 12.22-A,25(f) and, as such, are subject to the Off-Menu process in LAMC Section 12.22-A,25(g)(3).

The requested incentives and waivers would result in building design or construction efficiencies that provide for affordable housing costs. The requested incentives and waivers allow the developer to expand the building envelope so the additional affordable units can be constructed and the overall space dedicated to residential uses is increased. The incentives and waivers support the applicant's decision to set aside 53 dwelling units for Very-Low Income Households for 55 years.

Requested Incentives/Waivers

Based on the set aside of 11 percent of units for Very-Low Income Household units, the applicant is entitled to one incentive under both the Government Code and LAMC. However, pursuant to Government Code Section 65915(e), the Commission is also required to grant a “waiver or reduction of development standards that will have the effect of physically precluding the construction of the density bonus project.” Without the below waivers, the existing development standards would preclude development of the proposed density bonus units, incentives and project amenities.

On-Menu incentive to allow reduced open space by up to 20. Allowing the reduced open space increases the number of market rate units allowed on the site and thus contributes to the project’s ability to sustain affordable rents. The requested incentive allows the developer to expand the building envelope so the additional units can be constructed and the overall space dedicated to live/work uses is increased.

Off-Menu Compact Parking Spaces in lieu of Standard Parking Spaces Waiver. The project proposes to provide relief from LAMC 12.21.A.5.c to permit 24 percent (114 spaces) of the number of primary parking spaces for each live/work unit (475 spaces) be designed as compact spaces in lieu of standard parking spaces for each unit otherwise required in zone C2. The reduction would physically enable the build out of base units, and will allow the project the space to provide a mix of studio; one-bedroom; one-bedroom and three-bedroom configurations. The additional space physically enables project amenities such as the construction of do-it-yourself art production spaces available to the public, two publicly accessible paseos, plaza and grocery store.

Without the waiver of development standard there would be a reduction in the project’s ability to provide the range of unit configurations or a reduction in the marketable commercial area that will be providing a commercial resource for on-site residents and others in the neighborhood. The Project would have a total of 577,301 square feet of floor area, with a maximum FAR of 3.55:1, and a new D Limitation that restricts the Property’s maximum FAR to 3.55:1 in lieu of a 6:1 FAR otherwise permitted in Height District two (2).

b. The incentive will have a specific adverse impact upon public health and safety or the physical environment, or on any real property that is listed in the California Register of Historical Resources and for which there are no feasible method to satisfactorily mitigate or avoid the specific adverse Impact without rendering the development unaffordable to Very Low, Low and Moderate Income households. Inconsistency with the zoning ordinance or the general plan land use designation shall not constitute a specific, adverse impact upon the public health or safety.

There is no substantial evidence that the proposed incentive will have a specific adverse impact. A “specific adverse impact” is defined as, “a significant, quantifiable, direct and unavoidable impact, based on objective, identified written public health or safety standards, policies, or conditions as they existed on the date the application was deemed complete” (LAMC Section 12.22-A.25(b)). As required by Section 12.22 A.25 (e)(2), the project meets the eligibility criterion that is required for projects requesting on-menu incentives in that the project : i) provides facade articulation; ii) provides street orientation; iii) also does not involve a contributing structure in a designated Historic Preservation Overlay Zone or a property on the City of Los Angeles list of

Historical-Cultural Monuments; and iv) is not located on a substandard street in a Hillside Area of Very High fire Hazard Severity Zone. The comments on record do not identify any written objective health or safety standards that are exceeded or violated. Nor does the record provide any evidence that significant, quantifiable, direct and unavoidable impacts will occur. Therefore, there is no substantial evidence that the proposed project will have a specific adverse impact on public health and safety.

4. SITE PLAN REVIEW

In order for the Site Plan Review to be granted, all three of the legally mandated findings delineated in Section 16.05-F of the Los Angeles Municipal Code must be made in the affirmative.

a. The project is in substantial conformance with the purposes, intent and provisions of the General Plan, applicable community plan, and any applicable specific plan.

The proposed Project consists of mixed-use live/work development comprising 475 live/work units and up to approximately 61,200 square feet of commercial retail and art production space with a maximum height of 85 feet. Off-street parking will be provided at or below grade and screened from view within three subterranean parking levels and one at grade.

The proposed project is consistent with various elements of the General Plan, the Central City North Community Plan, and the Housing Element as discussed below:

Framework Element

The General Plan Framework, adopted in December 1996 and re-adopted in August 2001, establishes the City's long-range comprehensive growth strategy and provides guidance on Citywide land use and planning policies, objectives, and goals. The Framework defines Citywide policies for land use, housing, urban form and urban design, open space and conservation, transportation, infrastructure and public spaces.

The General Plan Framework identifies Regional Centers as focal points of regional commerce, identity, and activity. Generally, Regional Centers range from a floor area ratio of 1.5:1 to 6:1 and are characterized by high-density buildings ranging from six- to twenty-stories, or higher. Regional Centers typically provide a significant number of jobs and many non-work destinations and function as transit hubs. The project supports and will be generally consistent with the General Plan Framework Land Use Chapter as it will allow for the mixing of uses in the community and will increase opportunities for employees to live near jobs and residents to live near shopping, entertainment and other amenities in a high quality transit area.

The proposed project is consistent with the goals, objectives and policies of the General Plan Framework as explained below:

Goal 3F: Mixed-use centers that provide jobs, entertainment, culture, and serve the region

Objective 3.10: Reinforce existing and encourage the development of new regional centers that accommodate a broad range of uses that serve, provide job

opportunities, and are accessible to the region, are compatible with adjacent land uses, and are developed to enhance urban lifestyles.

Policy 3.10.3: Promote the development of high-activity areas in appropriate locations that are designed to induce pedestrian activity in accordance with the Pedestrian-Oriented District.

Policies 3.16.1 through 3.16.3, and provide adequate transitions with adjacent residential uses at the edges of the centers.

Policy 3.10.4: Provide for the development of public streetscape improvements, where appropriate

Policy 3.10.5: Support the development of small parks incorporating pedestrian-oriented plazas, benches, other streetscape amenities and, where appropriate, landscaped play areas.

Policy 3.10.6: Require that Regional Centers be lighted to standards appropriate for nighttime access and use.

The proposed General Plan Amendment to Regional Center Commercial would be consistent and compatible with the recent pattern of development and expansion of live/work uses in the area. Non-industrial uses introduced to the vicinity include the six-story Toy Factory Lofts and Biscuit Company Lofts, located approximately 500 feet north of the project site which contain 119 live/work units and ground floor retail space, as well as new productive uses, such as creative office, retail, live/work units and artists' lofts, artisanal breweries, and art galleries. More recently, media and technology firms from Warner Music to Hyperloop One have begun to establish creative offices in the area, and new live-work buildings are underway, including at 695 S. Santa Fe Avenue (AMP Lofts), located 1,000 feet east of the project site, and at 1745 E. 7th Street, adjacent to the proposed project on the corner of 7th Street and Mill Street, is an eight-story building currently being rehabilitated into 57 live/work units and commercial uses (1745 East 7th Street). Additionally, the recently entitled mixed use Camden Project is directly across the street from the project at 656 Alameda Street with 344 live-work units and also measures 85 feet in height. Additional commercial development has also occurred nearby, including the ROW DTLA at 777 S. Alameda Street, a 7-story adaptive reuse project on a 30 acre site featuring 1.3 million square feet of creative office and 200,000 square feet of groundfloor commercial space in the former LA Terminal Market building. The site is in a Transit Priority Area and is well served by LADOT and Metro buses.

The project site is not in a designated Pedestrian-Oriented District, however the project meets the design policies aimed at improving pedestrian activity. The building is located at or near the property lines and creates a strong, articulated street wall with active ground floor uses including a pedestrian paseo. Parking is located in three levels of subterranean space and one level of ground floor parking that are lined with commercial uses. The project will also improve the adjacent streetscape by providing public improvements in the form of publicly accessible intersecting paseos connecting Industrial Street and Mill Street. The project proposes additional pedestrian amenities including seating, communal tables and local art.

The project's proposed Regional Center Commercial land use designation supports the mix of uses located in the vicinity of the site while activating the site by replacing an underutilized, warehouse distribution facility that comprises of four buildings, ranging in two- to three-stories in height with a surface parking lot for the construction of a mixed-use building with live/work units, office/commercial space, restaurant space, and amenity space. The proposed project meets the policies for the Regional Center Commercial land use and will activate an underutilized site.

Goal 4A: *An equitable distribution of housing opportunities by type and cost accessible to all residents of the City.*

Objective 4.1: *Plan the capacity for and develop incentives to encourage production of an adequate supply of housing units of various types within each City subregion to meet the projected housing needs by income level of the future population to the year 2010.*

Objective 4.2: *Encourage the location of new multi-family housing development to occur in proximity to transit stations, along some transit corridors, and within some high activity areas with adequate transitions and buffers between higher-density developments and surrounding lower-density residential neighborhoods.*

The project will provide housing for a mix of income levels and unit types. Of the proposed 475 live/work units, 53 of the units will be reserved for Very Low Income Households and the remaining units will be market rate. The project is also located in a Transit Priority Area and appropriately situated near public transit options such as LADOT and Metro bus stops, with connections and ease of access to jobs, entertainment, and other amenities and is located among other live/work uses within the Central City North Community Plan.

The proposed project meets Objective 7.2 of the Framework Element (*"Establish a balance of land uses that provides for commercial and industrial development which meets the needs of local residents, sustains economic growth, and assures maximum feasible environmental quality"*), by providing commercial space, restaurant, and live/work uses. Further, Chapter 3, Land Use, of the Framework Element states: *"As indicated in the Economic Development Chapter of the Framework Element, some existing industrially zoned lands may be inappropriate for new industries and should be converted for other land uses."* The proposed General Plan Amendment will enable such a conversion.

Land Use Element

The Land Use chapter encourages growth to be located in neighborhood districts, commercial and mixed-use centers, along boulevards, industrial districts, and in proximity to transportation corridors and transit stations. The Land Use Chapter also identifies "Targeted growth areas" which refer to those districts, centers, and boulevards where new development is encouraged and within which incentives are provided by the policies of the Framework Element. These are located in proximity to major rail and bus transit corridors

and stations; in centers that serve as identifiable business, service, and social places for the neighborhood, community, and region; as reuse of the City's boulevards; and as reuse of the City's industrial districts to facilitate the development of new jobs-generating uses.

As previously discussed, the project site is located within the Arts District of the Central City North Community Plan area. The surrounding neighborhood had a significant economic identity from the industrial uses that have historically populated the area. As that economy has evolved, heavy manufacturing uses are transitioning to more digital and creative uses. The project would be in keeping with this economic identity and evolution as it replaces underutilized two- to three-story warehouse buildings with a project that will activate the area through the introduction of 475 live/work units, including needed affordable units, on-site resident production space, approximately 16,140 square feet of restaurant space, approximately 25,750 square feet of commercial/arts and production space and approximately 15,102 square feet of grocery store space. The live/work units will be designed to comply with Section 419 of the Los Angeles Building Code. The project provides approximately 608 square feet of live/work gallery space on the ground floor, with amenities such as a clubroom and fitness facility for the residents. Historically artists have sought spaces with large floor plates, by moving into underutilized warehouse buildings in the Arts District. With that trend in mind, the proposed Project provides 475 live/work units ranging in 400 to 1,400 square feet in size that provides dedicated non-residential workspace within the units. Each unit's non-residential workspace will provide for new employment opportunities to the area.

The proposed project also has significant physical identity as a mixed-use project near regional transit in the Los Angeles area. The project site is located within an area of Los Angeles which is well-served by local and regional transit lines. The project area is currently served by three MTA Rapid Bus Lines, including lines 720 and 760, and 13 MTA Local Bus Lines, including lines 18, 53, 60 and 62. These lines provide connections to the downtown subway stations, which include Civic Center and Pershing Square. Additionally, the Greyhound Bus Terminal is located within 500 feet southeast of the Project Site on 7th Street, which provides inter-city bus service to various locations outside of the Los Angeles area. The project site is also served by the Metro Gold Line rail system located at the Little Tokyo/Arts District station near 1st Street and Alameda Street. The Metro Gold Line offers service to East Los Angeles to the east and Pasadena to the northeast. The Metro Gold Line connects to Union Station, providing access to Metrolink, the Metro Silver Bus Line, and Metro Rail Red and Purple Lines.

In addition, Metro is currently considering extending both the Santa Ana Line and Purple Line through the Arts District, and is considering multiple stations in the project vicinity. Development of this mixed-use site would provide potential additional transit riders and will act as a further inducement for Metro to further improved transit in the area. The project is also located within 500 feet of Metro's Bike Share system with a "Dock Point" located on Industrial Street at Mateo Street.

As indicated in the *Economic Development* Chapter of the Framework Element, some existing industrially-zoned lands may be inappropriate for new industries and should be converted for other land uses considering such criteria as demonstrating existing parcelization precludes effective use for industrial or supporting functions and where there is no available method to assemble parcels into a unified site that will support viable industrial development; where the size and/or the configuration of assembled parcels are

insufficient to accommodate viable industrial development; and where the conversion of industrial lands to an alternative use will not create a fragmented pattern of development and reduce the integrity and viability of existing industrial areas (Policy 3.14.6).

The subject property is currently developed with 131,350 square feet of warehouse distribution buildings. The existing warehouse buildings are currently outdated and primary use is to store and distribute frozen food products. The project would replace the existing warehouse buildings with a modernized live/work mixed-use development having ground floor commercial retail and restaurant spaces, pedestrian plaza areas, publicly accessible open space amenities and enhanced landscaped features in an area of the City that greatly lacks greenspace.

Housing Element

The Housing Element 2013-2021 was adopted on December 3, 2013 and identifies the City's housing conditions and needs, and establishes the goals, objectives and policies that are the foundation of the City's housing and growth strategy. The mixed-use project is consistent with several objectives and policies of the Housing Element. The plan text includes the following relevant housing objectives and policies:

Objective 1.1: Produce an adequate supply of rental and ownership housing in order to meet current and projected needs.

Policy 1.1.2: Expand affordable rental housing for all income groups that need assistance.

Policy 1.1.3: Facilitate new construction and preservation of a range of different housing types that address the particular needs of the city's households.

Policy 1.1.4: Expand opportunities for residential development, particularly in designated Centers, Transit Oriented Districts and among Mixed-Use Boulevards.

Objective 1.3: Forecast and plan for changing housing needs over time in relation to production and preservation needs.

Policy 1.3.5: Provide sufficient land use and density to accommodate an adequate supply of housing units by type and cost within the City to meet the projections of housing needs, according to the policies and objectives of the City's Framework Element of the General Plan.

The proposed General Plan Amendment to Regional Center Commercial would increase the land area available for the production of live/work housing near jobs-rich Downtown. The project would provide new housing stock, contributing towards the Mayor's Initiative to provide 100,000 housing units by 2020, while also retaining a focus on jobs producing uses. The proposed project would provide 475 live/work units, including five percent of the density set aside as restricted affordable units, and 11% of the total density for Very Low Income Households without directly displacing any existing housing or residents. The project would provide unique housing opportunities that are designed to accommodate arts production and small businesses within the units. Additionally, the project is located in a transit priority area, where an area is within one-half mile of a major transit stop that is existing or is planned. By adding dwelling units into the transit priority area, residents will have access to

multi-modal transportation options, reducing the usage of single-occupancy vehicles to travel to and from the area.

Objective 2.2: Promote sustainable neighborhoods that have mixed-income housing, jobs, amenities, services and transit.

Policy 2.2.3: Promote and facilitate a jobs/housing balance at a citywide level.

Objective 2.5: Promote a more equitable distribution of affordable housing opportunities throughout the City.

Policy 2.5.2: Foster the development of new affordable housing units citywide and within each Community Plan area.

The proposed project will introduce new live/work units in an area with a limited housing stock. The project is adjacent to Downtown and located near transit, amenities and jobs. The project will provide 475 live/work units, including five percent of the density set aside as restricted affordable units, while also providing arts production space, commercial/retail space, a grocery store, and restaurant space on site. The mix of uses and affordability levels will contribute towards a sustainable neighborhood and a jobs/housing balance. The project will provide much needed affordable housing and a unique opportunity for affordable live/work units. The project's strategic downtown location also provides residents and visitors with an abundance of transit options.

Urban Form and Neighborhood Design Chapter

Goal 5A: A livable City for existing and future residents and one that is attractive to future investment. A City of interconnected, diverse neighborhoods that builds on the strengths of those neighborhoods and functions at both the neighborhood and citywide scales.

Objective 5.5: Enhance the livability of all neighborhoods by upgrading the quality of development and improving the quality of the public realm.

Objective 5.9: Encourage proper design and effective use of the built environment to help increase personal safety at all times of the day.

Policy 5.9.2: Encourage mixed-use development which provides for activity and natural surveillance after commercial business hours through the development of ground floor retail uses and sidewalk cafes. Mixed-use should also be enhanced by locating community facilities such as libraries, cultural facilities or police substations, on the ground floor of such building, where feasible

The proposed project complies with the aforementioned goals, objectives, and policies. The addition of new commercial, restaurant and office uses and live-work uses would complement the Arts District neighborhood that is developed with a variety of unique restaurants, artist galleries and production spaces, creative office space, live-work units, and boutique retail shops. The project would enhance the livability of the neighborhood with the addition of new ground floor commercial uses that would draw patrons to the site and which builds upon the mix of uses already found in the area. In addition, there would be two

intersecting paseos on the ground floor, one running east-west between Mill Street and the midblock paseo and a midblock paseo running north-south from Industrial Street to the other paseo. The paseos would facilitate resident connectivity from the commercial uses to the live-work units and amenity spaces. In addition, the project provides substantial landscaping, new street trees, and courtyard areas along the paseos that may include outdoor dining opportunities for ground floor restaurants.

Open Space Chapter

Objective 6.2: Maximize the use of the City's existing open space network and recreation facilities by enhancing those facilities and providing connections, particularly from targeted growth areas, to the existing regional and community open space system.

Policy 6.4.7: Consider as part of the City's open space inventory of pedestrian streets, community gardens, shared school playfields, and privately-owned commercial open spaces that are accessible to the public, even though such elements fall outside the conventional definitions of "open space." This will help address the open space and outdoor recreation needs of communities that are currently deficient in these resources.

The project would include two publicly accessible paseos that includes a walking path, green space, gathering areas, and outdoor dining for the public, and live/work users and open space on the second level for live/work and commercial use patrons. The project provides public courtyard on the ground floor fronting Industrial Street. There is also private open space on the second floor that is accessible from the public courtyard area stairs.

Economic Development Chapter

Goal 7A: A vibrant economically revitalized City.

The proposed project would replace a warehouse distribution building with a mixed-use development containing 475 live/work units, including needed affordable units, approximately 16,000 square feet of restaurant space, 15,815 square feet of arts and production space, 9,943 square feet of commercial space, and approximately 15,100 square feet for a grocery store. In addition to commercial/restaurant space, and live-work units, the creative office and live-work units can contain small businesses and home-based occupations, which will further contribute to meeting this goal.

Goal 7B: A City with land appropriately and sufficiently designated to sustain a robust commercial and industrial base.

Objective 7.2: Establish a balance of land uses that provides for commercial and industrial development which meets the needs of local residents, sustains economic growth, and assures maximum feasible environmental quality.

Policy 7.2.3: Encourage new commercial development in proximity to rail and bus transit corridors and stations.

Policy 7.2.5: Promote and encourage the development of retail facilities appropriate to serve the shopping needs of the local population when planning new residential neighborhoods or major residential developments.

The project will further the above goal, objective and policies through the introduction of 475 live/work units, including needed affordable units, approximately 16,000 square feet of restaurant space, 15,815 square feet of arts and production space, 9,943 square feet of commercial space, and approximately 15,100 square feet for a grocery store. The projects adjacent location to bus stops and the Metro Gold Line Station will allow residents and visitors easy access to the goods and services provided by the project. The live/work units will be designed to comply with Section 419 of the Building Code and will be able to accommodate up to five employees in each unit. The units range from 400 to 1,400 square feet in size and provides dedicated non-residential workspace within the units. Each unit's non-residential workspace will provide for new employment opportunities to the area. These features will promote job creation and economic growth, strengthen the commercial sector, and contribute to a better balance of land uses that meets the needs of residents while redeveloping an underutilized site that is not well suited for industrial development, as previously above.

Goal 7D: A City able to attract and maintain new land uses and businesses.

The project will further the above goal through the introduction of up to 16,000 square feet of restaurant space, 15,815 square feet of arts and production space, 9,943 square feet of commercial space, and approximately 15,100 square feet for a grocery store. In addition, the live/work units will be designed to comply with Section 419 of the Building Code and will be able to accommodate up to five employees in each unit. The units range from 400 to 1,400 square feet in size and provides dedicated non-residential workspace within the units. Each unit's non-residential workspace will provide for new employment opportunities to the area.

Goal 7G: A range of housing opportunities in the City.

The project will provide a range of housing opportunities in the form of 475 live-work units, including very low income affordable units, within studio, one- and two-bedroom configurations.

Central City North Community Plan

The Central City North Community Plan, one of 35 Community Plans that the Land Use Element of the General Plan is comprised of, was adopted on December 15, 2000 with an update currently underway (DTLA 2040). The Community Plan designates the uses of land and is intended to guide development in order to create a healthful, pleasant environment. The existing district that comprises the area around the Arts District consists of a mix of buildings and uses with varied scale with industrial and storage uses, live/work uses, pockets of pedestrian-oriented commercial development that include creative office, restaurant, retail, and artist uses. The transition of allowable uses in the Arts District and adjacent areas started as far back as 1981, with each new development or adaptive reuse project in the area with a live/work component requiring discretionary review. As a result, the area has seen an increase in the conversion of obsolete industrial buildings to live/work units and studios, as well as some new, ground-up live/work construction on land designated for Commercial uses, primarily located in the northern end of the Arts District adjacent to the Little Tokyo/Arts District Metro Gold Line Station. Within the immediate neighborhood, there are adaptive reuse buildings with live-work units and ground floor commercial spaces.

The Community Plan goals and objectives include: preserving and enhancing the positive characteristics of existing residential neighborhoods while providing a variety of housing opportunities with compatible new housing; improving the function, design, and economic vitality of the commercial corridors, preserving and enhancing the positive characteristics of existing uses which provide the foundation for community identity, such as scale, height, bulk, setbacks, and appearance; maximizing the development opportunities of future transit systems while minimizing any adverse impacts; and planning the remaining commercial and industrial development opportunity sites for needed job producing uses that will improve the economic and physical condition of the Central City North area.

The project, which would provide a mixed-use live/work/commercial development, would conform to the goals, objectives, and land uses identified in the Community Plan. The plan text includes the following relevant residential and commercial land use objectives and policies:

Objective 1-1: To provide for the preservation of existing housing and for the development of new housing to meet the diverse economic and physical needs of the existing residents and projected population of the Central City North Plan area to the year 2010.

Objective 1-2: To locate new housing in a manner which reduces vehicular trips and makes it accessible to services and facilities.

Policy 1-2.1: Encourage multiple residential development in commercial zones.

Objective 1-4: To promote and insure the provision of adequate housing for all persons regardless of income, age, or ethnic background

Policy 1-4.1: Promote greater individual choice in type, quality, price, and location of housing.

Policy 1-4.2: Ensure that new housing opportunities minimize displacement of the existing residents.

The proposed project would provide 475 live/work units with 11 percent of the units (53 units) reserved for Very Low Income Households and will not displace any existing housing or residents. The units will vary in size and will be constructed to meet the building code requirements for live/work units, providing unique housing and economic opportunities to meet the needs of the existing and projected population of Central City North. Furthermore, as requested in the zone change to the C2 Zone with a Regional Center Commercial land use designation, the project would bring 475 live/work units to the commercial zone.

Vehicular trips will be reduced through the mix of uses offered onsite, the proximity to nearby jobs, commercial uses, restaurants and entertainment, and the proximity to transit. The residents of the proposed project would have access to a variety of transit options nearby including the Metro Rapid Bus lines 720, 751 and 760, providing access through Downtown, including connections to the Metro Red and Purple lines, and west to Santa Monica; Metro Rapid Bus Line 760 providing access through Downtown, including connections to the Metro Blue, Expo, Red and Purple lines, and south to Lynwood, connecting with the Metro Green

Line; Metro local bus lines 18, 53, 60 and 62; the Little Tokyo/Arts District Metro Gold Line Station approximately one mile to the north, providing access to Pasadena, Azusa and East Los Angeles; Union Station; and the Greyhound Bus Terminal within 500 feet southeast of the site.

Objective 2-1: To conserve and strengthen viable commercial development in the community and to provide additional opportunities for new commercial development and services.

Objective 2-2: To attract uses which strengthen the economic base and expand market opportunities for existing and new businesses.

Policy 2-2.2: New development needs to add to and enhance existing pedestrian street activity.

Policy 2-2.3: Require that the first floor street frontage of structures, including mixed use projects and parking structures located in pedestrian oriented districts, incorporate commercial uses.

Objective 3-2: Encourage the continued development and maintenance of the artists-in-residence community in industrial areas of the proposed redevelopment plan areas and of the plan, as appropriate.

The proposed project is a mixed-use development that includes 475 live/work units, approximately 16,000 square feet of restaurant space, 15,815 square feet of arts and production space, 9,943 square feet of commercial space, and approximately 15,100 square feet for a grocery store. The addition of new commercial uses would complement the recent development trend in the Arts District and would further strengthen the commercial viability of the neighborhood. The live/work units will provide unique opportunities for an array of uses, including artists and small businesses. The proposed live/work units will not be restricted to artists but will support the artists-in-residence community by providing new units with larger than average unit sizes, open floor plans, and on-site production spaces.

The project is designed to create a strong street wall with continuous, uniform setbacks along Alameda Street and Industrial Street and an active ground floor, which will enhance pedestrian activity near the site. The project has a public courtyard that is accessible from Industrial Street. The existing site conditions include large, blank facades, curb cuts, warehouse docks, wired fencing surrounding the existing building, and a lack of landscaping. The proposed mixed-use project will greatly enhance the pedestrian experience by improving street and sidewalk conditions, adding street trees, locating retail, restaurant and live/work lobbies on the ground floor, and adding public open space such as plazas and paseos adjacent to the street. There would be two intersecting paseos on the ground floor, one running east-west between Mill Street and the midblock paseo and a midblock paseo running north-south from Industrial Street to the other paseo. The project will locate parking in three subterranean levels and behind active uses on the first floor.

Urban Design

As proposed, the project would comply with the Urban Design policies in Chapter 5 of the Community Plan with respect to site planning, height and building design, parking structures, and landscaping.

Site Planning

- Locating surface parking to the rear of structures;
- Minimizing the number of widths of driveways providing sole access to the rear of commercial lots;
- Maximizing retail and commercial service uses along frontages of commercial developments;
- Providing front pedestrian entrances for businesses fronting on main commercial streets;
- Providing through arcades from the front of buildings to rear parking for projects within wide frontages;
- Providing landscaping strips between driveways and walkways accessing the rear properties;
- Requiring site plans which include ancillary structures, service areas, pedestrian walkways, vehicular paths, loading areas, drop off and landscaped areas;
- All multi-family residential projects of five or more units shall be designed around a landscaped focal point or courtyard to serve as an amenity for residents

The project proposes a pedestrian mid-block paseo on the ground level with direct access through the project site from Industrial Street to the rear of the project, connecting with second paseo that runs east to Mill Street. The pedestrian paseos would include landscaping, hardscape and seating areas. Vehicular access is provided by one driveway from Industrial Street, with three levels of subterranean parking and ground floor parking. Ground floor parking is enclosed and covered by commercial and retail uses. The ground level of the project will contain retail and commercial uses along Alameda Street, Industrial Street, as well as the paseos, further activating pedestrian circulation. Each commercial space would be accessed directly from the paseos, Alameda Street and Industrial Street.

Height and Building Design

- Requiring the use of articulations, recesses, surface perforations, and porticoes to break up long, flat building facades;
- Providing accenting, complimentary building materials to building facades;
- Maximizing the applications of architectural features or articulations to building facades;
- Designating architecturally untreated facades for signage;
- Screening of mechanical and electrical equipment from public view;
- Requiring the enclosure of trash areas for all projects;
- Requiring freestanding walls to use articulation, recesses, surface perforations, porticoes to break up long freestanding walls.
- Utilizing of complementary building materials in building facades;
- Integrating building fixtures, awnings, security gates, etc. into the design of a building;
- Screening all rooftop equipment and building appurtenances from adjacent properties.

Parking Structures

- Designing parking structure exteriors to match the style, materials and colors of the main building;
- Maximizing commercial uses, if appropriate, on the ground floor;
- Landscaping to screen parking structures not architecturally integrated with the main building;
- Utilizing decorative walls and landscaping to buffer residential uses from parking structures.

The building has been designed to complement the industrial concept of the surrounding Arts District's buildings in the neighborhood. The project has a two-story podium and 6-stories of live/work units for a maximum building height of 85 feet. The ground floor is differentiated from the upper live/work levels and includes Board Formed Concrete and Fiber Cement Paneling that complement the proposed street level landscaping and draw daylight into the proposed courtyard spaces. The upper live/work portions feature a white and dark metal panel clad with varying façade planes and proportions to create a sense of playfulness that also complement the ground floor materials and complements the surrounding warehouse/industrial buildings around the project. "Cut outs" for the upper floor courtyards at the second level create additional sculptural interest in the building and modulate the building mass along the length of the block. The paseos are designed to open up the building to the public and creates an invitation to explore the amenities of the project. The internal parking structure is integrated into the building and entirely screened from the surrounding streets by the live/work and commercial uses which further enhance the street experience. Trash receptacles would be located within the parking garage and not visible to the public, while rooftop mechanical equipment would be screened from public view.

Mobility Plan 2035

The Mobility Plan was adopted on August 11, 2015 and last amended on September 7, 2016.

Policy 2.3 Pedestrian Infrastructure: Recognize walking as a component of every trip, and ensure high-quality pedestrian access in all site planning and public right-of-way modifications to provide a safe and comfortable walking environment.

Policy 3.3 Land Use Access and Mix: Promote equitable land use decisions that result in fewer vehicle trips by providing greater proximity and access to jobs, destinations, and other neighborhood services.

Policy 3.8 Bicycle Parking: Provide bicyclists with convenient, secure and well-maintained bicycle parking facilities.

The proposed project will greatly improve the pedestrian experience along Alameda Street and Industrial Street. The existing site conditions include large, blank facades, fences, warehouse docks, lack of landscaping, and a chain-link fence enclosing the existing building. The project will comply with the Avenue I standards for Alameda Street and the Collector standards for Industrial Street. Pedestrian activity will also be improved with the incorporation of street trees along Alameda Street and Industrial Street, and the addition of public open space, including seating, tables, and two paseos: one along the southern boundary of the project site connecting with the midblock paseo running south from

Industrial Street. Alameda Street, Industrial Street, and the paseos are all lined by active uses including restaurant space, retail space, and live-work units.

The proposed project will locate much needed housing near jobs-rich Downtown. The project is approximately one-mile south of the Metro Gold Line Station in Little Tokyo/Arts District and is served by many MTA Local and Rapid buses, such as bus lines 18, 53, 60 and 62. The location of the proposed project near jobs, entertainment, and transit as well as the mix of uses on-site and live/work units will reduce the number of vehicle trips. The project will also provide 581 bicycle parking spaces, including 77 short-term spaces and 504 secured, long-term spaces.

Air Quality Element

The **Air Quality Element** of the General Plan will be implemented by the recommended action herein. The Air Quality Element sets forth the goals, objectives and policies which will guide the City in the implementation of its air quality improvement programs and strategies. The Air Quality Element recognizes that air quality strategies must be integrated into land use decisions and represent the City's effort to achieve consistency with regional Air Quality, Growth Management, Mobility and Congestion Management Plans. The Air Quality Element includes the following Goal and Objective relevant to the instant request:

Goal 5: Energy efficiency through land use and transportation planning, the use of renewable resources and less polluting fuels, and the implementation of conservation measures including passive methods such as site orientation and tree planting.

Objective 5.1: It is the objective of the City of Los Angeles to increase energy efficiency of City facilities and private developments.

The project is energy efficiency through its provision of electric vehicle parking, provision of ample trees and its proximity to public transit and Downtown Los Angeles, a jobs-rich regional hub. Furthermore, the project will comply with the City of Los Angeles Green Building Code, which has stricter standards in comparison to the 2010 California Green Building Standards Code (CALGreen).

Sewerage Facilities Element

Improvements may be required for the construction or improvement of sewer facilities to serve the subject project and complete the City sewer system for the health and safety of City inhabitants, which will assure compliance with the goals of this General Plan Element.

- b. The project consists of an arrangement of buildings and structures (including height, bulk and setbacks), off-street parking facilities, loading areas, lighting, landscaping, trash collection, and other such pertinent improvements that is or will be compatible with existing and future development in neighboring properties.**

The arrangement of the proposed development is consistent and compatible with existing and future development on neighboring properties. The subject site is located within the Central City North Community Plan Area and is in the Arts District

neighborhood. The surrounding urban environment is predominantly developed with newly constructed mixed-use live/work and office developments, industrial buildings that have been converted into live/work dwelling units, restaurants, and industrial uses. The project site is bound on the north by Industrial Street, with a storage warehouse and other industrial and commercial uses. To the east of the project, across Mill Street are wholesale food warehouses and adaptive reuse structures occupied with commercial uses. Bordering the project site to the south are low-rise commercial and industrial uses such as a McDonald's restaurant, the Para Los Ninos Charter School, and the Institute of Contemporary Art Los Angeles Museum. Further south across 7th Street is a Greyhound bus station, the Metropolitan High School, and a food produce warehouse. To the west of the project, across Alameda Street is storage and maintenance facility area for Metro buses. Beyond the railway is a mix of one- to four-story buildings and surface parking lots housing various commercial and warehouse uses. Around the general vicinity of the project area are other live/work and mixed-use buildings such as the Molino Street Lofts and Bark Block Lofts Parcels approximately 0.35 miles north, newly constructed At Mateo consisting of 130,000 square feet of retail and restaurant space and 100,000 square feet of creative office space, and the Brick Lofts approximately 1,000 feet east. Other commercial developments include a number of restaurants, the ROW DTLA at 777 S. Alameda Street, and the Urban Radish market at 661 Imperial Street.

Height, Bulk, and Setbacks

The proposed Project is comprised of a two-story podium approximately 19 feet in height with live/work units on the upper levels of the building for a maximum height of 85 feet. The podium will encompass retail, restaurant spaces, art production spaces, and ground level parking concealed from the public right of way. The building will have frontage on three public streets; Alameda Street, Industrial Street, and Mill Street, provide different and unique pedestrian street activation on each of these public rights-of-way.

The Ground Floor level of the project consists of a grocery store at the corner of Alameda Street and Industrial Street, with commercial restaurants and retail stores fronting Industrial Street and Alameda Street, and a southern paseo and midblock paseo fronting Alameda Avenue and Mill Street. Residents and visitors will have access to the open courtyard at Industrial Street with stairs leading up to the second floor private open space courtyard for the residents. Additionally, there are two intersecting paseos on the ground floor, one running east-west connecting Mill Street to Alameda Avenue and paseo running north-south from Industrial Street to the primary paseo. The paseos allow for pedestrian circulation around and through the project site. All vehicular parking at this level is flanked by livable area and screened from view by the ground floor uses. Vehicles would be able to access the project through one driveway on Industrial where there is one level of parking on the ground floor and three subterranean levels. Emergency/Service vehicles and large delivery trucks would have access on the south side of the project via the fire lane with ingress entry at Mill Street and egress exit at Alameda Street.

The Second Floor level contains the live/work units lining the frontage of the building with an open courtyard nestled atop the podium for the residents. The courtyard includes seating, tables, and gathering areas with landscape and vegetation. The open amenities

for the residents on the second floor include an outdoor pool, clubroom, and fitness room.

From Level 2 to the Level 7, the balance of the live/work units are provided in a similar layout as the Second Floor level. However, the Third Floor level contains the second level of the fitness room.

With regard to height, the proposed project includes 7 stories with a maximum height of 85 feet. The Applicant is requesting a Zone Change and Height District Change to C2-2D, allowing unlimited height, however the Project proposes a height of up to 85 feet.

Buildings in the vicinity include the seven-story Toy Factory Lofts, the seven-story Biscuit Company Lofts, the eight-story 1745 E. 7th Street building currently being converted to live/work uses, and the seven-story ROW DTLA project. Additionally projects of similar height are being proposed or have been entitled in the vicinity, such as the 7-story, 320 live-work AMP Lofts Project, the proposed 641 Project, a mixed-use 12-story tower and finally the fully entitled Camden Project across from the project site, measuring 85 feet in height like the project. The overall massing of the proposed project is consistent with the other live/work buildings in the Arts District. The building has been designed to open the project to the surrounding environment through the uses of the paseos, open courtyards, podium terraces and ground floor commercial uses.

As permitted by Code, the building will be built to the property line along Alameda Street and Industrial Street, and will provide a 28-foot rear yard setback along the midblock paseo from Alameda Ave to Mill Street and a 16-foot 7 inch side yard setback. Therefore, the proposed setbacks for the project are consistent with the requirements of the LAMC.

The project follows good planning principles by providing building articulation and design variation, locating pedestrian paseos and commercial retail components along the ground floor frontage and proposing live/work units that enhance the surrounding industrial and artistic character, continuing a legacy of a creative and entrepreneurial live/work community in the Art District.

Off-Street Parking Facilities and Loading Areas

The project is proposing to provide a total of 842 automobile parking spaces and 581 bicycle parking spaces, consistent with the requirements of the LAMC after the allowed bicycle parking reductions. Vehicular access to the project site will be provided via one two-way driveway along Industrial Street. For emergency/service vehicles and large delivery trucks, there would be a fire lane running east-west on the south side of the project where one-way driveway access is at Mill Street and one-way driveway exit is at Alameda Street. The project will include three levels of subterranean parking and one at-grade parking level covered by commercial and retail uses. The project includes an internal loading area that can accommodate several trucks at a time located on the southwest corner of the building via the fire lane.

Lighting and Building Signage

Lighting and signage will be provided per LAMC requirements. The project utilizes pedestrian lighting to encourage and extend safe pedestrian activities into the evening. Lighting would be shielded downward and/or away from adjacent uses, including lighting

for outdoor terraces. The use of pole-mounted lighting or floodlights is not anticipated, according to the applicant. Project lighting would also include visible interior light emanating from the ground-level commercial uses, architectural lighting to highlight architectural features of the retained portions of the existing building, and decorative lighting within the pedestrian plazas and seating areas. The project will include lighting for the on-site murals, but would be limited to no greater than 3 foot candles above ambient lighting in accordance with the Mural Ordinance. Additionally, the project is conditioned to require outdoor lighting to shine downward, be installed with shielding, and be directed onto the project site, so that the light source does not directly illuminate any adjacent properties or the above night skies. The parking at the ground level will be fully covered by commercial and retail uses mitigating the impact of headlights towards the surrounding area.

On-Site Landscaping

Open space and landscaping opportunities are utilized on the site in open areas not used for circulation, building, driveways, or parking. On the ground floor, landscaping includes parkways along Alameda Street and Industrial Street and will include street trees, a public landscaped plaza fronting Industrial Street, landscaped paseos running south from Industrial Street connecting with the other paseo that runs along the railroad right-of-way towards Mill Street. On the second level, the project will include landscaping around several of the outdoor patio areas that includes: a pool/lounge area, and outdoor seating/gathering areas (east and west sides). In addition, landscaping will be consistent with the requirements of the RIO.

Trash Collection

All trash and recycling areas are proposed to be located within an internal storage area and are not visible to the public. Trash collection will take place internally with trash collection trucks entering and existing via the fire lane on the south side of the building from Mill Street/Alameda Street.

As described above, the project consists of an arrangement of buildings and structures (including height, bulk, and setbacks), off-street parking facilities, loading areas, lighting, landscaping, trash collection, and other such pertinent improvements that will be compatible with existing and future development on adjacent and neighboring properties.

- c. **That any residential project provides recreational and service amenities in order to improve habitability for the residents and minimize impacts on neighboring properties.**

The proposed project will redevelop the site with 475 live/work units that will consist of studios, one-, two-, and three-bedroom configurations in addition to providing 61,200 square feet of commercial retail and art production space. The project is required to and will provide 44,623 square feet of usable open space in the form of recreation room, fitness center, and private terraces and patios. The project includes a minimum of 7,493 square feet of landscaped area and the planting of 120 new trees at a ratio of one tree for every four live/work units. Additionally, extensive landscaped areas are provided

along the pedestrian paseos at the southern boundary and midblock of the Subject Property, including shaded walking paths, seating areas, and other publicly accessible common gathering areas.

On the second level, the project includes a pool/spa area, outdoor dining area, terraced sun deck, barbeque and seating area, fire pit, fitness center, recreation center, cabana seating, deck with seating. Lastly, the project will include an outdoor common area on the seventh level.

As proposed, the project will be providing ample open space, both programmed and unprogrammed, taking into consideration the varying recreational needs of the future residents. As such, the project has provided recreational and service amenities to improve the habitability for its residents and minimize impacts on neighboring properties.

5. Waiver of Dedications and Modification of Street Improvement

The Applicant requests a waiver for one foot of the two-foot dedication on Industrial Street, and instead provide a one-foot limited dedication to meet the Mobility Plan's standards for Collector Streets and complete a 33-foot wide half ROW with a 13-foot sidewalk. The Project also proposes two eight-foot wide sidewalk "bump-out" extensions that would be opposite the plaza and paseo areas along Industrial Street. These bump-outs would provide a safer and more pleasant pedestrian-oriented environment that would allow both sides of the sidewalk to be activated with landscaping and street furniture.

As set forth in LAMC Section 12.37.1.2(b), the Planning Director may waive, reduce or modify the required dedication or improvement as appropriate after making any of the following findings, in writing, based on substantial evidence in the record:

- 1) The dedication or improvement requirement does not bear a reasonable relationship to any project impact.
- 2) The dedication or improvement is not necessary to meet the City's mobility needs for the next 20 years based on guidelines the Streets Standards Committee has established.
- 3) The dedication or improvement requirement is physically impractical.

Industrial Street – Existing, Recommended, and Project ROW Dimensions						
Street/Classification/Segment		Existing Dimensions	NavigateLA Recommendation (Collector)	BOE Recommendation (Industrial Collector)	Dedication Recommendation	Project ¹
Industrial Street (Industrial/Collector)	ROW	Full: 64' Half: 32'	Full: 66' Half: 33'	Full: 68' Half: 34'	1' dedication per MP; 2' per BOE	Project Half: 33'
	Roadway	Full: 40' Half: 20'	Full: 40' Half: 20'	Full: 48' Half: 24'	0' MP; Not specified, BOE	Project Half: 20'
	Sidewalk	12'	13'	10'	13'	13'

¹ Includes 1-foot dedication to meet Collector Street dimensions per Mobility Plan 2035
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The following findings are required to modify or waive the dedication or improvement of a Street Improvement.

1) The dedication or improvement requirement does not bear a reasonable relationship to any project impact.

The Project was designed to conform with the Mobility Plan's designation of a Collector Street, including the one-foot dedication along Industrial Street and four-foot dedication along Mill Street. Bureau of Engineering ("BOE") has indicated, in its condition for VTTM 74537, that two of the Project's adjacent streets (Industrial and Mill Streets) are classified as "Industrial Collector" streets, which requires an additional foot of dedication. The project's proposed 33 foot half roadway would require no additional widening of the street and preserve the existing street grid of the Art's District. Furthermore, the extra one-foot dedication and two-foot widening of Industrial Street as well as the two eight-foot bumpouts does not bear a reasonable relationship to any project impact. In addition, the Camden Project directly across at 1525 East Industrial Street, was not required to widen Industrial Street pursuant to VTT-74112, maintaining the existing roadway width.

The Traffic Study for the project was reviewed the LADOT on June 15, 2017 and based on DOT's traffic impact criteria, found that six study signalized intersections are to be significantly impacted. The Transportation Mitigation Program would fully reduce the impacts found at three intersections, however significant impacts would remain at the intersections of Alameda and 6th Street, Alameda and 7th Street, and Mateo and 7th Street. The additional one-foot dedication along Industrial Street would not bear a reasonable relationship to any project impact, as it would not create an additional lane of traffic. With the recent adoption of Vision Zero, Mobility Plan 2035 and Complete Streets Design Guide, the roadway width has been set along the majority of arterials in the Downtown/Arts District. Street widening is neither practical nor desirable under the new standards since it would come at the expense of reduced sidewalks or the loss of on-street parking spaces. Furthermore, the 8-foot bumpouts would provide increased sidewalk widths, additional seating and landscaping opportunities and provide a pedestrian buffer from traffic.

Furthermore, in a memo dated June 27, 2018, LADOT voiced support for the recommended street improvements. LADOT conferred with the Applicant on the proposed street improvements for the project and recommended that Industrial Street be improved to typical Collector Street standards, which include maintaining the existing half-width roadway of 20 feet on the south side of Industrial Street and dedicating 1 foot to provide a 33 foot half-width right-of-way. This would increase the sidewalk width from 8 feet (Industrial Collector) to 13 feet (Collector). LADOT also supports the provision of curb bump outs at different locations along Industrial Street as indicated on Exhibit A and finds that these modifications better match the future mixed-use developments throughout the area.

2) The dedication or improvement is not necessary to meet the City's mobility needs for the next 20 years based on guidelines the Streets Standards Committee has established.

The City's General Plan Transportation Element was updated with the Mobility Plan which aims to guide the continuing development of a citywide transportation system and provide efficient movement of people and goods to achieve a transportation system that will balance the needs of all road uses. The Plan recognizes that since the 1999 Transportation Element was adopted, "there has been growing interest in restricting streets from being widened to match their currently assigned designation." With this in mind, community and specific plans have been updated and/or introduced with added footnotes and street modifications that would restrict a street from future widening. Most streets retained its named designation "but the footnotes and modifications indicated that the street was not to be widened in the future." In this instance, consideration of the overall implication of the street dedication and improvement requirement is not necessary even when the roadway would be less than the standard dimension.

An additional one-foot right-of-way dedication along Industrial Street is not necessary to meet the City's mobility needs for the next 20 years based on the guidelines established by the Streets Standards Committee because existing Collector Street dimensions are more in line with the Mobility Plan's purpose of providing safe and efficient transportation for pedestrians, bicyclists, transit riders, and car/truck drivers. The Industrial Collector designation requires a 10-foot sidewalk instead of the 13-foot sidewalk called for by a Collector Street. Moreover, a one-foot additional dedication along Industrial Street is inconsequential to improving the City's mobility needs as it does not provide an additional lane of traffic. As previously stated, the project's traffic impacts are limited to intersections of Alameda and 6th Street, Alameda and 7th Street, and Mateo and 7th Street. Therefore, widening Industrial Street by two feet would not facilitate the City's mobility needs for the next 20 years based on guidelines the Street Standards committee has established. As stated by LADOT in its Traffic Study approval letter on June 15, 2017, with the recent adoption of Vision Zero, Mobility Plan 2035 and Complete Streets Design Guide, the roadway width has been set along the majority of arterials in the Downtown/Arts District. Street widening is neither practical nor desirable under the new standards since it would come at the expense of reduced sidewalks or the loss of on-street parking spaces. Furthermore, the Central City North Community Plan Update, or the DTLA DTLA 2040 draft envisions the area for Hybrid Industrial places with the introduction of live-work uses and with streets, blocks and building patterns that have evolved into an inviting environment for pedestrians and cyclists. The Collector Street designation preserves the block and building pattern of the Arts District and provides for a wider sidewalk and pedestrian safety.

The Project's design meets the following policies of Mobility Plan 2035:

- ***Policy 2.10 - Facilitate the provision of adequate on and off-street loading areas.***

The Project's design, including ground floor treatment, will encourage daytime and nighttime pedestrian activity within a traditionally industrial district through pedestrian friendly design such as commercial and restaurant uses fronting Industrial Street complemented by two plazas and sidewalk "bump-out" extensions with landscaping, tables, and patio seating.

- **Policy 3.1** - Recognize all modes of travel, including pedestrian, bicycle, transit, and vehicular modes - including goods movement - as integral components of the City's transportation system.
- **Policy 3.3** - Promote equitable land use decisions that result in fewer vehicle trips by providing greater proximity and access to jobs, destinations, and other neighborhood services.
- **Policy 3.8** - Provide bicyclists with convenient, secure and well-maintained bicycle parking facilities.

The project will provide the necessary improvements to meet existing improvements and will provide landscaping, bicycle parking facilities and ev parking. As such, the request does not preclude the City from meeting future mobility needs.

CALIFORNIA ENVIRONMENTAL QUALITY ACT ("CEQA") FINDINGS

I. INTRODUCTION

The Environmental Impact Report ("EIR"), consisting of the Draft EIR ("Draft EIR") and the Final EIR ("Final EIR"), was prepared as an informational document for public agency decision-makers and the general public regarding the objectives and components of the AVA Arts District development plan ("Project") pursuant to the California Environmental Quality Act ("CEQA"). AVA Arts District, LLP ("Applicant") will develop a mixed-use live/work and commercial project ("Project") at 668 S. Alameda Street, 1516-1570 Industrial Street and 675 Mill Street, on an approximately 3.75 acre site southeast of the intersection of S. Alameda Street and Industrial Street ("Project Site"). The Project will consist of approximately 577,301 square feet (sf) of floor area with a floor-to-area ratio ("FAR") of approximately 3.55:1, and approximately 475 live/work units plus commercial/retail and arts production space.

II. ENVIRONMENTAL DOCUMENTATION BACKGROUND

The Project was reviewed by the Los Angeles Department of City Planning, Environmental Analysis Section (serving as Lead Agency) in accordance with the requirements of CEQA. The City of Los Angeles ("City") prepared an Initial Study in accordance with Section 15063(a) of the State CEQA Guidelines. Pursuant to the provisions of Section 15082 of the State CEQA Guidelines, the City then circulated a Notice of Preparation ("NOP") to State, regional and local agencies, and members of the public for a 30-day period commencing December 1, 2016, and ending January 6, 2017. In addition, a public scoping meeting was conducted on to December 15, 2016, to further inform the public agencies and other interested parties of the Project and to solicit input regarding the Draft EIR. The meeting provided interested individuals, groups, and public agencies the opportunity to provide written comments to the Lead Agency regarding the scope and focus of the Draft EIR as described in the NOP and Initial Study. The NOP letters and comments received during the comment period, as well as comment sheets from the public scoping meeting, are included in Appendix A of the Draft EIR.

The Draft EIR evaluated in detail the potential effects of the Project. It also analyzed the effects of a reasonable range of four alternatives to the Project, including a "No Project" alternative. The Draft EIR for the Project (State Clearinghouse No. 2016121002), incorporated herein by reference in full, was prepared pursuant to CEQA, State and CEQA Guidelines (Pub. Resources Code § 21000, et seq.; 14 Cal. Code Regs. §15000, et seq.; the City of Los Angeles Environmental Quality Act Guidelines and the 2006 LA City Threshold Guide). The Draft EIR was circulated for

a 45-day public comment period beginning on September 28, 2017, and ending on November 13, 2017, pursuant to the requirements of CEQA Guidelines Section 15105(a). Copies of the written comments received to the Draft EIR are provided in the Final EIR. Pursuant to Section 15088 of the CEQA Guidelines, the City, as Lead Agency, reviewed all comments received during the review period, and responded to each comment in Section 2.0 of the Final EIR.

The City published a Final EIR for the Project on April 27, 2018, which is hereby incorporated by reference in full. Responses to comments were sent to all public agencies that made comments on the Draft EIR at least 10 days prior to certification of the Final EIR pursuant to CEQA Guidelines Section 15088(b). In addition, all individuals that commented on the Draft EIR received a copy of the Final EIR. The Final EIR was also made available for review on the City's website. Hard copies of the Final EIR were also made available at four libraries and the City Department of Planning. Notices regarding availability of the Final EIR were sent to those within a 500-foot radius of the Project Site as well as individuals who commented on the Draft EIR, attended the NOP scoping meeting, provided comments during the NOP comment period, and all other interested parties made known to the Department of City Planning.

A duly noticed public hearing on the Project was held jointly by the Hearing Offices for the City Planning Commission and the Deputy Advisory Agency on May 22, 2018. A subsequent duly noticed public hearing on the Project was held by the City Planning Commission on July 12, 2018.

The documents and other materials that constitute the record of proceedings on which the City's CEQA findings are based are located at the Department of City Planning, Environmental Review Section, 200 North Main Street, Room 750, Los Angeles, California 90012. This information is provided in compliance with CEQA Section 21081.6(a)(2).

III. FINDINGS REQUIRED TO BE MADE BY LEAD AGENCY UNDER CEQA

Section 21081 of the California Public Resources Code and Section 15081 of the CEQA Guidelines requires that, prior to approving a project, a public agency identify the project's significant impacts and make one or more of three possible findings for each of the significant impacts. The three possible findings are:

- (i) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the Final EIR;
- (ii) Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency; and
- (iii) Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the Final EIR.

The findings reported in the following pages incorporate the facts and discussions of the environmental impacts that are found to be significant in the Final EIR for the Project. Although Section 15091 of the CEQA Guidelines does not require findings to address environmental impacts that an EIR identifies as merely "potentially significant," these Findings nevertheless cover all categories identified in the Final EIR for the purpose of better understanding the full environmental scope of the Project. For each of the significant impacts associated with the Project, either before or after mitigation, the following sections are provided:

- (1) Description of Significant Effects – A specific description of the environmental effects identified in the EIR;
- (2) Project Design Features, if any – Identified project design features that are a part of the Project (numbering of the features corresponds to the numbering in the Draft EIR);
- (3) Mitigation Measures, if any – Identified mitigation measures or actions that are required as part of the Project (numbering of the mitigation measures corresponds to the Mitigation Monitoring and Reporting Program, which is included as Section 4.0 of the Final EIR);
- (4) Finding – One or more of the three specific findings in direct response to CEQA Section 21081 and CEQA Guidelines Section 15091;
- (5) Rationale for Finding – A summary of the reasons for the finding(s); and,
- (6) References – A notation on the specific section in the Draft EIR which includes the evidence and discussion of the identified impact.”

IV. DESCRIPTION OF THE PROJECT

The Project will include approximately 61,200 sf of ground floor commercial use and approximately 516,101 sf of live/work and residential amenity floor area. Commercial uses will include commercial/retail and arts and production space, a grocery store, and restaurant uses fronting Industrial Street, with the grocery store also fronting S. Alameda Street. The live/work use will include approximately 475 units, a fitness facility, clubhouse, residential lobby and gallery space. The live/work use will also include an affordable housing component. The Project will be constructed as one building atop a two-story podium, for a total of seven stories above grade and a maximum building height of 85 feet. A total of 842 parking spaces will be provided within a four level parking structure with three levels below grade and one level at grade. Parking will include 728 spaces for live/work uses and 114 spaces for commercial uses. The Project will also provide 581 bicycle parking spaces, with 523 spaces for the live/work uses and 58 spaces for commercial uses.

The Project will also provide approximately 14,537 sf of publicly-accessible and common open space, approximately 23,974 sf of additional common open space for residents, with 5,580 sf of planted landscaping. The landscaping will be along Industrial Street, S. Alameda Street, the public walkways, and within the various publicly-accessible and common open space areas known as The Lookout, The Mews, The Well, The Hub and the Foundry. The one existing, non-protected tree that currently exists on the Project Site will be removed and replaced with 119 trees and the two existing street trees will be removed and replaced at a 2:1 ratio within the S. Alameda Street and Industrial Street right-of-ways in accordance with the City's Street Tree Ordinance, and Department of Public Works, Bureau of Street Services, Urban Forestry Division requirements. Therefore, the Project will have a total of 123 trees, resulting in a net increase of 120 trees compared to existing conditions, with 4 street trees on S. Alameda Street, 17 street trees on Industrial Street and 102 trees on the Project Site.

In addition to the publicly-accessible and common open space landscaping, the Project will provide public art/façade treatments, such as murals on several walls within the Project Site and a monument piece on the corner of Industrial and Alameda Streets. Specifically, the Project will incorporate many of the development standards identified in the currently invalidated Hybrid Industrial Ordinance (Ordinance No. 184099) to ensure compatibility with the surrounding industrial, arts production, residential, and commercial uses. Such standards include: building height, the provision of pedestrian paseos and a plaza, public art façades, residential gallery space; limitation to building mass; building to the property line; buffering from heavy industrial uses; façade transparency; roof treatment; parking location; and signage. Signage will be limited to building identification, wayfinding, security markings with both commercial and residential

signage conforming to the size, type, and placement requirements of the Hybrid Industrial Ordinance and Los Angeles Municipal Code (LAMC) Article 4.4. There will be no off-site signage.

V. ENVIRONMENTAL IMPACTS FOUND NOT TO BE SIGNIFICANT OR LESS THAN SIGNIFICANT BY THE INITIAL STUDY

The City Planning Department prepared an Initial Study dated December 1, 2016. The Initial Study found that for the following environmental impact areas, the Project impacts are not significant or less than significant. The rationale for these conclusions is summarized below (and set forth in the Draft EIR, Appendix A-2, Attachment B). Based on that rationale and other evidence in the administrative record related to the Project, the City finds and determines that the Project will not result in any significant impacts, or will result in less than significant impacts, in the environmental impact categories discussed below, and, therefore, that no mitigation measures or further analysis are needed for those impact categories.

A. Agricultural and Forest Resources: The Project Site is located within the Arts District of Downtown Los Angeles and is currently developed with cold storage facilities, including associated office/administrative facilities, loading docks, and surface parking. No agricultural uses or related operations are present on the Project Site or in the surrounding highly urbanized area. As such, the Project Site is not located on designated Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program. Additionally, no forest land or land zoned for timberland production is present on the Project Site or in the surrounding area. Therefore, the Project would not involve the conversion of farmland to other uses, either directly or indirectly.

Additionally, the Project Site is designated as Heavy Industrial on the Central City North Community Plan General Plan Land Use Map with a corresponding zoning of M3-1-RIO (Heavy Industrial, Height District 1, River Improvement Overlay District). No agricultural zoning is present in the Project vicinity, and no nearby lands are enrolled under the Williamson Act. As such, the Project will not conflict with existing zoning for agricultural uses or a Williamson Act contract. Therefore, the Project will have no impact on farm land or forest land.

B. Air Quality (Objectionable Odors): Potential sources of odors during construction activities will be localized, temporary, and typical of construction projects of the same size and type, and will not be sufficient to affect a substantial number of people or result in a nuisance as defined by South Coast Air Quality Management District (SCAQMD) Rule 402. Odors are typically associated with industrial projects involving the use of chemicals, solvents, petroleum products, and other strong-smelling elements used in manufacturing processes, as well as sewage treatment facilities and landfills. The Project will not introduce any major odor-producing uses that would have the potential to affect a substantial number of people. Odors associated with Project operation will be limited to those associated with on-site waste generation and disposal (e.g., trash cans, dumpsters) and occasional minor odors generated during food preparation activities. Thus, impacts with regard to odors will be less than significant.

C. Biological Resources: The Project will not have an impact, either directly or through habitat modification of any sensitive or special state species, nor an impact on any riparian habitat or other sensitive natural community, nor an impact on wetlands, nor interfere with any wildlife corridors. The Project Site is located in a highly urbanized area fully developed with urban uses and associated infrastructure. The Project Site has been operating as a cold storage facility since 1984 with associated office/administrative facilities, loading docks, and surface parking. None of the trees on the Project Site or within the adjacent right-of-way are native or

protected (as defined by LAMC Section 17.02). Because of the urbanized nature of the Project Site and Project vicinity, the Project Site does not support habitat for candidate, sensitive, or special status species. Therefore, no impacts to candidate, sensitive, or special status species would occur. Additionally, the Project Site does not contain any drainage channels to the river, riparian habitat, or other sensitive natural communities. Furthermore, the Project Site is not located in or adjacent to a Significant Ecological Area nor in a federally protected wetland area. Therefore, the Project will not have an adverse effect on any sensitive community or federally protected wetlands.

Similarly, due to the highly urbanized nature of the Project Site and surrounding area, the lack of a major water body, as well as there being only a few non-native and unprotected trees within the Project Site and surrounding streets, the Project Site does not contain substantial habitat for native resident or migratory species, or native nursery sites. Therefore, the Project will not interfere with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. Nor will the Project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan since it is not located within such an area and does not provide habitat for any sensitive biological resources.

Finally, the Project will have a less than significant impact on any local policies protecting biological resources. The Project Site is a developed lot with a few non-native and unprotected trees within the Project boundary and surrounding streets. No locally protected biological resources, including protected trees, exist on the Project Site. The trees that are present will be replaced in accordance with LAMC and Department of Public Works, Bureau of Street Services, Urban Forestry Division requirements resulting in a net increase of 120 trees compared to existing conditions. Review and approval of a Tree Removal Permit will ensure street trees are replaced in accordance with City policy. All other landscaping will comply with all requirements of the LAMC and the City's Urban Forestry Division's requirements. Therefore, the Project will not conflict with local policies or ordinances protecting biological resources, and impacts will be less than significant.

D. Geology and Soils (Landslides and Septic Tanks): The Project Site is not located within a City-designated Hillside Grading Area, is not subject to the City's Hillside Ordinance, and is not located in a City-designated Landslide area. Additionally, the Project Site is located in the Arts District and not in close proximity to any mountains or steep slopes. As such, there is no potential for landslides to occur on or near the Project Site. Therefore, the Project will not expose people or structures to potential substantial adverse effects involving landslides.

Additionally, the Project Site is located in an urbanized area where wastewater infrastructure is currently in place. The Project will connect to existing infrastructure and will not use septic tanks or alternative wastewater disposal systems. Therefore, no impact due to the use of such wastewater disposal systems will occur.

E. Hazards and Hazardous Materials (Airport Land Use Plans, Private Airstrips and Wildland Fires): The Project Site is not within an airport land use plan and it is not within two miles of a public airport or public use airport nor within the vicinity of a private airstrip. The nearest airport is the Hawthorne Municipal Airport located approximately 10 miles southwest of the Project Site. Therefore, the Project would not result in an airport-related safety hazard for people residing or working in the Project vicinity. Additionally, there are no private airstrips in the vicinity of the Project Site and the Project Site is not located within a designated airport hazard area. Therefore,

the Project would not result in airport-related safety hazards for the people residing or working in the area.

The Project Site is located in a highly urbanized area. No wildlands are present on the Project Site or surrounding area. Furthermore, the Project Site is not within a City-designated wildfire hazard area. Therefore, the Project would not expose people or structures to a significant risk involving wildland fires.

F. Hydrology and Water Quality (Flooding, seiche, tsunami, or mudflow): The Project Site is not located within a flood zone, including the 100-year flood zone designated by the Federal Emergency Management Agency ("FEMA"). Moreover, while the Project Site is located within a potential inundation area for the Los Angeles River, it is not within a designated floodplain. Additionally, there are no levees or dams in the Project vicinity. Therefore, no impact associated with flooding, including flooding due to the failure of a levee or dam, would occur.

The Project Site is not located within a City-designated inundation hazard area. Additionally, the Project Site is not located within a City-designated tsunami hazard area and is located approximately 16 miles inland (northeast) from the Pacific Ocean, and, therefore, would not be subject to a tsunami. There are no enclosed bodies of water near the Project Site, and, as such, there is no potential for inundation. Therefore, no impacts would occur due to inundation by seiche, tsunami or mudflow.

G. Land Use and Planning (Physically Divide an Established Community and Conflict with Conservation Plan): The Project Site is located within the Central City North Community Plan and the Project vicinity is generally urbanized and built out with a variety of residential, commercial and industrial uses. The Project will introduce new live/work and commercial uses to the Project Site and be similar to adjacent and nearby land uses. While the Project will result in minor changes to the way vehicles access the Project Site, traffic in the surrounding community will continue to utilize the same circulation facilities and patterns as occur presently. The nature of Project land uses will be compatible with the residential and commercial uses surrounding the Project Site, including the adaptive reuse of former industrial and warehouse buildings to residential and commercial uses. The Project will not introduce land uses inconsistent with development in the local area or affect existing land use relationships. Accordingly, the Project will not physically divide an established community and related impacts will be less than significant impact.

Although the channelized Los Angeles River is located approximately 0.6 miles east of the Project Site, the Project Site is devoid of vegetation and natural habitat other than one non-native tree, and thus does not support sensitive natural communities. Furthermore, the Project Site is not located in or adjacent to a Significant Ecological Area nor located within a habitat conservation plan or natural community conservation plan. Therefore, the Project will not conflict with the provisions of any adopted applicable conservation plan.

H. Mineral Resources: The Project Site is of sufficient distance from the Los Angeles River that it is not classified by the City as containing significant mineral deposits. Furthermore, the Project Site is not designated as an existing mineral resource extraction area by the State of California or the U.S. Geological Survey. Additionally, the Project Site is designated for Heavy Manufacturing/Industrial uses within the City's General Plan and is not designated as a mineral extraction land use. Therefore, the chances of uncovering mineral resources during construction and grading would be minimal. As such, Project implementation will not result in the loss of availability of a known mineral resource of value to the region and residents of the State,

nor of a locally important mineral resource recovery site. Therefore, no impacts to mineral resources will occur and neither analysis of Mineral Resources nor mitigation measures are required.

I. Noise (Airport Land Use Plans and Private Airstrips): The nearest airport is the Hawthorne Municipal Airport, located approximately 10 miles southwest of the Project Site. Since the Project is not within two miles of an airport, nor in the vicinity of a private airstrip, the Project will not expose people residing or working in the Project area to excessive noise levels. Therefore, the Project will have no impact with respect to airport land use plans or private airstrips and neither further analysis of this topic nor mitigation measures are required.

J. Population and Housing (Displacement of Existing Housing/Displacement of Existing Residents): No dwelling units are currently located on the Project Site and, therefore, no residents. Thus, the Project will not result in the demolition of existing housing units. The Project will replace the existing cold storage facility with a mixed-use building consisting of live/work and commercial uses. Since no existing housing will be displaced, there will be no necessity for the construction of replacement housing elsewhere. As no impacts will occur, neither further analysis of this topic nor mitigation measures are required.

K. Transportation/Circulation (Air Traffic Patterns): The nearest airport or heliport is the Hawthorne Municipal Airport, which is located approximately 10 miles southwest of the Project Site. As such, the Project Site is not within any flight paths; does not propose any construction that requires notification of the Federal Aviation Administration; and will not result in a change in air traffic patterns including, increases in traffic levels or changes in location that will result in substantial safety risks. Therefore, there will be no impact to air traffic patterns.

L. Utilities and Services Systems (Landfill Capacity and Solid Waste Regulations): Solid waste management in the City involves both public and private refuse collection services as well as public and private operation of solid waste transfer, resource recovery, and disposal facilities. The majority of solid waste generated in the City is disposed of at Los Angeles County landfills. The County of Los Angeles Department of Public Works has reported that the remaining disposal capacity for the County's Class III landfills is approximately 112 million tons with adequate capacity through 2029 utilizing a combination of strategies including supporting and increasing exportation of waste to out-of-County facilities, creating additional alternative technology capacity, and utilizing waste-by-Rail capacity to export to Out-of-County landfills. As such, the Project will not significantly impact landfill capacity.

Project construction will generate demolition waste including but not limited to soil, asphalt, wood, paper, glass, plastic, and metals. The Project will generate approximately 19,000 tons of debris. Excavation of the Project Site will generate an estimated 185,000 cubic yards of soil export. (Note that the Initial Study discussed lesser amounts of debris and soil, but the conclusion of adequacy of capacity remains the same.) Construction materials are disposed of at one of the unclassified inert landfills available to the City, typically the Azusa Land Reclamation Facility, which has an estimated remaining capacity of approximately 59.83 million tons or 49.86 million cubic yards. Thus, Project construction debris and soil will account for only a small percentage of the Facility's capacity and, therefore, will not exceed the existing capacity. In addition, the estimate of construction and demolition debris is conservative in that it does not take into account recycling efforts that will occur in accordance with City regulations. Compliance with the City's 2010 Construction and Demolition Waste Recycling Ordinance, will achieve a minimum 50 percent diversion rate as required by State statute (Assembly Bill 939) which further reduces the impact on the remaining capacity of the Azusa Land Reclamation Facility. Because construction waste

will not exceed the capacity of existing disposal facilities and will be further reduced by recycling, impacts will be less than significant.

Estimated operational solid waste generation for the Project will be approximately 464 tons per year, or 1.27 tons per day. The daily amount of solid waste generated by the Project will represent a negligible amount (0.01 percent) of the daily solid waste disposed of by the City (9,881 tons). This estimate is also conservative as it does not account for reductions which should be achieved with compliance with City's Solid Waste Integrated Resources Plan. The Project's generation will, therefore, be met adequately through the use of in-County and out-of-County facilities. With the required annual reviews of demand and capacity, the 15-year planning horizon is extended by one year, thereby providing sufficient lead time for the County to address any future shortfalls in landfill capacity. Consequently, Project-generated waste will not exacerbate the estimated landfill capacity requirements addressed for the 15-year planning period ending in 2029, or alter the ability of the County to address landfill needs via existing capacity and other options for increasing capacity. Therefore, impacts on solid waste disposal from Project operations will be less than significant.

Additionally, the Project will be consistent with the applicable regulations associated with solid waste. Specifically, the Project will provide adequate storage areas in accordance with the City's Space Allocation Ordinance, which requires that developments include a recycling area or room of specified size on the Project Site. Further, the Project will comply with the City's Construction and Demolition Waste Recycling Ordinance. The Project will also promote compliance with AB 939 and City waste diversion goals by providing clearly marked, source sorted receptacles to facilitate recycling. Since the Project will comply with Federal, State, and local statutes and regulations related to solid waste, a less than significant impact will occur.

VI. ENVIRONMENT IMPACT AREAS WHICH ARE PRESENTED IN THE EIR FOR INFORMATIONAL PURPOSES ONLY

Pursuant to Senate Bill (SB 743), Public Resources Code (PRC) Section 21099(d)(1), and City Zoning Information File ZI No. 2452 (City ZI No. 2452), the City determined that the following impact areas qualify for an exemption from evaluation in the EIR and, therefore, no determination of significance is made. However, as in the Draft EIR, these areas are discussed below for informational purposes only relative to the effects that could result from the Project based on City thresholds of significance contained in the L.A. City Thresholds Guide. Based on the Draft EIR analysis and other evidence in the administrative record relating to the Project, the City describes the impacts below, determines that no mitigation measures are necessary, and finds that, pursuant to CEQA, the Project's aesthetic impacts are not significant, without implying by virtue of inclusion of this discussion in these Findings, that a finding is necessary under CEQA:

A. Aesthetics: Analyzed in the Draft EIR for informational purposes only, the City hereby determines that, pursuant to SB 743, PRC Section 21099(d)(1), and City File ZI No. 2452, the Project is exempt from a finding that the Project's aesthetics are a significant impact since the Project is a residential, mixed-use project located in an infill site within a transit priority area.

1. Description of Effects:

a) Visual Character Impacts:

(1) **Construction Impacts.** Although temporary in nature, construction activities generally cause a contrast to, and disruption in, the general order and

aesthetic character of an area. Construction activities for the Project will entail the demolition of the three, one- and two-story existing buildings, excavation for three levels of subterranean parking, grading for two levels of foundation, staging of construction vehicles, storage of materials, building construction, and sidewalk improvements. Construction activities would be primarily visible from S. Alameda Street and Industrial Street, although taller construction equipment such as cranes would be visible from a greater radius of streets. However, Project activities will be screened by temporary fencing and barriers. The Project will not exceed the City's visual character threshold for construction impact.

(2) Operational Impacts. A project could have significant impacts if it would substantially alter or degrade the existing visual character of an area by damaging valued existing features or resources, or by introducing elements that substantially detract from the visual character of an area, including valued existing aesthetic features or resources. The existing Project Site is a large, featureless structure, removed from the street by chain link and barbed-wire fencing. The Project will improve the visual character of the Project Site and the pedestrian movement adjacent to the Site through the removal of transformers and power lines, chain link/barbed wire fencing and massive, blank walls along the street interface. The Project will be constructed in a contemporary architectural style, complementary of, but distinct from, industrial uses in the surrounding Arts District neighborhood. The Project will also include landscaping, public art and uses that will generate pedestrian activities. These features will improve the aesthetics of the Project Site and the general area.

b) View Impacts: A view impact could occur if a project substantially obstructs or degrades an existing recognized and valued public view. No scenic or other visual resources are visible across the Project Site from adjacent streets or other public areas, nor is the Project a component of a scenic resource. The construction and operation of the mid-rise Project will not block existing vistas of the Downtown skyline from S. Alameda Street or the I-10 freeway. The Project will not exceed the City's view impacts thresholds.

c) Light and Glare Impacts: A significant impact could occur if a project includes light or glare that would substantially alter the character of the areas surrounding the project site, or result in substantial light spill or glare onto adjacent light-sensitive receptors.

(1) Construction: Construction activities will occur primarily during daylight hours and any construction-related illumination will be used for safety and security purposes only. Additionally, Project Design Feature, PDF-AES-4, requires that construction lighting be shielded and directed so as to preclude light pollution or substantial light trespass onto adjacent properties. The Project will also comply with LAMC regulations regarding artificial lights. Construction activity will not involve surfaces that would reflect sunlight or glare which would affect day or nighttime views in the area. The Project will not exceed the City's light or glare impact thresholds.

(2) Operation: Project lighting will occur from signage, security lights, common and private open area lighting, interior lighting from commercial and residential areas, accent lighting and mural lighting. The Project will comply with LAMC Sections 14.4.4E and 93.0117(b) which regulate the amount of light and glare that can be emanated from a project. In addition, Project Design Feature, PDF-AES-4, requires that operational lighting be shielded and directed in such a manner as to preclude light pollution or substantial light trespass onto adjacent properties. New lighting generated by the Project will not be out of character with the active neighborhood. The Project will not exceed the City's light impacts threshold.

Glare can result from sunlight reflecting from shiny surfaces. The Project will not introduce new sources of glare that will be out of character with the existing surrounding uses. The Project includes Project Design Features PDF-AES-3, PDF-AES-4 and PDF-AES-5 which require the use of low-reflective and glare free material in Project construction and shielding and directed lighting. The Project will not exceed the City's light impacts threshold.

d) Shading Impacts: A potential significant impact could occur is a project shades shadow-sensitive uses for more than the City's established thresholds. The Project will not cast shadows on any existing sensitive uses. However, the Project will cast shadows on the anticipated residential, mixed-use development directly across Industrial Street; specifically, on the future swimming pool deck. Shadows cast on the proposed development's pool deck would occur for more than three consecutive hours between 9:00 a.m. and 3:00 p.m. at the Winter Solstice. Thus, the Project's shadows will extend to the north of Industrial Street during the winter months in excess of the threshold of significance for future residential uses, however, pursuant to SB 743 and ZI No. 2452, this impact is not considered significant under CEQA.

e) Consistency with Regulatory Framework: The Project will be substantially consistent with applicable guidelines and regulations related to aesthetics or visual quality. The Project will be consistent with the General Plan Framework's Objective 5.5, since it enhances the livability of the neighborhood by upgrading the quality of development and Objective 5.8, since it creates a strong pedestrian orientation within a regional center, as well as General Plan policy 5.8.4, since it integrates signage into the architecture, and policy 6.4.8, since it enhances the open space resources of the neighborhood.

The Project is also consistent with the Central City North Community Plan since it incorporates elements of good design including creating a pleasant and stable environment, maintaining visual continuity of streetscapes and encouraging pedestrian activities. The Project is also consistent with the Citywide Design Guidelines regarding pedestrian-orientated, commercial mixed-use projects policies related to visual character. The Project will comply with the City's Mural Ordinance and the RIO District Overlay Zone Ordinance.

f) Cumulative Impacts: Related projects relevant to aesthetic impacts includes those that are near enough to the Project Site to share the same field of view or related projects that are located within several blocks of the Project Site or along the same streets in the vicinity of the Project Site, so that viewers along a street, bicycle lane, or sidewalk, would experience the cumulative visual experience of the Project combined with the related projects. There are six related projects which fit this category. The other related projects listed in the Draft EIR do not have the potential to contribute significant aesthetic impacts when considered with the Project.

(1) Visual Character: All of the related projects in the Project vicinity are within an existing industrial area characterized by older, and in some case, underutilized industrial buildings. The development of the Project, together with the 6 and 7-story related project directly to the north (Related Project No. 36) and the proposed 7-story mixed-use buildings on 7th Street and Mateo Street (Related Projects Nos. 84, 135 and 139) would be in scale with existing development. The combined projects will not alter the industrial character of the street and are anticipated to provide landscaping, upgraded buildings, improved lighting and pedestrian amenities that will improve the visual character of the area. Cumulative impacts with respect to visual character will not exceed the City's visual quality thresholds.

(2) Views: With the exception of Related Project No. 36 (across Industrial Street from the Project), the related projects are not located within the same field of view as the Project Site as viewed from surrounding streets. The Project combined with Related Project No. 36 will not block the existing views through street corridors. They will not affect existing views of the City's skyline. Therefore, the Project combined with Related Project No. 36 will not exceed the City's views thresholds since they will not significantly obstruct or degrade existing or recognized public views.

(3) Light and Glare: The Project and nearby related projects will add incrementally to the existing moderate nighttime light and daytime light and glare of the area through the provision of improved pedestrian lighting, light spillage from windows, street lights and increased nighttime vehicle activity. As with the Project, the related projects will be subject to the LAMC regulations regarding light and glare and the applicable light and glare policies and design guidelines of the Central City North Community Plan, which requires shielding and direction of exterior lights to avoid spillover or glare. Due to implementation of Project Design Features and regulatory measures, the Project will not contribute to a cumulative glare impact associated with reflected sunlight. As such, the Project in conjunction with the related projects would not exceed the City's light and glare thresholds.

(4) Shading: The Project will not cast shadows onto any existing off-site shade sensitive uses. With the development of Related Project No. 36, the Project would shade portions of the latter's future pool deck from approximately early November until approximately mid-March in excess of the City's threshold levels. Related Project No. 36 would be of a similar height as the Project and, therefore, would cast shadows to the north. However, there are no sensitive uses to the immediate north of Related Project No. 36, so the resulting shading would not be cumulative. Nor would the other nearby related projects cast shade over similar uses as the Project and, therefore, there would be no cumulative shading impacts.

(5) Consistency with Regulatory Plans and Policies: Each of the related projects will need to comply with, or be substantially consistent with applicable plans and policies, or mitigate any substantial conflicts. Since the Project is substantially consistent with applicable regulatory plans and policies, it would not contribute to a cumulatively considerable aesthetic effect related to conflicts with such plans.

2. Project Design Features: The City finds that Project Design Features PDF-AES-1, PDF-AES-2, PDF-AES-3, PDF-AES-4, and PDF-AES-5, which are incorporated into the Project and incorporated into these Findings as though full set forth herein, will serve to enhance the aesthetics of the Project. These Project Design Features were taken into account in the analysis of potential impacts.

3. Findings: Although the Project is exempt from CEQA consideration of the aesthetic impacts, changes or alternations have been required in, or incorporated into, the Project that avoid or substantially lessen potential significant environmental effects of aesthetics impacts of the Project.

a) Visual Character Impacts: With the incorporation of the Project Design Features, construction and operation of the Project will not result in adverse visual character impacts. No mitigation is required.

b) View Impacts: With the incorporation of the Project Design Features construction and operation of the Project will not result in adverse view impacts. No mitigation is required.

c) Light and Glare Impacts: With the incorporation of the Project Design Features, construction and operation of the Project will not result in adverse visual impacts. No mitigation is required.

d) Shading Impacts: Pursuant to SB 743 and City ZI No. 2452, shading impacts are not considered significant. No mitigation is required.

e) Consistency with Regulatory Plans and Policies. The Project is substantially consistent with, and will not conflict with, applicable guidelines and regulations related to aesthetics or visual quality. No mitigation is required.

f) Cumulative Impacts: With the incorporation of the Project Design Features, the construction and operation of the Project will not result in a cumulatively adverse aesthetic impacts. No mitigation is required.

4. Rationale for Findings:

a) Visual Character Impacts: The Project Site is located within the Arts District, an area generally bounded by 1st Street to the north, the Los Angeles River and train tracks to the east, 7th Street to the south, and S. Alameda Street to the west. Over the past two decades, the area in the vicinity of the Project Site has been transforming from a predominately industrial area to one that is primarily made up of old warehouses converted to artists' lofts and studios, and commercial uses. Recently the area has been experiencing an increase in unique and creative commercial uses such as creative spaces, retail shops, galleries, studios, museums, restaurants, and bars that blend well with the existing industrial and manufacturing uses and serve the growing residential population. However, even with these changes, the visual character of the Project Site and immediate surrounding area continues to have a strong industrial aspect with large, low-rise manufacturing buildings, warehouse facilities, loading docks, surface parking lots, and overhead transmission lines on both Alameda and Industrial Streets. Although predominantly low-rise, building style and period of construction varies widely. The older, approximately 7-story, 98-year-old ROW DTLA buildings at the southwest corner of S. Alameda Street and 7th Avenue and the approximately 6-story (in addition to approximately 30-foot-high cooling tower) ETO building to the north of the Project Site on Mill Street, just south of E. 6th Street, represent the few multi-story buildings in the area. (See Draft EIR, Figures 4.1.2 through 4.1.4.)

The Project Site is currently developed with the Showa Marine & Cold Storage facility which was constructed between 1984 and 2001. The Project Site also includes a surface parking lot and an abandoned railroad right-of-way that connects S. Alameda Street and Mill Street in an east-west direction. The Project Site includes one existing non-protected tree and two existing non-protected street trees within the S. Alameda Street right-of-way. No street trees or other plantings are located on the Project Site's Industrial Street frontage which contains above-ground utility poles and several transformers which figure prominently in views of the Project Site. The existing buildings are surrounded by chain link/barbed wire fencing and the street-facing walls along Industrial and Alameda Streets are large and generally featureless. The existing buildings have two small, upper-story windows along the Alameda Street frontage; however, the general appearance of the buildings conveys an impenetrable blank façade without articulation that does not promote a visually attractive or pedestrian friendly environment.

The Project will have an architecture style that is designed to be complementary of the surrounding industrial, commercial and residential uses and that incorporates public art and utilitarian building materials that blend with the warehouse and industrial buildings in the immediate neighborhood. The Project design introduces a plaza, paseos, varied rooflines, compatible building materials, and a retail storefront, including a grocery store at the corner of S. Alameda Street and Industrial Street that will encourage pedestrian activity. The general character of the structure will be similar to the area's larger industrial buildings by forming a continuous street front, with an even roof line and standard window sizes along a single frontage. The Project will feature façade setbacks created by sections of open space, pedestrian walkways, and a large plaza entrance -- The Lookout and variable recessed retail/restaurant entrances along the north frontage (Industrial Street). Along the southern edge, The Hub and pool deck, set at the top of the parking podium, will provide a setback to further open the south elevation and allow for a "stepped" articulation of building façade from its interior lot line. Continuing along the Project Site's southern edge is The Mews, a landscaped pedestrian paseo that connects the Mill Street to the east with the intersecting paseo from Industrial Street.

The podium level along Industrial Street would be faced with retail, grocery store, and restaurant uses. With the variety of colors, setbacks, and uses, the Project will represent an assemblage versus a single, monolithic building while simultaneously anchoring itself in the Arts District through a sensitive approach to fenestration and massing. A conceptual rendering of the Project from Industrial Street is depicted in the Draft EIR, Figure 2-9.

(1) Construction: Construction activities will include demolition of existing buildings, excavation for subterranean parking, grading for foundations, staging of construction vehicles, storage of materials, and building construction as well as sidewalk improvements. In addition to Project Site disturbance and hauling, construction activities typically result in movement of construction equipment, delivery of materials, concrete pours, and views of incomplete buildings and other activities that generally contrast with the aesthetic character of an area. The use of cranes will be required for the construction of the Project's components. Demolition, grading and construction of new buildings, sidewalk improvements, and installation of landscaping will be temporary in nature and primarily visible from S. Alameda Street and Industrial Street, although taller construction equipment such as cranes will be visible from a greater radius of street networks. (Draft EIR page 4.-22.)

Construction of the Project is expected to be completed in a single phase anticipated to begin in 2018, with full buildout of the Project anticipated for 2022. Because of the temporary nature of construction, related activities will not substantially alter or degrade the visual character of the surrounding area or the existing Project Site. In addition, with implementation of Project Design Feature PDF-AES-1, Project construction activities and associated equipment and materials will be screened by temporary fencing and barriers which will screen views of grading and other site disturbance from adjacent streets and sidewalks. The fence would be located along the north, south and west perimeters of the Project Site with a minimum height of 8 feet. (Id.)

Construction fencing and other temporary barriers have the potential to attract graffiti or posting of unauthorized materials if not appropriately monitored. Therefore, Project Design Feature PDF-AES-1 also provides for regular visual inspection of the fence, temporary barriers, and sidewalks and removal of any observed graffiti or unauthorized materials. (Id.)

For all the foregoing reasons, construction of the Project will not substantially alter or degrade the existing visual character of the Project area by damaging valued scenic features or resources, or introducing elements that substantially detract from the visual character of the Project area,

including valued existing aesthetic features or resources. Therefore, Project impacts on visual character will not exceed the City's threshold of significance. Moreover, the aesthetic impacts of the Project are not considered significant impacts pursuant to SB 743 and City ZI No. 2452.

(2) Operation: The Project will include live-work units, street-front retail uses, sidewalk and streetscape improvements, and landscaping compatible with the character of the Arts District, as well as the undergrounding of transformers and powerlines, which will improve visual conditions at the Project Site. As discussed above, the Project will introduce new mixed-use development on an industrial property which is currently devoid of attractive features. The Project will be constructed in an architectural style, complementary of, but distinct from, industrial uses in the surrounding neighborhood and the Arts District, in which industrial uses have been repurposed for art related activities. In addition, since Project Design Feature PDF-AES-2 requires that utility loading areas be screened from public view, all loading areas will be conducted interior to the buildings or screened from public view. (See Draft EIR pages 4.1-23 through 4.1-30.)

The Project's building height, profile, and color variation will be similar in character to the nearby historic ROW DTLA buildings. The glazing for the Project's ground level grocery store at the corner of S. Alameda Street and Industrial Street will be visible, as well as the prominent mural at the corner of the building, and rows of new street trees. The Project will not change the open aspect of the S. Alameda Street corridor and the mural and street trees will upgrade the visual character of the street. The street front along both Industrial Street and S. Alameda Street will be activated with commercial uses, restaurants, and a grocery store, all accessible from the sidewalk. The balcony units and step back of the upper stories will have the aspect of a residential loft building on top of an industrial building; thus, emulating converted industrial buildings in the area in which building roofs are utilized for residential or work/live lofts and lower stories maintain their original or repurposed industrial appearance. The Project will increase the height of the current development behind the Para Los Niños Charter School, from an approximately 56-foot-high structure with an approximately 85-foot high structure; however, the existing development is a currently a solid wall of buildings already taller than the existing school and the Project will implement a deep, approximately 45-foot setback at the ground level occupied by the service driveway and The Mews, and well as provide an approximately 110-foot step-back at the 2nd floor landscaped pool deck. The setbacks for The Mews and pool deck will exceed the maximum 20-foot rear yard setback required under the LAMC. The setbacks from the south boundary, design components, step backs, and landscaping at the pool deck will provide a backdrop with visual interest compared to existing conditions and will reduce the Project's sense of increased scale and mass relative to the Para Los Niños Charter School and the neighborhood along E. 7th Street. As such, the Project will not substantially detract from the visual character of the Project area as viewed from any direction. (See Draft EIR, Figures 4.1-7 through 4.1-10.)

The Project will substantially improve the visual character of the Project Site and the pedestrian environment through the removal of transformers and power lines; chain line/barbed wire fencing; and massive, blank walls along the street interface and replacement of these uses with street trees, street furniture, street-oriented retail uses and restaurants, pedestrian lighting, the interconnected paseos, and introduction of residents to generate sidewalk activity. These changes will improve the aesthetic character of the Project Site while complementing the architectural quality of the surrounding neighborhood.

Thus, with the incorporation of proposed architectural and landscaping features, the Project will not degrade the existing visual character of the Project area by damaging valued scenic features or resources or introducing elements that substantially detract from the visual character of the

area. Therefore, Project impacts on visual character will not exceed the City's threshold of significance. Moreover, the aesthetic impacts of the Project are not considered significant impacts pursuant to SB 743 and City ZI No. 2452.

b) Views Impacts: The Project Site and surrounding area are characterized by flat topography, with elevations dropping less than two feet from the west to the east between S. Alameda Street and Mill Street, a distance of approximately 0.24 mile. (Draft EIR page 4.1-4.) Because of the area's flat topography and intervening buildings, the Project Site is not visible from the edge of the Los Angeles River, railroad tracks along the river, or from street corridors with the exception of adjacent streets. (Id.)

Existing and simulated future views across the Project Site from S. Alameda Street, E. 7th Street, and Mill Street are illustrated in Draft EIR Figures 4.1-5 through 4.1-10. The Project Site's existing 2- and 3-story industrial buildings form a solid wall and prevent any existing views across the Project Site of high-rise clusters or other cityscape, natural features such as mountains, or views of the Los Angeles Basin or other scenic resources from surrounding streets. Because existing views of scenic resources are not available within the Project Site or in the field of view across the Project Site, the development of the Project will not substantially obstruct or degrade an existing recognized and valued public view. Therefore, Project impacts on views will not exceed the City's threshold of significance. Moreover, the aesthetic impacts of the Project are not considered significant impacts pursuant to SB 743 and City ZI No. 2452.

c) Light and Glare: Existing lighting conditions in the Project area are primarily associated with street lights, security lighting on industrial buildings, vehicle headlights, and surface parking lot lights. In addition to street lights, the vicinity's most prominent light sources include illuminated signs and parking lot pole lights at the McDonald's Restaurant adjacent to the Project Site and flood lights in Metro's bus yard, directly across S. Alameda Street from the Project Site. Light spill from the ROW DTLA complex and other uses in the immediate area also contribute to the ambient night lighting. With the exception of the McDonald's sign at S. Alameda Street and E. 7th Street, illuminated signage near the Project Site is limited. (Draft EIR page 4.1-8.) With implementation of Project Design Features PDF-AES-3, PDF-AES-4, and PDF-AES-5, and given the infill nature of the Project within a developed area of the City, the Project's lighting would not alter the character of off-site areas surrounding or cause substantial light glare and spillage.

(1) Construction: Lighting needed during Project construction could generate visible light in the vicinity of the Project Site, which include residential uses located approximately 0.31 mile or greater to the west. However, construction activities will occur primarily during daylight hours and any construction-related illumination would be used for safety and security purposes only, in compliance with LAMC light intensity requirements. In addition, Project Design Feature PDF-AES-4 requires that construction lighting be shielded and directed in such a manner as to preclude light pollution or light trespass onto adjacent properties (Draft EIR page 4.1-21). Moreover, construction lighting will last only as long as needed in the short-term construction process. Thus, with the implementation of existing LAMC regulations, artificial light associated with construction activities will not significantly impact off-site residential uses or other sensitive receptors in the area, substantially alter the character of off-site areas surrounding the construction area, or interfere with the performance of an off-site activity. Construction activities are not anticipated to result in large expanses of flat, shiny surfaces that would reflect sunlight or cause other natural glare. Therefore, the Project will not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. Therefore, Project impacts on construction light and glare will not exceed the City's threshold of significance.

Moreover, the aesthetic impacts of the Project are not considered significant impacts pursuant to SB 743 and City ZI No. 2452.

(2) Operations

(a) Lighting: Lighting fixtures on the Project Site will be shielded and directed toward the areas to be lit and away from adjacent areas and, thus, eliminate glare associated with directed visible light. Light sources from the Project's residential upper stories will be primarily associated with light from windows or lighting in the area of the pool deck. Security lighting will be provided along The Mews paseos, The Lookout plaza, and other pedestrian areas, and the Project may implement some architectural lighting for effect. Because parking will be contained within the subterranean garage or parking podium, the Project will not require the use of exterior parking lot lights or other floodlights. The Project's first story along Industrial Street and S. Alameda Street will introduce retail, including a grocery store, and restaurant uses, some of which will incorporate illuminated signs. (Draft EIR page 4.1-33.)

Although no residential uses or other light sensitive receptors are presently located within the vicinity of the Project Site, the Project must comply with LAMC Section 14.4.4.E, which disallows signage that would increase light by three foot-candles at the nearest residentially zoned property and with LAMC Section 93.0117(b) that prohibits any exterior light source to cause more than two foot-candles of lighting intensity or generate direct glare onto exterior glazed windows or glass doors, elevated habitable porch, deck, or balcony on any property containing residential units. In addition, Project Design Feature AES-4 also requires that operational lighting be shielded and directed downward (or on the specific on-site feature to be lit) in such a manner as to preclude light pollution or substantial light trespass onto adjacent properties. (Draft EIR page 4.1-33.)

New lighting generated by the Project's retail or restaurant uses will not be out of character with the active industrial neighborhood or with lighting currently generated by the existing McDonald's restaurant, which is adjacent to the south edge of the Project Site, or by other restaurants on E. 6th and 7th Streets. The pool deck, which is near the Para Los Niños Charter School will implement lighting for nighttime use. However, pursuant to the LAMC and PDF-AES-4, this light source will be directed onto the Project Site, will not generate a high level of light spill, and will not affect the Charter School, which is closed during evening hours. (Draft EIR page 4.1-34.)

Thus, with implementation of applicable LAMC provisions and Project Design Feature PDF-AES-4, the Project will not introduce lighting that will be out of character with the area or have a substantial adverse effect on sensitive receptor sites. Therefore, Project impacts associated with operational lighting will not exceed the City's threshold of significance. Moreover, the aesthetic impacts of the Project are not considered significant impacts pursuant to SB 743 and City ZI No. 2452.

(b) Glare: The Project will not introduce new sources of glare that would be out of character with existing surrounding uses, including the adjacent McDonald's Restaurant. In accordance with the requirements of Project Design Feature PDF-AES-4 and the Central City North Community Plan, all exterior lighting will be shielded and directed onto driveways and walkways, and away from off-site areas. This will reduce nighttime glare potential that, otherwise, could occur when a light source is directly visible. Regarding daytime glare from reflected sunlight, Project Design Feature PDF-AES-3 requires that glass and other building materials used in exterior façades be low reflective and/or treated with a non-reflective coating in order to minimize glare. Prior to issuance of a building permit, the Department of Building and Safety will review the exterior building materials to confirm that they do not exceed

the reflectivity of standard building materials, and will not cause significant glare impacts on motorists or any sensitive uses. (Draft EIR page 4.1-34.) Additionally, Project Design Feature PDF-AES-5 requires commercial signage to utilize glare-free fixtures to complement architectural features and reduce the potential for light spillover. With the implementation of Central City North Community Plan policy requirements and Project Design Features PDF-AES-3, PDF-AES-4, and PDF-AES-5, the Project is not expected to create a new source of substantial light and glare that would affect daytime or nighttime viewing conditions. Therefore, the Project will not substantially alter the character of off-site areas surrounding the Project Site, or result in substantial glare onto adjacent light-sensitive receptors. Thus, Project impacts associated with glare would not exceed the City's threshold of significance. Moreover, the aesthetic impacts of the Project are not considered significant impacts pursuant to SB 743 and City ZI No. 2452.

d) Shading Impacts: Pursuant to the L.A. Thresholds Guide, a project would have a potentially significant impact if shadow-sensitive uses would be shaded more than three hours between the hours of 9:00 a.m. and 3:00 p.m. Pacific Standard Time, between early November and mid-March or more than four hour between 9:00 a.m. and 5:00 p.m. Pacific Daylight Time between mid-March and early November (Draft EIR page 4.1-17.) Currently there are no sensitive uses which would be shaded by the Project. However, for informational purposes, the Draft EIR analyzed the shade impacts to the existing surrounding uses and the future anticipated residential use to the north of the Project Site (Related Project No. 36). As explained below, that analysis concluded that shadows will extend to the north of Industrial Street during the winter months in excess of three hours per day.

The Project will replace the existing buildings which range in height from approximately 35 feet to 56 feet, with a seven-story, maximum 85-foot-high building. Shading will occur along the north edge of the building throughout the day and to the west and east of the building during the morning and afternoon hours, respectively. Draft EIR Table 4.1-1, *Shadow Length Multipliers and Bearings*, shows that the Project would produce the longest shadows during the Winter Solstice across Industrial Street. As shown in the shading evaluations provided in Draft EIR, Appendix B, Shade/Shadow Models, the shadows would extend to the property to the north of Industrial Street. That property contains Related Project No. 36 which is an anticipated mixed-use project which incorporates a swimming pool deck at the top of a three-story podium, anticipated to be approximately 41 feet above street level (Draft EIR page 4.1-36). The swimming pool deck is considered a shade sensitive use because it anticipates the enjoyment of the sun by recreational users. As shown in Appendix B, the south section of the pool deck will receive shade from the Project during early morning (9:00 a.m.), mid-morning (11:00 p.m.), early afternoon (i:00 p.m.) and late afternoon (3:00 p.m.) with the longest shadows occurring in the late afternoon. However, because shading of a portion of the pool deck would occur for more than three consecutive hours between 9:00 a.m. and 3:00 p.m. at the Winter Solstice, the Project will exceed the City's threshold for the period from early November to mid-March. (Id.) Appendix B also shows that the Project will not cast shadows that cross Industrial Street at other times of the year.

As to the other properties surrounding the Project Site, only the adjacent Para Los Niños Charter School, located to the south of the Project Site, is a sensitive use. However, being to the south of the Project, this property will not be shaded by the Project. All other surrounding properties do not contain sensitive uses. (Id.) Thus, there are no existing shade-sensitive uses that would be shaded by the Project, but there is a potential for shading beyond the City's thresholds after construction of Related Project No. 36. Nonetheless, pursuant to SB 743 and City ZI No. 2452, shadow effects are not considered significant under CEQA.

e) Consistency with Regulatory Plans and Policies: As thoroughly analyzed in the Draft EIR, the Project will be substantially consistent with applicable guidelines or regulations related to aesthetics or visual quality. The following is summary of the conclusion of the Draft EIR (pages 4.1-37 through 4.1-54) which are incorporated into these findings as though fully set forth herein. The Project is consistent with the relevant provisions of:

(i) the General Plan Framework, in part because the Project will upgrade the livability of the area by providing a high-quality development featuring positive visual elements, active street-oriented retail uses, public paseos (The Mews), landscaping, and streetscape improvements and encourage pedestrian activity through its public plaza (The Lookout), paseos, landscape improvements, sidewalk oriented windows and street level commercial uses with access to the retail and restaurant uses and a grocery store directly accessible from the adjacent sidewalks (Draft EIR Table 4.1-2);

(ii) the Central City North Community Plan, in part because the Project will include approximately 14,537 sf of public open space, it is designed at a pedestrian scale and articulated with street-oriented retail, grocery store and restaurant entrances at sidewalk level, it will incorporate public art, it will provide a net increase of 120 trees and other landscaping, it will include street furniture that encourages pedestrian use of the public open spaces and provide bicycle parking and facilities, and it will include street improvements in addition to the street trees such as special pavement treatments at the building entrances and the bump-out and by elimination of above-ground utilities currently on the sidewalks (Draft EIR Table 4.1-3.);

(iii) the Citywide Design Guidelines, in part because the Project will be consistent with pedestrian scale policies related to lighting and security, and other policies related to visual character, and it will be substantially consistent with the applicable urban design policies of the Citywide Design Guidelines through the use of building materials, architectural character, off-street parking, open space, landscaping, signage, including consideration of the neighborhood context and linkage through the formation of a strong wall along the adjacent street frontages with a deep setback on Industrial Street for a public space (The Lookout) that will include landscaping, seats, tables, and an artistic focal point, inclusion of direct paths of pedestrian to travel through The Mews paseos and multiple pedestrian entrances aligned with the adjacent sidewalks, it will employ high quality architectural to define the character of the Arts District as described above in these Findings, including the use of step backs, public art, murals, building height, façade treatment, balconies sized and located to enhance the Project's design theme, building materials to define a modern design that relates to the industrial nature of the area, and meeting the standards of the LEED Silver level and compliance with Green Building Standards while augmenting the streetscape environment and streetscape amenities (Draft EIR Table 4.1-4);

(iv) the Mural Ordinance, in part because the Project will be consistent with the Ordinance in that anticipates the incorporation of public art/façade treatments such as original murals in conformance of the City's Mural Ordinance supporting the increase public access to and community participation in the creation of original works of art (Draft EIR page 4.1-54); and

(v) the River Improvement Overlay (RIO) District, in part because the Project will include submission of landscaping and other plans as required under the RIO Ordinance and meet all water quality requirements of the Ordinance. (Draft EIR page 4.1-54.)

f) Cumulative Impacts: Draft EIR Chapter 3.0, *General Description of Environmental Setting*, provides a list of 163 projects that are planned or are under construction in the Project's transportation study area. (See related projects location shown in Draft EIR Figure

3-1). Of those 163 related projects, six related projects are near enough to the Project Site to share the same field of view or are located within several blocks of the Project Site or along the same streets in the vicinity of the Project Site, so that viewers along a street, bicycle lane, or sidewalk would experience the cumulative visual experience of the Project combined with related projects. The other related projects do not have the potential to contribute to cumulatively significant aesthetic impacts when considered together with the Project. (Draft EIR pages 4.1-54 and 4.1-55.)

(1) Visual Character: The six relevant related projects are all located within an existing industrial area characterized by older and, in some cases, underutilized industrial buildings. Few existing buildings in the surrounding neighborhood exceed 7 or 8 stories. The development of the Project together with the 6- and 7 story Related Project No. 36, directly across Industrial Street, and proposed 7-story mixed-use buildings on 7th Street and Mateo Street (Related Projects Nos. 84, 135 and 139) would be in scale with existing development including the 7-story ROW DTLA buildings (Related Project No. 122) to the west of the Project on S. Alameda Street. (See Draft EIR Figures 4.1-11 and 4.1-12.) The combined projects will not block existing views, nor distant views through the corridor, nor adversely change the aesthetic character of the surrounding area. The Project combined with the related projects will not result in a result in an extreme change from low- and mid-rise visual aspect of the neighborhood. Even in combination with the only related project in excess of 8-stories (the 58-story Related Project No. 106), the cumulative effect of the Project with the related projects will not change the visual character of the immediate Project area. (See Draft EIR page 4.1-59.) Therefore, the Project's contribution to cumulative impacts with respect to visual character will not exceed the City's visual character threshold. Moreover, the aesthetic impacts of the Project are not considered significant impacts pursuant to SB 743 and City ZI No. 2452.

(2) Views: With the exception of Related Project No. 36, across the street from the Project Site, the other relevant related projects are not located within the same line of sight as the Project as viewed from the surrounding streets. As shown in Draft EIR Figures 4.1-11 and 4.1-12, the Project, in combination with Related Project No. 36, will not block existing views through street corridors. (Draft EIR pages 4.1-59 and 4.1-60.) Therefore, the Project and Related Project No. 36 will not substantially obstruct or degrade existing or recognized valued public views. Thus, the Project's contribution to cumulative impacts with respect to views will not exceed the City's visual character thresholds. Moreover, the aesthetic impacts of the Project are not considered significant impacts pursuant to SB 743 and City ZI No. 2452.

(3) Light and Glare: The Project and the related projects are located within a highly urbanized area characterized by moderate ambient nighttime light levels and moderate daytime and nighttime glare. The Project and the nearest related projects in the immediate vicinity (e.g., Industrial Street, 7th Street, and Mateo Street) will add incrementally to the existing urban light and glare environment through the provision of improved pedestrian lighting, light spillage from windows, street lights, increased nighttime vehicle activity. Compliance with City regulations, including LAMC Section 93.0117(b), which limits the maximum amount of illuminance from an exterior light source window, balconies, patios, and other usable areas associated with a residential use, as well as illuminated sign limitations under LAMC Section 14.4.4E, will control the additional light and glare emitted from these projects. As with the Project, the related projects in the vicinity will also be subject to the applicable light and glare policies and design guidelines of the Central City North Community Plan, which requires shielding or direction of exterior lights to avoid spillover or glare. (Draft EIR page 4.1-60.)

With the exception of Related Project No. 106, related projects are not of a scale or height that would normally result in glare from reflected sunlight as long as highly reflective surface materials are not used in building design. Because of a larger exposed surface and glazing for residential and hotel units, the 58-story Related Project No. 106 will have a greater potential to result in glare as viewed from public streets to the east, west, and south of the Project Site. (Id.) Under Project Design Feature PDF-AES-3, the Project's glass and other building materials used in exterior façades would be low reflective and/or treated with a non-reflective coating in order to minimize glare. As such, the Project will not contribute to a cumulative glare impact associated with reflected sunlight. Therefore, the Project in conjunction with related projects will not result in light levels that would substantially alter the character of the area or result in substantial light and glare onto the area's light sensitive uses and, as such, cumulative impacts will not exceed the City's light and glare threshold. Moreover, the aesthetic impacts of the Project are not considered significant impacts pursuant to SB 743 and ZI No. 2452.

(4) Shading: The Project will not cast shadows onto any existing off-site shade sensitive uses. With the development of Related Project No. 36, the Project would shade portions of that project's future pool deck from approximately early November until approximately mid-March in excess of the City's threshold levels. Related Project No. 36 will be a similar scale and height as the Project and cast similar shadows to the north, thus resulting in cumulative shading. However, no sensitive uses are located to the north of Related Project No. 36 and, as such, shading impacts will not be cumulative. The potential 58-story Related Project No. 106 will be located to the north of Related Project No. 36, at the east side of S. Alameda Street. Related Project No. 106 will result potentially greater shading impacts than other related projects in the Project vicinity. However, it will not shade similar uses as the Project and, as such, shading impacts of the Project in combination with the Related Project No. 106 will not be cumulative. (Draft EIR pages 4.1-60 and 4.1-61.) Moreover, the aesthetic impacts of the Project are not considered significant impacts pursuant to SB 743 and ZI No. 2452.

(5) Consistency with Regulatory Plans and Policies: As discussed above, the Project is supportive of the applicable aesthetics provisions of the General Plan Framework, Central City North Community Plan, Citywide Design Guidelines, River Improvement Overlay Zone, and LAMC. As such the Project will be substantially consistent with applicable plans and regulations. It is expected that related projects, in the event they conflict with these guidelines and regulations, would include mitigation measures to the extent feasible to ensure consistency or compliance. Non-compliance by any of the related projects would indicate that the project would have an adverse aesthetics impacts. However, because the Project will be substantially consistent with the applicable provisions and regulations, it will not contribute to cumulatively considerable aesthetics effects related to conflicts with such plans. (Draft EIR page 4.1-60.) Therefore, the Project will not contribute to cumulative inconsistency with regulatory plans and policies. Moreover, the aesthetic impacts of the Project are not considered significant impacts pursuant to SB 743 and ZI No. 2452.

5. References: For a discussion of impacts associated with Aesthetics, please see Draft EIR Section 4.1, Aesthetics, and Appendix B, Shade/Shadow Studies.

B. Transportation and Traffic (Parking only): Analyzed in the Draft EIR for informational purposes only, the City hereby determines that, pursuant to SB 743, PRC Section 21099(d)(1), the Project is exempt from a finding that parking is a significant impact since the Project is a residential, mixed-use project located in an infill site within a transit priority area.

1. Description of Effects: The Project could have potentially significant operation parking impacts if it would provide for less vehicle and/or bicycle parking than required by the LAMC. The Project will have the LAMC required vehicle and bicycle parking spaces.

2. Project Design Features: none

3. Findings: Although the Project is exempt from CEQA consideration of the vehicle and bicycle parking operational impacts of the Project, changes or alternations have been required in, or incorporated into, the Project that avoid or substantially lessen potential significant environmental effects of the parking impacts of the Project.

a) The Project will not result in vehicle and bicycle parking impacts during operation. No mitigation is required.

b) Cumulative Impacts: Operation of the Project will not result in a cumulatively adverse parking impacts. No mitigation is required.

4. Rationale for Findings: The Project Site is located in the Arts District of the City (Draft EIR Figure 2-1). The Project Site is served by numerous regional and local bus lines, and a network of regional transportation facilities, and is located within a City-designated transit priority area (Draft EIR page 2-5). In addition to close proximity to several freeways, it is well served by public transit including bus and light rail service provided by the Los Angeles County Metropolitan Transportation Authority (Metro) and is approximately one mile from the Metro Gold Line Tokyo/Arts District Station. (Draft EIR pages 4.12-8 through 4.12-14.)

Pursuant to the L.A. Threshold Guide, a project could have a significant impact if it the project provides less parking than is required by code. The LAMC has identified the off-street parking requirements for various land uses including those uses in the mixed-use Project. (LAMC Sections 12.22.A25(d)(1) 842 and 12.21A4(x)(3).) Bicycle parking requirements are subdivided into short-term and long-parking based on LAMC 12.21.A.16(a)(2). LAMC Section 12.21.A16(a) identifies the bicycle parking requirements which were used for the Project. Pursuant to these sections the Project is required to provide 842 automobile parking spaces and 581 (504 long-term and 77 short-term) bicycle parking spaces. (Draft EIR pages 4.12-18 and 4.12-19.) The Project includes 842 automobile parking spaces, 504 long-term and 77 short-term (581 total) bicycle spaces (Draft EIR Table 2-1 and page 4.12-41). Therefore, the Project will provide on-site vehicle and bicycle parking that meets the LAMC parking requirements. Moreover, the Project's parking impacts are not considered significant impacts pursuant to SB 743.

All related projects will be subject to the applicable LAMC requirements for parking. Therefore, since neither the Project nor the related projects would provide less than the required parking for vehicles and bicycles, neither the Project nor the related projects will contribute to an adverse parking impact during operations. Moreover, the Project's cumulative parking impacts are not considered significant impacts under CEQA pursuant to SB 743.

5. References: For a complete discussion of the impacts associated with operational parking impacts, please see Draft EIR Section 4.12, Transportation and Traffic.

VII. ENVIRONMENTAL IMPACTS FOUND NOT TO BE SIGNIFICANT OR LESS THAN SIGNIFICANT PRIOR TO MITIGATION

The following impact areas were determined to be not significant or less than significant, and based on that analysis and other evidence in the administrative record relating to the Project, the City finds and determines that the following environmental impact categories will not result in any significant impacts and that no mitigation measures are needed:

A. Air Quality:

1. Description of Effects:

a) **Construction Impacts:** Construction of the Project has the potential to generate criteria pollutant emissions through the use of heavy-duty construction equipment, such as excavators and forklifts, and through vehicle trips generated from workers and haul truck traveling to and from the Project Site. In addition, fugitive dust emissions would result from demolition and various soil-handling activities. Mobile source emissions, primarily NO_x, would result from the use of construction equipment such as dozers and loaders. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of construction activity and prevailing weather conditions. However, with the implementation of Project Design Features PDF-AQ-1 and PDF-AQ-2, construction equipment emissions will be below the daily regional threshold for all relevant air quality pollutants.

b) **Operation Impacts:** Operation of the Project has the potential to generate criteria pollutant emissions through vehicle trips traveled to and from the Project Site. In addition, emissions would result from area sources on-site such as natural gas combustion, landscaping equipment, and use of consumer products. However, the Project's emissions from both direct and indirect sources will not exceed any of the relevant regional or localized air quality emissions thresholds.

c) **Toxic Air Contaminants Impacts (TACs) (Construction and Operation):** Health risk impacts resulting from construction and operation of the Project will not result in exceeding health risk thresholds for nearby sensitive receptors since neither the Project's construction nor its operations will cause the Project to exceed the maximum incremental cancer risk of ten in one million or a cancer burden of greater than 0.5 excess cancer cases or an acute or chronic hazard index of 1.0.

d) **Consistency with Applicable Air Quality Plans and Policies (Construction and Operation):** The Project will not conflict with applicable air quality plans and policies or obstruct implementation of relevant air quality policies in the General Plan or other adopted regional and local plans adopted for reducing air quality impacts. The Project furthers those plan objectives by being a residential mixed-use infill project in a transit priority area in furtherance of the goal of reducing the need for vehicle trips and their resultant pollutant emissions. Moreover, the Project will comply with the South Coast Air Quality Management District's (SCAQMD) Rule 403 for controlling fugitive dust during construction and will conform with the control strategies of the Air Quality Management Plan (AQMP) intended to reduce emissions from construction equipment through implementation of Project Design Features PDF-AQ-1 and PDF-AQ-2.

e) **Cumulative Impacts (Construction and Operation):** Although the Project is located in an area of non-attainment for ozone and PM_{2.5}, the construction emissions from the Project will not be cumulatively considerable, as the emissions will fall below the SCAQMD daily regional significance thresholds. In addition, the Project will be consistent with the AQMP which is intended to bring the area into attainment for all criteria pollutants. In addition

to ozone and PM_{2.5}, the Project is in an area of non-attainment for NO₂ and PM₁₀. However, the Project's operation results in an incremental contribution to cumulative air quality impacts which does not conflict with or obstruct implementation of the AQMP, will be consistent with the growth projections in the AQMP, and will not exceed the thresholds for localized emissions.

2. Project Design Features: The City finds that Project Design Features PDF-AQ-1, PDF-AQ-2 and PDF-GHG-1, which are incorporated into the Project and incorporated into these Findings as though fully set forth herein, will reduce the less than significant air quality impacts of the Project. These Project Design Features were taken into account in the analysis of potential impacts.

3. Findings: Changes or alternations have been required in, or incorporated into, the Project that avoid or substantially lessen potential significant environmental effects of air quality impacts of the Project to less than significant levels.

a) Construction Impacts: With implementation of Project Design Features PDF-AQ-1 and PDF-AQ-2, Project construction impacts related to air quality will be less than significant. No mitigation is required.

b) Operations Impacts: With implementation of Project Design Feature PDF-GHG-1, Project operation impacts related to air quality will be less than significant. No mitigation is required.

c) Toxic Air Contaminants Impacts: Project air quality impacts related to TACs will be less than significant. No mitigation is required.

d) Consistency with Applicable Air Quality Plans and Policies: The Project will be consistent with applicable air quality management plans and as such impacts will be less than significant. No mitigation is required.

e) Cumulative Impacts: With implementation of Project Design Features, PDF-AQ-1, PDF-AQ-2 and PDF-GHG-1, Project impacts related to cumulative air quality pollutant emissions will be less than significant. No mitigation is required.

4. Rationale for Findings: The Project incorporates a number of Project Design Features that will reduce construction emissions (PDF-AQ-1 and PDF-AQ-2) and target sustainable development, water savings, energy efficiency, green-oriented materials selection, and improved indoor environmental quality (PDF-GHG-1).

a) Construction Impacts: Project construction will take place in a single phase anticipated to begin in 2018 and occurring for approximately 36 months. Sub-phases of construction will include demolition of all of the existing structures and features, site clearing, grading, excavation, and building construction. The Project will export approximately 185,000 cubic yards of soil during grading and excavation activities. Demolition activities will generate approximately 19,000 tons of demolition debris (asphalt and general construction debris). (Draft EIR page 4.2-19.)

Construction of the Project has the potential to generate temporary criteria pollutant emissions through the use of heavy-duty construction equipment, such as excavators and forklifts, and through vehicle trips generated from workers and haul trucks traveling to and from the Project Site. In addition, fugitive dust emissions will result from demolition and various soil-handling

activities. Mobile source emissions, primarily NO_x, would result from the use of construction equipment such as dozers and loaders. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of construction activity, and prevailing weather conditions. The assessment of construction air quality impacts in the Draft EIR considers each of these potential sources.

The potential daily regional emissions during construction were forecasted in the Draft EIR by assuming a conservative estimate of construction activities (i.e., assuming all construction occurs at the earliest feasible date) and applying mobile source and fugitive dust emissions factors. The emissions were estimated using CalEEMod (Version 2016.3.1) software, an emissions inventory software program recommended by SCAQMD. CalEEMod is based on outputs from OFFROAD and EMFAC, which are emissions estimation models developed by the California Air Resources Board (CARB), and used to calculate emissions from construction activities, including on- and off-road vehicles. The input values used in this analysis were adjusted to be Project-specific based on equipment types and the construction schedule. These values were then applied to the construction phasing assumptions used in the criteria pollutant analysis to generate criteria pollutant emissions values for each construction activity. (Draft EIR page 4.2-19.) Detailed construction equipment lists, construction scheduling, and emissions calculations are provided in Draft EIR Appendix C. The maximum daily emissions projected for the Project are predicted values for the worst-case day and do not represent the emissions that would occur for every day of Project construction. The maximum daily emissions were compared to SCAQMD daily regional numeric indicators to determine if the Project's construction would exceed those thresholds. (Draft EIR page 4.2-20.)

The localized effects from the on-site portion of the construction emissions were evaluated at nearby sensitive receptor locations potentially impacted by the Project according to SCAQMD's Localized Significance Threshold Methodology (June 2003, revised July 2008). The localized significance thresholds are only applicable to Nitrogen Oxide (NO_x), Carbon Monoxide (CO), and Particulate Matter (PM₁₀ and PM_{2.5}). SCAQMD has established screening criteria that can be used to determine the maximum allowable daily emissions that would satisfy the localized significance thresholds and therefore not cause or contribute to an exceedance of the applicable ambient air quality standards without project-specific dispersion modeling. The localized analysis in the Draft EIR is based on this SCAQMD screening criteria. (Draft EIR page 4.2-20.)

The Draft EIR considered the emissions reductions which will result from implementation of Project Design Feature PDF-AQ-1 (Off-Road Construction Features) and PDF-AQ-2 (On-Road Construction Features), including, without limitation, using Tier 4 off-road equipment, or, if not available, Tier 3 for off-road diesel-powered equipment greater than 50 hp, and requiring that on-road excavation haul trucks exporting soil be model year 2010 or newer or retrofitted to comply with US EPA Year 2010 on-road emission standards. (Draft EIR pages 4.2-19, 4.2-27 and 4.2-28.)

Regional Construction Impacts: The SCAQMD has established numerical emission indicators of significance for construction. Given that construction impacts are temporary and limited to the construction phase, SCAQMD has established numeric indicators of significance specific to construction activity. Based on the indicators in the SCAQMD CEQA Air Quality Handbook, the Project would potentially cause or contribute to an exceedance of an ambient air quality standard if regional construction emissions from both direct and indirect sources would exceed any of the following SCAQMD prescribed daily emissions thresholds: 75 pounds a day for Volatile Organic Compounds (VOCs); 100 pounds per day for Nitrogen Oxides (NO_x); 550 pounds per day for Carbon Monoxide (CO); 150 pounds per day for Sulfur Dioxide (SO₂); 50 pounds per

day for Particulate Matter (PM₁₀); or 55 pounds per day for Particulate Matter (PM_{2.5}). (Draft EIR pages 4.2-23 and 4.2-24.)

The Draft EIR estimated maximum daily construction emissions for each construction phase of the Project. Some individual construction phases potentially overlap and the maximum daily emissions take into account potential for overlapped emissions. Detailed emissions calculations are provided in Draft EIR Appendix C. Results of the criteria pollutant calculations are presented in Draft EIR Table 4.2-5, *Maximum Unmitigated Regional Construction Emissions*. As shown therein, construction-related daily emissions for the criteria and precursor pollutants (VOC, NO_x, CO, SO₂, PM₁₀, and PM_{2.5}) will not exceed SCAQMD numeric indicators. These calculations include appropriate dust control measures required to be implemented during each phase of development, as required by SCAQMD Rule 403 (Control of Fugitive Dust). (Draft EIR pages 4.2-28 and 29.) Thus, with respect to regional emissions from construction activities, impacts will be less than significant and, therefore, no mitigation measures will be required.

Localized Construction Impacts: The SCAQMD has also developed a methodology to assess the potential for localized emissions to cause an exceedance of applicable ambient air quality standards or ambient concentration limits. Impacts would be considered significant if the following would occur: (1) Maximum daily localized emissions of NO_x and/or CO during construction are greater than the applicable localized significance thresholds, resulting in predicted ambient concentrations in the vicinity of the Project Site greater than the most stringent ambient air quality standards for NO₂ and/or CO; or (2) Maximum daily localized emissions of PM₁₀ and/or PM_{2.5} during construction are greater than the applicable localized significance thresholds, resulting in predicted ambient concentrations in the vicinity of the Project Site to exceed 10.4 µg/m³ over 24 hours. (Draft EIR Page 4.2-24.) The localized construction air quality analysis for the Project was conducted using the methodology and screening criteria described in the SCAQMD Localized Significance Threshold Methodology (June 2003, revised July 2008). Detailed emissions calculations are provided in Draft EIR Appendix C. The maximum daily localized emissions for each of the construction phases and localized significance thresholds are presented in Table 4.2-6, *Maximum Unmitigated Localized Construction Emissions*. As shown therein, maximum localized construction emissions for sensitive receptors will not exceed the localized thresholds for NO_x, CO, PM₁₀, and PM_{2.5}. (Draft EIR page 4.2-29.) Thus, with respect to localized construction emissions, impacts will be less than significant and, therefore, no mitigation measures will be required.

b) *Operations Impacts:* The Project is an urban infill development, since it will be undertaken on a currently developed site. The Project is located within approximately one mile of basic commercial services. The Project Site will have convenient access to public transportation, including service provided Metro Local lines, Metro Rapid lines, and Montebello bus lines (see Draft EIR Section 4.12, *Transportation and Traffic*, for additional information regarding public transit). In addition, the Project Site area includes bicycle lanes (Class II) on 6th Street east of Central Avenue, 7th street, Olympic Boulevard and Central Avenue, and bicycle routes (Class III) on Stanford Avenue. (Draft EIR page 4.2-26.) These land use characteristics will provide Project residents, employees, and visitors with alternative and non-automotive forms of transportation and be consistent with land use strategies to minimize vehicle miles traveled (VMT) and associated transportation emissions (Id; see also Draft EIR Section 4.5, *Greenhouse Gas Emissions*, for additional information regarding the Project's land use characteristics that will minimize VMT and related emissions).

The Project's live/work units will be designed and built in accordance with adopted residential building energy standards including the Title 24 Building Energy Efficiency Standards, which are

updated periodically to allow for the consideration and inclusion of new energy efficiency technologies and methods. For example, the Title 24-2016 standards result in a savings of approximately 46 percent of Title 24 regulated energy use as compared to the Title 24-2008 standards. Moreover, the standards for residential buildings exceed the requirements for the existing commercial uses on the Project Site. (Draft EIR pages 4.2-27 and 7.1-20.) Accordingly, the Project will be designed and built to meet substantially more stringent building energy standards than the current use on the Project Site, with lower per-square-foot energy usage and associated emissions. (Draft EIR page 4.2-27.) In addition, the live/work units will comply with the City of Los Angeles Green Building Code, which incorporates the mandatory portions of the CALGreen Code. The Project will comply with the CALGreen Code water efficiency and conservation standards by installing plumbing fixtures and fittings with flow rates (Section 4.303 of the 2016 CALGreen Code) that reduce the overall use of potable water within the residential units. (Draft EIR pages 4.2-27 and 7.1-16 and 7.1-17.) The heating and air-conditioning system will be sized and designed in compliance with the CALGreen standards to maximize energy efficiency caused by heat loss and heat gain (Section 4.507 of the 2016 CALGreen Code). Some of the specific Project features include energy efficient appliances, water efficient irrigation systems, drought-tolerant landscaping, roofs that are pre-wired to for future installation of solar panels, and electric outlets appropriate to charge an electric vehicle. (Draft EIR pages 4.2-27 and 7.1-19 and 7.1-20.)

Regional Operation Impacts: Operations criteria pollutant emissions were assessed for mobile, area, and stationary sources of the Project for the full buildout year. Daily trip generation rates for the Project were provided in the Traffic Study, Appendix L of the Draft EIR. Operational emission estimates also incorporate the green building design features detailed in the Project design features, including increased energy efficiency measures. With regard to VOCs, SCAQMD Rule 1113, which limits the VOC content of architectural coating emissions, will be enforced. (Draft EIR pages 4.2-30 and 4.2-31.) Detailed emissions calculations are provided in Draft EIR Appendix C. Results of the criteria pollutant calculations are presented in Table 4.2-7, *Maximum Unmitigated Regional Operational Emissions*. As shown in Table 4.2-7, the net increase in operational-related daily emissions (Project emissions minus existing emissions) for the criteria and precursor pollutants (VOC, NO_x, CO, SO₂, PM₁₀, and PM_{2.5}) will not exceed SCAQMD thresholds of significance. Thus, Project-related regional operational emissions impacts will be less than significant and, therefore, no mitigation measures are required.

Localized Operation Impacts: The localized operations air quality analysis was conducted using the methodology described in the SCAQMD Localized Significance Threshold Methodology (June 2003, revised July 2008). The screening criteria provided in the Localized Significance Threshold Methodology were used to determine localized operational emissions thresholds for the Project. Detailed emissions calculations are provided in Draft EIR Appendix C. The maximum daily increase in localized emissions (Project emissions minus existing emissions) and localized significance thresholds are presented in Table 4.2-8, *Maximum Unmitigated Localized Operational Emissions*. As shown therein, the increase in maximum localized operational emissions for sensitive receptors will not exceed the localized thresholds for NO_x, CO, PM₁₀, and PM_{2.5} (Draft EIR page 4.2-32.) Thus, with respect to localized operational emissions, impacts will be less than significant and, therefore, no mitigation measure is required.

Carbon Monoxide Hotspot: A significant impact for carbon monoxide (CO) would occur if the Project would cause or contribute to an exceedance of the CAAQS one-hour or eight-hour CO standards of 20 or 9.0 parts per million (ppm), respectively. The potential for the Project to cause or contribute to CO hotspots was evaluated in the Draft EIR by comparing Project intersections (both intersection geometry and traffic volumes) with prior studies conducted by SCAQMD in

support of their AQMPs and considering existing background CO concentrations. As discussed below, this comparison demonstrated that the Project will not cause or contribute considerably to the formation of CO hotspots and that CO concentrations at Project impacted intersections will remain well below the ambient air quality standards. (Draft EIR page 4.2-33.)

As shown in Table 4.2-2, *Ambient Air Quality Data*, CO levels in the Project area are substantially below the federal and state standards. Maximum CO levels in recent years are 3 ppm (one-hour average) and 1.8 ppm (eight-hour average) compared to the thresholds of 20 ppm (one-hour average) and 9.0 ppm (eight-hour average). No exceedances of CO have been recorded at monitoring stations in the Air Basin for some time and the Air Basin is currently designated as a CO attainment area for both the CAAQS and NAAQS. Thus, it is not expected that CO levels at Project-impacted intersections would rise to the level of an exceedance of these standards. Additionally, as explained in the Draft EIR, page 4.2-33, the SCAQMD conducted CO modeling for the 2003 AQMP for the four worst-case intersections in the Air Basin: (1) Wilshire Boulevard and Veteran Avenue; (2) Sunset Boulevard and Highland Avenue; (3) La Cienega Boulevard and Century Boulevard; and (4) Long Beach Boulevard and Imperial Highway. The intersection of Wilshire Boulevard and Veteran Avenue was shown to be the most congested intersection in Los Angeles County, with an average daily traffic volume of approximately 100,000 vehicles per day. The evidence provided in the 2003 AQMP (Table 4-10 of Appendix V) shows that the peak modeled CO concentration due to vehicle emissions at these four intersections was 4.6 ppm (one-hour average) and 3.2 (eight-hour average) at Wilshire Boulevard and Veteran Avenue. When added to the existing background CO concentrations, the screening values would be 7.6 ppm (one-hour average) and 5 ppm (eight-hour average). Based on the Project's Traffic Study, Appendix L of the Draft EIR, of the studied intersections that are predicted to operate at a Level of Service (LOS) of A and B under future operational year plus Project conditions (the intersections which will be able to accommodate the most through traffic), one intersection will potentially have peak traffic volumes of approximately 57,300 per day. As a result, CO concentrations are expected to be less than those estimated in the 2003 AQMP, which with approximately 100,000 vehicles per day did not exceed the thresholds. (Draft EIR page 4.2-33.) Thus, this comparison in the Draft EIR demonstrates that the Project will not contribute considerably to the formation of CO hotspots and therefore, the Project will result in less than significant impacts with respect to CO hotspots and no mitigation measure is required.

c) Toxic Air Contaminants (TACs): A significant impact would occur if the Project would emit carcinogenic materials or TACs that exceed the maximum incremental cancer risk of ten in one million or a cancer burden greater than 0.5 excess cancer cases (in areas greater than or equal to 1 in 1 million) or an acute or chronic hazard index of 1.0. However, the Project does not exceed those thresholds. The Project's health risk calculations were performed using a spreadsheet tool consistent with the OEHHA guidance, which incorporates the algorithms, equations, and a variable described in the OEHHA guidance, and incorporates the results of the AERMOD dispersion model. Table 4.2-9, *Construction Health Risk Assessment Results*, **summarizes** the carcinogenic risk for the maximum impacted sensitive receptors.

For carcinogenic exposures, the cancer risk from relevant emissions from construction of the Project is estimated to result in a maximum carcinogenic risk of approximately 7.8 per million. The maximum impact will occur at the future residential uses and school directly north of the Project Site. Cancer risk to students at the Para Los Niños school to the south of the Project Site will be approximately 6.7 per million. The lifetime exposure under OEHHA guidelines takes into account early life (infant and children) exposure. The calculated cancer risk assumes sensitive receptors (residential and school uses) would not have any mitigation, such as mechanical filtration and exposure with windows open. Since, as shown in Table 4.2-9, the cancer risk at the maximum

impacted receptors with these worse case assumptions are below the SCAQMD threshold of 10 in one million, the Project will have less than significant impacts with respect to construction health risk and, therefore, no mitigation measure is required. (Draft EIR page 4.2-34.)

Similarly, the analysis in the Draft EIR demonstrates that the operational health risk impacts will be less than significant. Project operations will generate only minor amounts of diesel emissions from residential delivery trucks and incidental maintenance activities. Trucks will comply with the applicable provisions of the CARB Truck and Bus regulation to minimize and reduce emissions from existing diesel trucks. Therefore, the Project operations will not result in substantial source of diesel particulates. (Draft EIR page 4.2-35.) In addition, Project operations will only result in minimal emissions of air toxics from maintenance or other ongoing activities, such as from the use of architectural coatings and household cleaning products. As a result, toxic or carcinogenic air pollutants are not expected to occur in any meaningful amounts in conjunction with operation of the residential uses within the Project Site. Based on the uses expected on the Project Site, potential long-term operational impacts associated with the release of TACs would be minimal and would not be expected to exceed SCAQMD thresholds of significance. (Id.) Thus, impacts will be less than significant and, therefore, no mitigation measure is required.

Based on the California Supreme Court unanimous opinion in *California Building Industry Association v. Bay Area Air Quality Management District* (2015) 62 Cal. 4th 369, an EIR is not required to evaluate impacts from the existing off-site environment on a project or its users. Nonetheless, in response to comments on the Draft EIR, the Final EIR considered this issue and determined that there are no active stationary sources within approximately 500 feet of the Project Site, with the exception of an emergency generator. Emergency generators are regulated by the SCAQMD and have stringent operational limitations that ensure emissions are minimized to low levels. Therefore, there is no evidence that the Project or its users would be adversely impacted by existing off-site stationary emission sources in the Project Site vicinity. (Final EIR, Response to Comment 5-2.) Additionally, the Greyhound Bus Station, located at 1716 E 7th Street, south of the Project Site, purchased 220 new buses in 2013-2014 and refurbished nearly 600 existing buses to like-new conditions, and has its loading and staging area located at the south end of the facility, which is in excess of 500 feet from the Project Site. Therefore, there is no evidence that the Project or its users would be adversely impacted by the existing off-site Greyhound buses. Furthermore, any exiting uses with heavy-duty trucks, such as warehouses, are required to comply with CARB regulations that limit idling and the resulting diesel emissions. (Final EIR, Response to Comments 5-2 and 5-3.)

d) Consistency of the Project with Applicable Air Quality Plans and Policies: The Project will not conflict with or obstruct implementation of relevant air quality policies in the General Plan or other adopted regional and local plans pertaining to reducing air quality impacts.

AQMP: Projects that are considered to be consistent with the AQMP are those that do not interfere with attainment because growth is included in the projections utilized in the formulation of the AQMP. The AQMP was prepared to accommodate growth, reduce the high levels of pollutants within areas under the jurisdiction of the SCAQMD, return clean air to the region, and minimize the impact on the economy. The AQMP includes short-term control measures related to facility modernization, energy efficiency, good management practices, market incentives, and emissions growth management. The SCAQMD recommends that lead agencies demonstrate

that a project would not directly obstruct implementation of an applicable air quality plan and that a project be consistent with the assumptions (typically land-use related, such as resultant employment or residential units) upon which the air quality plan is based. (Draft EIR page 4.2-35.)

The Project will result in an increase in short-term employment compared to existing conditions. Being relatively small in number and temporary in nature, construction jobs under the Project will not conflict with the long-term employment projections upon which the AQMP are based. Control strategies in the AQMP with potential applicability to short-term emissions from construction activities include strategies denoted in the AQMP as MOB-08 and MOB-10, which are intended to reduce emissions from on-road and off-road heavy-duty vehicles and equipment by accelerating replacement of older, emissions-prone engines with newer engines meeting more stringent emission standards. The Project will not conflict with implementation of these strategies. Additionally, the Project will comply with CARB requirements to minimize short-term emissions from on-road and off-road diesel equipment as demonstrated by Project Design Features PDF-AQ-1 and PDF-AQ-2. The Project will also comply with SCAQMD regulations for controlling fugitive dust pursuant to SCAQMD Rule 403. Compliance with these requirements is consistent with and meets or exceeds the AQMP requirements for control strategies intended to reduce emissions from construction equipment. As analyzed in Section 4.10, *Population, Housing and Employment*, of the Draft EIR, the Project will not conflict with the long-term growth projections (jobs and housing) used in the development of the AQMP. (Draft EIR page 4.2-36.) For all these reasons, the Project will not conflict with or obstruct implementation of the AQMP, and impacts will be less than significant and, therefore, no mitigation measures are necessary.

The AQMP also includes transportation control measures that are intended to reduce regional mobile source emissions. While the majority of the measures are implemented by cities, counties, and other regional agencies such as SCAG and SCAQMD, the Project will support measures related to reducing vehicle trips for residents such as being an infill urban development near existing basic commercial services and with convenient access to public transportation, including service provided by Metro local bus lines, Metro Rapid lines, the Montebello bus lines, and area bicycle lanes. (Draft EIR page 4.2-36.) As the Project will be consistent with the growth projections in the AQMP and will support relevant transportation control measures aimed at reducing vehicle trips, impacts will be less than significant.

General Plan: Development of the Project requires a General Plan Amendment, Vesting Zone Change, and Height District Change. The General Plan Amendment will change the current land use designation from Heavy Manufacturing/Industrial to Regional Center Commercial, which will permit the mix of commercial and live/work uses and will be consistent with other Regional Center Commercial designations along the Alameda corridor. The Vesting Zone Change will change the current zoning designation from M3 to C2, which will allow for the proposed range of commercial/arts and production uses. Despite the change in zoning, Project-related population growth will be well within Citywide growth projections. (Draft EIR page 4.2-36.) As such, and as further analyzed in Section 4.10, *Population, Housing and Employment*, of the Draft EIR, the Project will be consistent with growth projections, as contained in the City's General Plan, as well as with the growth projections in the AQMP.

The City's General Plan defines Citywide policies regarding a range of City resources and services, some of which are relevant to air quality. Draft EIR Table 4.2-10, *Comparison of the Project to Applicable Air Quality Policies of the General Plan*, evaluates the consistency of the Project with the applicable air quality goals, objectives, and policies in the Air Quality Element of the General Plan. As shown in Table 4.2-10, the Project is substantially consistent with the

relevant air quality policies of the General Plan because it will: (i) incorporate Project Design Features that will meet the applicable requirements of the California Green Building Standards Code and the City's Green Building Code; (ii) will reduce VMT as a result of its infill location with access to nearby public transportation and proximity to other destinations such as job centers, retail and entertainment venues, all allowing people to live near work and recreational amenities; (iii) reduce emissions associated with energy and transportation through Project Design Features and proximity to public transit and bicycle lanes; (iv) comply with applicable the AQMP and CARB and SCAQMD air quality provisions; (v) improve accessibility for the City's residents to places of employment, shopping and other establishments by incorporating live/work units, a grocery store and fitness facilities for residents, as well as restaurants and other commercial uses that would be convenient for residents; (vi) implement a TDM program to reduce vehicle use; (vii) comply with waste reduction and diversion programs; and (viii) provide bicycle parking and facilities. (Draft EIR pages 4.2-37 to 4.2-39.)

Accordingly, the Project will be in substantial compliance with the relevant adopted air quality plans and policies. Thus, the impacts will be less than significant and, therefore, no mitigation measure is required.

e) Cumulative Impacts:

Regional Cumulative Air Quality Emissions Impacts: Neither the City nor the SCAQMD have adopted thresholds of significance for cumulative air quality impacts. Therefore, that Draft EIR analysis appropriately utilized SCAQMD's guidance on an acceptable approach to addressing the cumulative impacts issue for air quality. Specifically, the SCAQMD has stated that the "*the AQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or EIR... Projects that exceed the Project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant*" (Draft EIR page 4.2-40.) Additionally, since regional emissions from a project have the potential to affect the South Coast Air Basin ("Air Basin") as a whole, unlike other environmental issues areas, such as noise, it is not possible to establish a geographical radius from a specific project site where potential cumulative impacts from regional emissions would be limited. Meteorological factors, such as wind, can disperse pollutants, often times tens of miles downwind from a project site. (Id.)

Section 15064(h)(3) of the CEQA Guidelines provides guidance in determining the significance of cumulative impacts, which states in part that: "*A lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program which provides specific requirements that will avoid or substantially lessen the cumulative problem (e.g., ...air quality plan...) within the geographic area in which the project is located....*" As previously discussed, the Project would be consistent with the AQMP, which is intended to bring the Air Basin into attainment for all criteria pollutants. Projects, uses, and activities that are consistent with the applicable growth projections and control strategies used in the development of the AQMP would not jeopardize the attainment demonstration in the AQMP. With respect to the Project's short-term construction-related air quality cumulative emissions, the SCAQMD has developed strategies to reduce criteria pollutant emissions outlined in the AQMP. Construction of the Project will comply with SCAQMD Rule 403 requirements and, pursuant to applicable regulatory measures, will limit heavy-duty diesel-motor vehicle idling to no more than 5 minutes at any given time. In addition, pursuant to Project Design Feature PDF-AQ-1, the Project will

utilize a construction contractor(s) that complies with required and applicable BACT and the In-Use Off-Road Diesel Vehicle Regulation. Per SCAQMD rules and mandates, as well as the CEQA requirement that significant impacts be mitigated to the extent feasible, these same requirements (i.e., Rule 403 compliance, the implementation of all feasible mitigation measures when applicable, and compliance with adopted AQMP emissions control measures) will also be imposed on other construction projects in the Air Basin, including the related projects in the Project Area. (Draft EIR page 4.2-41.) As such, construction of the Project will not conflict with AQMP control strategies and the Project's contribution to cumulatively significant construction impacts to air quality will not be cumulatively considerable. Thus, cumulative impacts will be less than significant for regional construction emissions and, therefore, no mitigation measure is required.

For purposes of the cumulative air quality analysis with respect to CEQA Guidelines Section 15064(h)(3), the Project's incremental contribution to cumulative air quality impacts is determined based on compliance with the SCAQMD-adopted 2016 AQMP. As discussed above, the Project will not conflict with or obstruct implementation of AQMP, will be consistent with the growth projections in the AQMP, and will be consistent with the city-wide and SCAG growth projections in terms of population and employment. (Draft EIR page 4.2-42.) However, as discussed in Section 4.10, *Population, Housing and Employment*, of the Draft EIR, cumulative development including related projects would exceed short-term growth projections in the region. Nonetheless, the short-term growth anticipated in SCAG projections is not an appropriate benchmark for cumulative development. Anticipated development will occur over a longer time frame beyond Project buildout, year-to-year variations in development average out over the longer term horizon projections, and current growth will be accounted for in future updates. (Id.) Further, the growth associated with the Project will contribute to the area's transition from a lower density area into a High Quality Transit Area (HQTa) and transit priority area. The Project's mix of uses will be located near available public transit, promote walkability, and continue to revitalize the Arts District with development that will reduce VMT, provide relative reductions in energy consumption and air quality emissions, as well as convenience for commuters as strived for in applicable local plans and policies discussed in Section 4.10 for the Draft EIR. Thus, long-term cumulative population impacts will be less than significant in light of these considerations and, therefore, no mitigation measure is required.

Localized Cumulative Air Quality Emissions Impacts: The SCAQMD adopted localized significant thresholds to evaluate impacts in the vicinity of a project. Unlike regional emissions that could impact the Air Basin, localized emission are evaluated at sensitive receptors in the Project Site nearby vicinity in accordance with the SCAQMD Localized Significance Threshold Methodology (June 2003, revised July 2008). The Methodology provides onsite mass emission rate screening table criteria to evaluate potential localized impacts. The screening table criteria are normally applicable to a project's onsite mass emissions based on the location of a project site within the air basin, the size of a project site, and the distance to the nearest sensitive receptor. (Draft EIR pages 4.2-42 and 4.2-43.)

Of the 163 related projects, the closest related projects are situated approximately 50 feet to 230 feet from the Project Site and are as follows: Related Project No. 36, (1525 E Industrial Street); Related Project No. 84, (1800 E. 7th Street); Related Project No. 122, (southwest of the 7th Street and Alameda Street intersection); and Related Project No. 139, (1745 E 7th Street). All other related projects are a minimum of 700 feet away from the Project Site (refer to Draft EIR Figure 3-1, *Related Projects Map*). Related Project No. 36 would be located directly adjacent to the Project to the north. Due to the close proximity of Related Project No. 36 to the Project Site and the potential for some overlapping of construction activities should both projects proceed, the combined localized emissions from both projects could potentially impact sensitive receptors in

the vicinity. For the purposes of conducting a conservative localized impact analysis, the screening table criteria used in the Draft EIR was modified to evaluate the impacts from the combined localized emissions from the Project and the adjacent Related Project No. 36. Related Project Nos. 84, 133, and 139 are geographically located to the southeast and southwest of the Project Site such that they would not fall along direct wind vectors that would result in combined localized emissions at the sensitive receptors and, therefore, localized emissions from these related would not substantially combine with localized Project emissions.

The nearest sensitive receptor to both the Project and Related Project No. 36 is the Para Los Niños Charter School, which is adjacent to the south of the Project Site. Detailed emissions calculations, which are provided in Draft EIR Appendix C, were calculated using conservative criteria. Draft EIR Table 4.2-11, *Cumulative Unmitigated Localized Construction Emissions (Pounds Per Day)*, summarizes the cumulative localized construction impacts for the combined projects. As shown in Table 4.2-11, the cumulative localized impact of the combined projects would be less than significant. The maximum combined emissions would occur if the maximum localized construction emissions from the Project during the shoring and excavation phase would occur simultaneously during the maximum localized construction emissions from Related Project No. 36 during the grading, excavation, and site preparation phase. If other phases would occur simultaneously, localized emissions would be less than shown in Table 4.2-11. (Draft EIR pages 4.2-43 and 4.2-44.) Thus, the Project will not result in cumulatively considerable localized emissions and cumulative impacts will be less than significant and, therefore, no mitigation measure is required.

Detailed operational emissions calculations are also provided in Draft EIR Appendix C. Draft EIR Table 4.2-12, *Cumulative Unmitigated Localized Operational Emissions (Pounds Per Day)*, summarizes the cumulative localized operational impacts the combined projects would have. (Draft EIR page 4.2-44.) As shown in Table 4.2-12, the cumulative localized impact of the combined projects would be less than significant. Thus, the Project will not result in cumulatively considerable localized emissions and cumulative impacts will be less than significant and, therefore, no mitigation measure is required.

5. References: For a complete discussion of impacts associated with Air Quality, please see Draft EIR Section 4.2, Air Quality, and Appendix C, Air Quality Technical Report and Final EIR Chapter 3.0, Revisions, Clarifications, and Corrections.

B. Cultural Resources (Historical Resources Only)

1. Description of Effects: Historical Resources Impacts: The current development on the Project Site is not older than 45 years and, therefore, does not reach the threshold to be considered a historical resource. As a result, the Project will not demolish, destroy, relocate, or alter a historical resource such that eligibility for listing on a register of historical resources would be lost. Additionally, the Project will not reduce the integrity or significance of important historical resources in the vicinity such that eligibility for listing on a register of historical resources would be substantially changed.

2. Project Design Features: None.

3. Findings: Changes or alternations have been required in, or incorporated into, the Project that avoid or substantially lessen potential significant environmental effects of historical cultural resources impacts of the Project to less than significant levels.

a) Historical Resources Impacts: Project impacts related to historical cultural resources will be less than significant. No mitigation is required.

4. Rationale for Findings: The Draft EIR includes a detailed analysis of the Project Site, the present and past buildings on the Site and the historical significance of the present buildings. (Draft EIR Appendix D-1). That analysis discusses the prior construction on the Project Site, all of which were demolished prior to construction of the current facility.

The Project Site is currently developed with the Showa Marine & Cold Storage Facility, which is used for shipping, receiving and storage of frozen food products, as well as associated office and administrative activities. (Draft EIR page 2-5.) The current improvements are not notable. The existing buildings have two small, upper-story windows along the Alameda Street frontage; however, the general appearance of the buildings conveys an impenetrable blank façade without articulation surrounded by chain link/barbed wire fencing and large generally featureless walls. (Draft EIR page 4.1-3.)

According to permits for the Project Site, the Showa Marine & Cold Storage facility was designed Takase Associates and engineered by Arevelo & Safino in 1984. City records include buildings permits that record alterations and additions occurring up to 2001. (Draft EIR page 4.3.1-10 and Appendix D-1.) Because the existing on-site facility was constructed between 1984 and 2001, it does not meet the 45-year age threshold to be considered a historical resource under CEQA or to be formally recorded on California Department Parks of Recreation Site Forms as a built environment resource. Furthermore, the Showa Marine & Cold Storage facility does not appear to be designed by a master architect or engineer, is not an exceptional example of a cold storage warehouse, and is not associated with productive lives of historic personages. (Draft EIR pages 4.3.1-10 and 4.31-20.) Thus, no direct impacts on historical cultural resources will occur with demolition of these buildings and construction of the Project and, therefore, no mitigation measures are required.

Furthermore, the Project will not indirectly impact any historical resources in the immediate vicinity of the Project Site. As shown in the Draft EIR, Section 4.3.1 and Appendix D-1, records search indicate that 41 built environment resources have been recorded within a half-mile radius of the Project Site. Of these, six are located within close proximity to the Project Site and will have both direct and indirect views of the Project Site. The remaining 35 built environment resources will not have direct or indirect views of the Project Site and, therefore, the Project will cause no adverse impact on these 35 built environment resources. (Draft EIR page 4.3.1-20.)

The following six built environment resources will have direct views of the Project Site: the Los Angeles Union Terminal District, E. 7th Street, determined eligible for the National Register of Historic Places through consensus of the Section 106 process and listed in the California Register of Historical Resources (19-189979 and 19-189980), in addition five of the seven contributing buildings within the district also appear individually eligible for listing on the National Register of Historic Places (Primary Numbers 19-173248, 19-173252, 19-173249, 19- 187065, 19-173255). The historic district and the five individually eligible contributors are located at the south of E. 7th Street and west of its intersection with S. Alameda Street, approximately 0.05 to 0.31 miles to the southwest of the Project Site. The contributing buildings are oriented north to south and are sited to relate with each other and the rail line, which is no longer extant. The Project Site and Los Angeles Union Terminal District are physically separated by a high traffic intersection and two busy corridors, E. 7th Street and S. Alameda Street. Based upon the review of current conditions, the Draft EIR, page 4.3.1-20, determined that the historic district no longer retains integrity of its immediate setting, as the adjacent properties to the Los Angeles Union Terminal District located

to the north, east and south consist of parking lots, a contemporary fast food restaurant at 690 S. Alameda Street constructed in 1997, a ten-story parking garage at 1625 E. 8th Street constructed in 2011, and a contemporary produce warehouse at 750 S. Alameda Street constructed in 1992. The ten-story parking garage at 1625 E. 8th Street is located adjacent to the southern boundary of the Los Angeles Union Terminal District and has impaired the district's immediate setting. As such, construction of the Project will not lessen the district's already eroded integrity of setting due to the contemporary large-scale buildings in the immediate vicinity of the district. (Draft EIR pages 4.3.1-20 and 4.3.1-21.)

The new construction on the Project Site does not involve any physical changes to the district or the other five contributors or detract from their historic integrity by blocking views or spatial relationships from within the district. Therefore, the Project will not demolish or materially alter any of the character-defining contributing buildings or features that contribute to the eligibility of historic district or five individually eligible contributors. (Draft EIR page 4.3.1-21.) As a result, the Project will have no direct or indirect impacts on historical resources in the Project vicinity and, therefore, no mitigation measures are required.

6. References: For a complete discussion of impacts associated with historical cultural resources, please see Draft EIR Section 4.3 and Appendix D-1.

C. TRIBAL CULTURAL RESOURCES

1. Description of Effects:

a) Tribal Cultural Resources Impacts: The Project will not cause a substantial change in the significance of a tribal cultural resource because no significant tribal resources including either a site, feature, place, or cultural landscape has been identified on the Project Site.

b) Cumulative Impacts: As no tribal cultural resources have been identified on the Project Site or within the immediate vicinity and since all future projects must comply with state law to identify potential tribal cultural resources, the Project will not add to a cumulatively significant impact on tribal cultural resources.

2. Project Design Features: None.

3. Findings: Changes or alternations have been required in, or incorporated into, the Project that avoid or substantially lessen potential significant environmental effects of tribal resources impacts of the Project to less than significant levels.

a) Tribal Cultural Resources Impacts: Project impacts on tribal cultural resources will be less than significant. No mitigation measure is required.

b) Cumulative Impacts: The Project's contribution to a cumulative impact on tribal cultural resources will be less than significant. No mitigation is required.

4. Rationale for Findings:

a) Tribal Cultural Resources Impacts: The Project will entail excavation to approximately 40 feet below the surface for the subterranean parking. (Draft EIR pages 4.3.2-3 and 4.3.3-4.) As discussed in the Draft EIR Appendix D-2, *Tribal Cultural*

Resources Assessment, no prehistoric archaeological resources have been recorded within the Project Site or within a half-mile radius. The Project Site was developed with former commercial and industrial uses by at least 1906 as shown on the Sanborn Maps. These prior uses included at least one building with a basement (Draft EIR Appendix D-1 pages 7 and 8.) It is likely that the development history of the Project Site has displaced any prehistoric archaeological resources formerly located on the Project Site that may be considered tribal cultural resources. (Draft EIR page 4.3.3-4.)

Under State law, AB 52, California Native American Tribes must be given early notification in the CEQA review process to insure that cultural resources related to Native Americans be included in a project's environmental analysis. The City submitted notification letters to ten (10) Native American individuals and organizations on the City's AB 52 Notification List on December 7, 2016. To date, the City has not received any responses to these notification letters. As a result of the City's consultation letters, no known tribal cultural resources have been identified within the Project Site or in the Project vicinity. (Draft EIR page 4.3.2-5.) Therefore, the Project will not cause an impact to known tribal cultural resources. However, please refer to Section IX of these Findings regarding mitigation that addresses potential impacts to Native American archeological resources. Mitigation Measures ARCH-1 to ARCH-4 discussed in those Findings include provisions for procedures to follow should an unknown resource be encountered during construction activities.

b) Cumulative Impacts: No tribal cultural resources have been identified on the Project Site or within the immediate vicinity. Further, in association with CEQA review, future AB 52 consultations with Native American tribes in order to identify tribal cultural resources would be required for projects that have the potential to cause significant impacts to tribal cultural resources. (Draft EIR page 4.3.2-5.) Therefore, the Project's contribution to cumulative tribal resources impacts will be less than significant.

5. References: For a complete discussion of impacts associated with tribal cultural resources, please see Draft EIR Section 4.3.2 and Appendix D-2.

D. Geology and Soils

1. Description of Effects:

a) Geologic Hazard Effects Impacts: No known or active faults underlie the Project Site. The Project Site topography is relatively flat, with ground surface elevations ranging from approximately 246 to 250 feet across the Site. With adherence to the recommendations of a qualified geotechnical engineer and LAMC regulations, the Project is not anticipated to cause or exacerbate geologic hazards that would result in damage to structures or exposure of people to substantial risk of injury as a result of fault rupture, seismic ground shaking, liquefaction, expansive and compressible soil, or landslides.

b) Sedimentation and Erosion Impacts: The Project is located in a highly urbanized area of the City with little, if any, native topsoil, and is currently developed with structures and surface parking. Implementation of the Project will not result in substantial erosion or sedimentation with compliance with applicable regulatory requirements including City building codes.

c) Landform Alteration Impacts: The Project Site topography is relatively flat, completely developed with urban uses, and does not contain any distinct or

prominent geologic or topographic features that could be destroyed, permanently covered, or materially and adversely modified as a result of construction of the Project.

d) Cumulative Impacts: Impacts associated with geologic hazards are typically confined to a Project Site or otherwise highly localized. The two nearest related projects are located across the street from the Project Site, Related Project No. 36, and southwest of the Project Site, Related Project No. 122. Since related projects are required to comply with the same regulations involving seismic safety, sedimentation and erosion and landform alterations, including best management practices during construction to reduce surface erosion and LAMC requirements that address geotechnical issues and establish standards for grading and construction, the Project's contribution to cumulative geology and soils impacts will be less than cumulatively considerable.

2. Project Design Features: None.

3. Findings: Changes or alternations have been required in, or incorporated into, the Project that avoid or substantially lessen potential significant environmental effects of geology and soil impacts of the Project to less than significant levels.

a) Geologic Hazard Effects Impacts: Project impacts on geologic hazards will be less than significant. No mitigation measure is required.

b) Sedimentation and Erosion Impacts: Project impacts on sedimentation and erosion will be less than significant. No mitigation measure is required.

c) Landform Alteration Impacts: Project impacts on landform alterations will be less than significant. No mitigation measure is required.

d) Cumulative Impacts: The Project's contribution to a cumulative impact on geology and soils will be less than significant. No mitigation is required.

4. Rationale for Findings:

a) Geologic Hazard Effects Impacts: The Draft EIR evaluated the potential geologic and soils hazards associated with the Project based on the information and findings presented in the Geotechnical Feasibility Investigation and Geologic-Seismic Hazard Assessment (the Geotechnical Report) prepared for the Project by Geotechnical Professionals Inc., Appendix E of Draft EIR. (Draft EIR page 4.4-1) The Geotechnical Report includes a review of available data, including the reports prepared for the parking structure southeast of the Project Site, geologic mapping, field exploration, laboratory testing, geophysical surveys, slope stability analysis, and engineering evaluations. (Draft EIR page 4.4-12.) The Geotechnical Report was prepared according to requirements established by Department of Building and Safety and evaluates underlying soils and geologic conditions to determine their potential for instability or other geologic hazards, as well as procedures to correct identified hazardous conditions needed to ensure that new building construction is safe. Site borings were conducted at various locations across the Project Site. A geophysical survey was also performed to determine depth to bedrock and to evaluate the presence of existing, buried concrete piles. The Geotechnical Report provides sufficient detail to determine whether the Project Site is suitable for the intended use and whether more detailed studies are required to address specific geological issues. (Id.) A Final Geotechnical Report must be prepared and reviewed by the City prior to issuance of building permits, which is prepared based on the final construction and building plans prepared by the

Applicant. Based on the ground conditions and building design, the Final Geotechnical Report will include specific recommendations for Project Site preparation, excavation, foundation design and shoring/retaining wall specifications. (Id.)

Fault Rupture. As stated in the Draft EIR Section 4.4, the Project Site is located at the northeast portion of the Los Angeles Basin. (Draft EIR page 4.4-1.) Distances between the Project Site and active faults in Southern California are listed in Draft EIR Table 4.4-1, *Major Faults Considered to be Active or Potentially Active in the Los Angeles Area*. As stated in the Draft EIR, and summarized in the Geotechnical Report, Appendix E of the Draft EIR, the available literature shows that the Project Site is not located within a designated Alquist-Priolo Earthquake Fault Zone nor is it located within a City Fault Rupture Area. (Draft EIR page 4.4-6.)

However, the Project Site is located within seismically active Southern California. Nonetheless, since there are no known active or potentially active faults underlying the Project Site, and the Project Site is not located within a designated fault zone, the potential for surface ground rupture at the Project Site is considered low. (Draft EIR page 4.4-16 and Appendix E, page 13.) Accordingly, impacts regarding fault rupture will be less than significant and, therefore, no mitigation measures are required.

Ground Shaking/Seismicity. The Project Site is located within a seismically active region of Southern California with known faults (e.g., Elysian Park Blind Thrust, Puente Hills Blind Thrust, Hollywood and Santa Monica Faults, and Raymond Fault) located within ten miles of the Project Site. During the Project's final design phase, a Final Geotechnical Report will be prepared by a California-registered geotechnical engineer and submitted to the Department of Building and Safety for review and approval. The City's Building Code, including Chapter IX, Div. 16, Section 91.1613, incorporates specific seismic design standards for structural loads and materials to provide for earthquake safety. The approved Final Geotechnical Report required under LAMC Section 91.1803, will set forth specific construction guidelines consistent with the CBC and Municipal Code. With compliance with applicable codes and adherence to the guidelines set forth in the Final Geotechnical Report, the Project will not increase or exacerbate risk from seismic ground shaking that would cause greater damage to structures or expose people to substantial risk of injury. (Draft EIR pages 4.4-16 and 4.4-17.) Thus, impacts with respect to seismic ground shaking will be less than significant and, therefore, no mitigation measures are required.

Corrosive Soils. The Geotechnical Report, Appendix E of the Draft EIR, recommends that testing of on-site soils should be performed during a design-level investigation as part of the Final Geotechnical Report and a corrosion engineer should be consulted for design services. If ferrous building materials could be placed in contact with onsite soils, the corrosion engineer would provide design-level recommendations regarding chosen construction materials and/or protection features for the proposed structure. (Draft EIR pages 4.4-15 and 4.4-16.) With such testing, if deemed necessary, and adherence to the recommendations of the Final Geotechnical Report, impacts related to corrosive soils will be less than significant and, therefore, no mitigation measure is necessary.

Expansive Soils. The Project Site's near surface onsite soils are generally considered to have a low potential for expansion. (Draft EIR 4.4-16.) With adherence to CBC and LAMC building regulations applicable to expansive soils, the Project structures will not be adversely affected by soil expansion. Additional expansion testing will be performed on bearing surfaces at or near the completion of below grade excavation to confirm that structures will not be affected by soil expansion. Soil excavation and building foundation requirements appropriate to site-specific soil conditions will be included in the Final Geotechnical Report. (Id.) With compliance to CBC and

Building Code regulations, as well as soil excavation and foundation requirements of the Final Geotechnical Report, impacts related to expansive soils will be less than significant and, therefore, no mitigation measure is required.

Landslides. The Site topography and vicinity is relatively flat, with ground surface elevations ranging from approximately 246 to 250 feet across the Site. According to the Geotechnical Report, Appendix E of the Draft EIR, the potential for landslides and seismically induced slope instability at the Project Site is considered unlikely. In addition, the Project Site is not located within a designated landslide area, as shown in the Los Angeles General Plan Safety Element, Exhibit C, Landslide Inventory and Hillside Areas in the City. Further, the Project will not create new significant slopes on the Project Site which would be subject to landslide hazards. (Draft EIR page 4.4-16.) Thus, landslides are not expected to pose a risk to people or structures on the Project Site, and impacts associated with landslides or other forms of natural slope instability will be less than significant and, therefore, no mitigation measure is required.

Temporary Excavations – Site Stability. Due to current Project Site uses, there is a potential for soils below the existing freezer buildings to be frozen if insulation below the slab on grade was not provided. Since there is no known water source, deep influence of the low temperatures is not expected. (Draft EIR page 4.4-16.) As noted in the Geotechnical Report, Appendix E of the Draft EIR, the excavations for the Project's subterranean levels should remove these soils. The structures will be located immediately adjacent to the existing streets and properties. Therefore, shoring will be required to support the temporary excavations to the bottom of the foundations. All earthwork for the Project will be performed in accordance with the future grading plan review report(s), the City's grading requirements, and the General Earthwork and Grading Specifications included in Appendix E. (Id.) With compliance with applicable building code regulations and recommended excavation and compaction standards of the Final Geotechnical Report, impacts related to Project Site stability will be less than significant and, therefore, no mitigation measure is required.

b) *Sedimentation and Erosion Impacts:* The Project Site is underlain by Quaternary age surficial sediments mapped as alluvial floodplain deposits. These sediments consist of unconsolidated gravel, sand and silt. These materials exhibit moderate to high strengths and low to moderate compressibility characteristics. (Draft EIR pages 4.4.-1 and 4.4-2.)

The Project Site is located in a highly urbanized area of the City. Negligible, if any, native topsoil is likely to occur on the Project Site as it is currently developed with structures and surface parking. Project construction will result in ground surface disruption during excavation, grading, and trenching that would create the potential for erosion to occur. Wind erosion will be minimized through soil stabilization measures required by the SCAQMD Rule 403 (Fugitive Dust), such as daily watering. Potential for water erosion would be reduced by implementation of standard erosion control measures implemented during Project Site preparation and grading activities. As discussed in detail in the Draft EIR Section 4.7, *Hydrology and Water Quality*, the Project will be subject to all existing regulations associated with the protection of water quality. Construction activities will be carried out in accordance with applicable City standard erosion control practices required pursuant to the CBC and the requirements of the National Pollutant Discharge Elimination System (NPDES) General Construction Permit issued by the Los Angeles Regional Water Quality Control Board (LARWQCB), as applicable. Consistent with these requirements, a Stormwater Pollution Prevention Plan (SWPPP) will be prepared that incorporates Best Management Practices (BMPs) to control water erosion during the Project's construction period. Following Project construction, the Project Site will be covered completely by paving, structures, and landscaping. (Draft EIR page 4.4-17.) Thus, impacts due to erosion of topsoil will be less

than significant with compliance to applicable regulatory requirements and, therefore, no mitigation measure is required.

c) **Landform Alteration Impacts:** The Project Site is currently completely developed with urban uses and does not contain any distinct or prominent geologic or topographic features that could be destroyed, permanently covered, or materially and adversely modified as a result of the Project. (Draft EIR page 4.4-18.) The Project Site topography and vicinity is relatively flat, with ground surface elevations ranging from approximately 246 to 250 feet across the Project Site. No distinct or prominent geologic or topographic features are located on the Project Site such as hilltops, ridges, hillslopes, canyons, ravines, rock-outcrops, water bodies, streambeds, or wetlands. (Id.) Accordingly, no impact from landslides or other forms of natural slope instability, or landform alteration will occur on the Project Site and, therefore, no mitigation measure is required.

d) **Cumulative Impacts:** Impacts associated with geologic hazards are typically confined to a Project Site or otherwise highly localized. However, all related projects that increase population or building occupancy in the vicinity of active and potentially active faults in the region have the potential to increase potential exposure to geologic and seismic hazards by potentially increasing the number of people exposed to geologic hazards. The nearest related projects in the immediate Project vicinity are Related Project 36, located immediately north of the Project Site which involves the potential development of 240 apartment units, 7,165 sf of retail uses, and 4,110 sf of restaurant uses, and Related Project 122, the Row DTLA, located southwest of the Project Site, which involves the development of 1.3 million sf of office space. (Draft EIR page 4.4-18.)

Related projects are required to prepare geotechnical studies in accordance with CBC and Los Angeles Building Code requirements and, as with the Project, must comply with CBC and City regulations related to seismic safety, grading foundation design, and other geotechnical issues. As with the Project, related projects would be required to implement BMPs during construction to reduce surface erosion. With implementation of BMPs and Municipal Code requirements that address seismic shaking, establish standards for grading practices, and other regulations, the Project and related projects will not result in significant cumulative geologic impacts. As with the Project, Municipal Code standards for shoring and foundation construction; SCAQMD's requirements for wind-caused erosion; and Regional Water Quality Control Board regulations pertaining to surface water runoff and water quality, which require BMPs for construction projects, would reduce geologic stability and erosion hazards for related projects to less than significant levels. (Draft EIR page 4.4-18.) Therefore, with implementation of established guidelines and adherence to applicable building regulations and standard engineering practices pertaining to seismic hazards, the Project's contribution to cumulative geology and soils impacts will be less than cumulatively significant, and, therefore, no mitigation measure is required.

5. **References:** For a complete discussion of impacts associated with Geology and Soils, please see Draft EIR Section 4.4 and Appendix E.

E. Greenhouse Gas Emissions

1. Description of Effects:

a) **Greenhouse Gas Emissions Impacts:** The Project will generate Greenhouse Gas (GHG) emissions due to construction and operational activities at the Project Site. Construction emissions will result from construction equipment. Operational emissions will

be generated by normal day-to-day activities in both area source emissions from building operations (from the use of natural gas, electricity, solid waste and water consumption) and mobile sources (vehicle fossil fuel-burning emissions generated by motor vehicle traveling to and from the Project Site). However, the Project has been designed and will be operated to meet or exceed the applicable requirements of the California Green Building Standards Code and the City's Green Building Code. With implementation of Project Design Features which limit emission through control of off-road and on-road construction vehicles and equipment (PDF-AQ-1 and PDF-AQ-2), idling of construction equipment (PDF-NOISE-2) and through green building features such as, without limitation, providing alternative transportation features and inclusion of electric vehicle supply equipment (PDF-GHG-1), GHG emissions, generated directly and indirectly by the Project, will result from development located and designed consistent with relevant goals and actions that encourage efficient use of public and private resources and reduce GHG emissions.

b) Consistency with GHG Plans: Climate change and GHG emissions are governed by an increasingly evolving body of treaties, laws, regulations, and case law. These include the California Global Warming Solutions Act of 2006 (AB 32), Title 24 California Green Building Code and the City's Green Building Code. The Project is consistent with these greenhouse gas emissions reduction plans, policies, regulations or recommendations.

c) Cumulative Impacts: The effects of GHGs are borne globally, as opposed to localized air quality effects of criteria pollutants and toxic air contaminants. The quantity of GHGs that it takes to ultimately result in climate change is not precisely known, but the quantity is sufficiently large that no single project is expected to measurably contribute to a noticeable incremental change in the global average temperature, or to global, local or microclimates. In the absence of adopted standards and established significance thresholds, and given the Project's consistency with GHG plans, the Project's contribution to the cumulative impact of global climate change will be less than significant.

2. Project Design Features: The City finds that Project Design Features PDF-AQ-1, PDF-AQ-2, PDF-GHG-1, and PDF-NOISE-2, which are incorporated into the Project and incorporated into these Findings as though full set forth herein, will reduce the already less than significant greenhouse gas emissions of the Project. These Project Design Features were taken into account in the analysis of potential impacts.

3. Findings: Changes or alternations have been required in, or incorporated into, the Project that avoid or substantially lessen potential significant environmental effects of greenhouse gas emissions impacts of the Project to less than significant levels.

a) Greenhouse Gas Emissions Impacts: With implementation of Project Design Features PDF-AQ-1, PDF-AQ-2, PDF-GHG-1, and PDF-NOISE-2, Project impacts on greenhouse gas emissions will be less than significant. No mitigation measure is required.

b) Consistency with Greenhouse Plans, Policies, Regulations or Recommendations: With implementation of Project Design Features PDF-AQ-1, PDF-AQ-2, PDF-GHG-1, and PDF-NOISE-2, Project impacts related to consistency with plans, policies, regulations and recommendations for reducing greenhouse gas emissions will be less than significant. No mitigation measure is required.

c) Cumulative Impacts: With implementation of Project Design Features PDF-AQ-1, PDF-AQ-2, PDF-GHG-1, and PDF-NOISE-2, the Project's contribution to

the cumulative impact of greenhouse gas emissions will be less than significant. No mitigation measure is required.

4. Rationale for Findings:

a) GHG Emissions Impacts: The extent to which increased concentrations of GHGs have caused or will cause climate change and the appropriate actions to limit and/or respond to climate change are the subject of significant and rapidly evolving regulatory efforts at the federal and state levels of government. (See Draft EIR pages 4.5-6 to 4.5-17.) GHG contributions are commonly quantified in the units of equivalent mass of carbon dioxide (CO₂e). Mass emissions are calculated by converting pollutant specific emissions to CO₂e emissions by applying the proper global warming potential (GWP) value, which are available from the Intergovernmental Panel on Climate Change (IPCC). By applying the GWP ratios, Project-related CO₂e emissions can be tabulated in metric tons per year. Typically, the GWP ratio corresponding to the warming potential of CO₂ over a 100-year period is used as a baseline to determine the impacts of a project on GHG emissions. (Draft EIR pages 4.5-1 and 4.5-2.)

The CO₂e values were calculated in the Draft EIR for construction years as well as existing and Project build-out conditions in order to generate a net change in GHG emissions for construction and operation. (Draft EIR pages 4.5-1 and 4.5-2 and Appendix F, Greenhouse Gas Technical Report.) The City has not adopted a numerical significance threshold for assessing impacts related to GHG emissions and has not formally adopted a local plan for reducing GHG emissions. However, the City has established goals and actions to reduce the generation and emission of GHGs from both public and private activities in the LA Green Plan and the Mayor's Sustainable City pLAn. Under CEQA, when no guidance exists, the lead agency may look to and assess general compliance with comparable regulatory schemes. (Draft EIR page 4.5-22.) The City has assessed the significance of the Project's GHG emissions by comparing them to the SCAQMD's draft Tier 4 performance standards in the context of an assessment of the Project's consistency with regulatory schemes, comparable to formally adopted local GHG emission reduction plans that are designed to reduce GHG emissions by encouraging development located and designed to result in the efficient use of resources. (Draft EIR page 4.5-23.) Accordingly, the City has determined to focus its assessment of the Project's GHG emissions in relation to the Project's location and design and its consistency with local City of regulatory schemes, as explained below and more fully set forth in the Draft EIR.

(1) Construction Impacts: The emissions of GHGs associated with construction of the Project were calculated in the Draft EIR for each year of construction activity. Detailed emissions calculations are provided in Appendix F of the Draft EIR. Results of the Project's construction phase GHG emissions calculations are presented on Table 4.5-2, *Estimated Unmitigated Construction Greenhouse Gas Emissions*, of the Draft EIR. The current accepted method for accounting for the construction GHG emissions within the SCAQMD service area is to amortize these emissions over a project's 30-year lifetime in order to include these emissions as part of a project's annualized lifetime total emissions. Accordingly, the Draft EIR shows GHG reduction measures that will address construction GHG emissions as part of the operational GHG reduction strategies. The Draft EIR provides emissions calculations to determine the Project's annual GHG emissions inventory and comparison to Business as Usual (BAU) as shown in Table 4.5-3, *Estimated Annualized Unmitigated Project Greenhouse Gas Emissions and Comparison to BAU Scenario*. (Draft EIR page 4.5-28.) Therefore, as explained below, Project GHG emissions, which include construction GHG emissions, will be less than significant and, thus, no mitigation measure is required.

(2) Operations Impacts: The Project will redevelop the existing Project Site with a mixed-use development located near existing off-site commercial and retail destinations and in proximity to existing public transit stops. These characteristics are analyzed in the Draft EIR and that analysis demonstrates that the Project will result in reduced vehicle trips, VMT, and associated transportation-related GHG emissions, as well as air pollutant emissions, compared to the statewide and South Coast Air Basin average. (Draft EIR page 4.5-24.)

The California Air Pollution Control Officers Association (CAPCOA) has provided guidance for reducing emissions from land use development projects. In September 2010, CAPCOA released a guidance document titled Quantifying Greenhouse Gas Mitigation Measures, which provides emission reduction values for recommended reduction measures. The CAPCOA guidance document was utilized in the Draft EIR analysis for quantifying reductions due to the Project's land use characteristics and Project Design Features. (Id.) The land use characteristics of the Project which will result in a corresponding reduction in VMT and associated air pollutant emissions are:

- *Increased Density (Guidance Measure LUT-1)*: The Project is located in an urban infill location and is mixed-use. The Project will increase the Project Site density to approximately 157 dwelling units per acre and 29 jobs per acre (Draft EIR page 4.5-24 and Draft EIR Section 4.10, Population, Housing, and Employment).
- *Increased Destination Accessibility (Guidance Measure LUT-4)*: The Project is located in an area that offers access to multiple other nearby destinations, including restaurants, office, retail, residential uses and job centers. The access to multiple destinations in close proximity to the Project Site will reduce vehicle trips and VMT compared to the statewide and Air Basin average, encourage walking and non-automotive forms of transportation, and would result in corresponding reductions in transportation-related emissions. (Draft EIR page 4.5-25.)
- *Increased Transit Accessibility (Guidance Measure LUT-5)*: The Project is located in an urban infill location near multiple transit stops and is mixed-use. The Project Site is served by LADOT's Commuter Express, providing bus service to the greater Los Angeles area. Route 760, with a stop at the intersection of 7th and Alameda Streets, is located 0.05 miles south of the Project Site, and Route 18, with a stop at the intersection of 6th Street and Alameda Street 0.15 miles north of the Project Site, provide service to Downtown Los Angeles. Los Angeles Department of Transportation (LADOT) DASH bus lines are located within three-quarters of a mile, providing local access to the surrounding Downtown area via Downtown lines A, D and E, with stops at 7th/Los Angeles Street, 7th/Main Street, and E 4th Street/South Hewitt Street and within approximately a mile of the Little Tokyo/Arts District Metro Rail Station. (Draft EIR pages 4.5-25 and 4.5-26.) The Project will also provide access to on-site uses from existing pedestrian pathways and provide parking for bicycles on-site to encourage utilization of alternative modes of transportation. The increased transit accessibility will reduce vehicle trips and VMT versus the statewide and Air Basin average, encourage walking and non-automotive forms of transportation, and will result in corresponding reductions in transportation-related emissions. (Draft EIR page 4.5-26.)
- *Project Design Features*: The Project is designed and will be operated to meet or exceed the applicable requirements of the California Green Building Standards Code and the City's Green Building Code (PDF-GHG-1).

Existing operational GHG emissions currently generated from the Project Site were estimated using the CalEEMod (Version 2016.3.1) software, and are presented in Table 4.5-1, *Existing Project Site GHG Emissions*, and detailed in Appendix F of the Draft EIR. The Project's GHG emissions were calculated taking into account the Project's compliance with the portions of City's Green Building Code applicable to residential and mixed-use development. Additionally,

physical and operational Project characteristics for which sufficient data is available to quantify the reductions from building energy and resource consumption were included in the quantitative analysis, and include but are not limited to the following measures: installation of energy efficient appliances; low-water fixtures; water efficient irrigation; and reduced building energy usage to meet the Title 24-2016 standard. (Draft EIR page 4.5-28.) The maximum first operating year GHG emissions from operation of the Project are shown in Table 4.5-3, *Estimated Annualized Unmitigated Project Greenhouse Gas Emissions And Comparison To BAU Scenario*. The Project's emissions were compared to the BAU scenario emissions and the percent reduction represented by the Project's emissions was calculated. As shown in Table 4.5-3, the Project's GHG emissions represent a minimum of a 21.4 percent reduction in emissions as compared to the BAU scenario. With the implementation of the Project's green building measures and additional Project Design Features, the Project will achieve substantial GHG reductions as compared to the BAU scenario. The emission reductions necessary to achieve the 2020 emissions target of 427 MMT CO₂e would be 80 MMT CO₂e, or a reduction of GHG emissions by 15.4 percent. (Draft EIR page 4.5-30.) Additionally, Project operational-related GHG emissions will decline in future years as emissions reductions from the State's Cap-and-Trade program are fully realized as well as the requirement that all utility providers, including LADWP, meet their obligations to provide 33 percent of their electricity from renewable electricity sources by 2020 and compliance with more stringent combustion vehicle emissions standards, such as the model year 2017-2025 Pavley Phase II standards. (Draft EIR page 4.5-30.)

In addition to analyzing the reduction in GHG emissions versus the BAU estimates, the Draft EIR demonstrates that the Project will be consistent with regional and local trip and VMT reduction goals, actions and recommendations. Consistent with SCAG's RTP/SCS alignment of transportation, land use, and housing strategies, the Project will accommodate projected increases in population, households, employment, and travel demand by implementing smart land use strategies. The Project Site is an infill location close to jobs, housing, shopping and entertainment uses and in close proximity to existing and future public transit stops, which will result in reduced VMT, as compared to a project of similar size and with similar land uses at a location without close and walkable access to off-site destinations and public transit stops. The Project will also include a number of live/work units, on-site retail uses (grocery), restaurants and a fitness center which will reduce the number of trips travelling from home to work or home to retail uses. Also, as shown in Table 4.5-3, the Project will achieve reductions in transportation-related emissions of approximately 12% percent below the comparable BAU scenario. (Draft EIR page 4.5-31.)

Moreover, the Traffic Study prepared for the Project includes Transportation Demand Management (TDM) program mitigation measures to reduce significant transportation impacts (Mitigation Measure MM-TRAF-1.) These measures are consistent with City policies and procedures that support improvements that reduce greenhouse gas emissions by reducing the use of single-occupant vehicle trips, encourage developers to construct transit and pedestrian-friendly projects with safe and walkable sidewalks, and promote other modes of travel. (Draft EIR page 4.5-31.) Case studies of TDM program implementations are detailed in Appendix I of the Traffic Study (Appendix L of the Draft EIR). At places that had the most comprehensive programs, including both economic incentives and support services, the programs resulted in an average 24% reduction in commuter vehicles. Thus, as an achievable but conservative estimate, an overall TDM trip reduction credit of 10% was assumed for the Project. (Draft EIR page 4.5-31.)

Finally, the data from the City's Health Atlas provides additional support for the VMT reduction findings in the Draft EIR's analysis and also demonstrates that the Project's design and location are consistent with local and regional goals to reduce GHG emissions from transportation. The

Project's specific location, close proximity to high-quality transit, close proximity to other off-site retail, restaurant, entertainment, commercial, and job destinations, and highly walkable environment support the finding in that the Project has been properly located so that its development will achieve a reduction in VMT better than the City and statewide average. (Draft EIR page 4.5-32.)

The Draft EIR also evaluated the Project's GHG emissions based on the Project's design consistency with relevant goals and actions designated to encourage development that results in the efficient use of public and private resources. Draft EIR Table 4.5-4, *Consistency with Applicable City of Los Angeles Green LA Plan GHG Emissions Goals and Actions*, and Table 4.5-5, *Consistency with Applicable City of Los Angeles Sustainable City pLAn Goals*, which are incorporated into these Findings as though fully set forth herein, contain a list of GHG emission reduction strategies applicable to the Project. As discussed in Table 4.5-4 and Table 4.5-5, the Project is consistent with the applicable goals and actions. In addition, the Project will also result in GHG reductions beyond those specified by the City and will minimize its GHG emissions by incorporating energy efficient design features, and VMT reduction characteristics. Thus, as the Project's GHG emissions will be generated in connection with a development location and design that is consistent with the applicable City goals and actions for GHG emission reductions, the Project will result in less than significant GHG emissions and impacts and, therefore, no mitigation measure is required.

b) Consistency with GHG Plans, Policies, Regulations or Recommendations: As discussed above, the Project's estimated VMT reductions will be consistent with regional plans to reduce transportation-related GHG emissions as part of the overall statewide strategy under AB 32. The Project will also be consistent with and support the goals of the SCAG RTP/SCS, which seeks improved "mobility and access by placing destinations closer together and decreasing the time and cost of traveling between them." (Draft EIR page 4.5-43.) Incorporating development that encourages walking, biking, and transit use reduces vehicular demand and associated pollutants. Additionally, the SCAG RTP/SCS seeks better "placemaking," defined as "the process of developing options for locations where [people] can live and work that include a pleasant and convenient walking environment that reduces their reliance on their car." (Id.) The high scores for walkability and number of destinations available for non-motorized trips for the Project area within the Central City North Community Plan Area (as demonstrated by data from the City's Health Atlas) shows that the existing infrastructure and built environment is sufficiently developed that projects located in the area would be expected to achieve substantial and credible reductions in trip distances and overall VMT. The high employment density of the Central City North Community Plan Area supports the expectation that projects located in the area would provide high levels of walkability and high potential for transit usage by project residents, employees, and visitors. The high number of workers that commute to work by walking, biking, and public transportation in the Central City North Community Plan Area is additional proof that projects located in the area would provide access to more transportation choices for project residents, employees, and visitors and that projects would have a substantially greater level of transportation efficiency when compared to the Citywide and statewide average. Therefore, the Project will be consistent with the SCAG RTP/SCS goals and benefits intended to improve mobility and access to diverse destinations, provide better "placemaking," provide more transportation choices, and reduce vehicular demand and associated emissions. As such, the Project will be consistent with regional plans to reduce VMT and associated GHG emissions.

The Project's design will also comply with the City's goal to reduce GHG emissions by increasing energy-efficiency beyond the City's Green Building Code's requirements, reducing indoor and outdoor water demand, and installing energy-efficient appliances and equipment. The Project will

also incorporate characteristics that will reduce transportation-related GHG emissions by locating Project-related jobs and retail and restaurant, near residential and commercial uses and within a quarter-mile of high-quality transit including the Metro Gold Line, thereby encouraging alternative forms of transportation and pedestrian activity. These measures are consistent with the City's GHG reduction, sustainability, and smart-growth goals of improving energy and water efficiency in buildings, decreasing per-capita water use, using energy efficient appliances and equipment, and creating a more livable city. When implemented, the following planned City actions, as presented in the LA Green Plan, may further decrease emissions of GHGs from the Project. These actions are not under the control of the Project; however, they would nonetheless further reduce Project-related GHG emissions: (i) Decreasing emissions from Department of Water and Power electrical generation and import activities; (ii) Promoting walking and biking to work, within neighborhoods, and to large events and venues via pedestrian-friendly land use policies; and (iii) Expanding the regional rail network to reduce VMT. Table 4.5-6, *Consistency with Applicable Greenhouse Gas Reduction Strategies*, of the Draft EIR, which is incorporated by reference as though fully set forth herein, contains a list of GHG emission reduction strategies and addresses the Project's consistency. The analysis describes the consistency of the Project with these strategies. Furthermore, in addition to the Project's consistency with currently applicable GHG emission reduction strategies, the Project will not conflict with or impede the future statewide GHG emission reductions goals. (Draft EIR pages 4.5-43 and 4.5-44.)

Thus, the Project is consistent with the AB 32 goals and CARB guidelines for assessing GHG emissions. Further, the Project's location, land use characteristics and design is consistent with State, regional, and local regulations designed to reduce GHG emissions. Therefore, the Project is consistent with, and will not conflict with, applicable plans, policies and regulations adopted for the purpose of reducing GHG emissions, and its impacts would be less than significant and, thus, no mitigation measure is required.

Moreover, the Project is consistent with future anticipated GHG reduction strategies such as the more stringent vehicle mileage requirements discussed above. Additionally, the Project is consistent with and compatible with future reduction strategies such as expressed in Executive Orders S-3-05 and B-30-15. (Draft EIR page 4.5-57.) These executive orders are for the purpose of reducing GHG emissions to 1990 levels by 2020 and further establishes the goal of reducing emissions to 40 percent below 1990 levels by 2030 and 80 percent below 1990 by 2050. While the technology that will be developed to achieve those goals is not yet known, the Project's GHG has reduction characteristics will not impede such progress and, in fact, the Project can expect to benefit from further reductions in the future.

Therefore, for the reasons described above and more fully analyzed in the Draft EIR, Section 4.5, the Project's post-2020 emissions trajectory is expected to follow a declining trend, consistent with the establishment of the 2030 and 2050 targets. Consequently, as the Project is consistent with future anticipated applicable plans, policies and regulations adopted for the purpose of reducing GHG emissions, the Project's impacts regarding GHG reduction plans will be less than significant and, therefore, no mitigation measure is required.

c) Cumulative Impacts: A cumulatively considerable impact would occur where the impact of the Project in addition to the related projects would be significant. However, in the case of global climate change, the proximity of the Project to other GHG emission generating activities is not directly relevant to the determination of a cumulative impact because climate change is a global condition. According to CAPCOA, "GHG impacts are exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective." (Draft EIR page 4.5-49.) Moreover, although the State requires planning agencies

to consider how region-wide planning decisions can impact global climate change, there is currently no established non-speculative method to assess the cumulative impact of proposed independent private-party development projects. (Id.) However, the City has adopted a Green Building Code that includes mandatory measures to minimize and reduce GHG emission. As discussed, the Project will exceed those requirements and the related projects must at least meet the Green Building Code requirements.

Additionally, CEQA Guidelines state that a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project will comply with an approved plan or mitigation program that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area of the project. (14 CCR Section 15064(h)(3).) Therefore, since the Project will generate GHG emissions consistent with applicable reduction plans and policies, the Project's GHG emissions impacts are less than significant; and, since GHG emission impacts are cumulative in nature, the Project's incremental contribution to cumulatively significant GHG emissions will be less than significant. Accordingly, no mitigation measure is required.

5. References: For a complete discussion of impacts associated with Greenhouse Gas Emissions, please see Draft EIR Section 4.5 and Appendix F.

F. Hazards and Hazardous Materials (Except Residual Soil Contamination and Vapor Encroachment)

1. Description of Effects:

a) Demolition: The Project includes the demolition of the existing facility. During an inspection of the Project Site, a hazardous substance used for refrigeration compressor system and diesel fuel were observed on-site. Because the buildings date from 1984, asbestos (ACMs), which was banned from use in building materials in 1979, is considered unlikely to be present on-site. Similarly, because use of lead-based paints (LBPs) was banned in 1978, it is unlikely to be present on-site. Nonetheless, in the unlikely event that either, or any other hazardous materials, are found on-site, removal and disposal will be subject to specific and detailed regulatory requirements to ensure proper training, containment, handling, notification, and disposal and would be performed by a licensed abatement contractor.

b) Handling and Storage of Hazardous Materials: The Project will require the use of products for construction and operations that are routinely used for construction, residential and commercial activities consistent with regulatory requirements; it would not require the use of hazardous materials beyond these routinely used products. Construction materials such as paint, adhesives, surface coating and other finishing materials will be used, stored, and disposed of in consumer quantities and in accordance with applicable laws and regulations and manufacturers' instructions. No hazardous materials will be utilized during day-to-day operation of the Project other than typical household, restaurant, vehicle, pool, and landscape maintenance materials (i.e., cleaning supplies, paints, oil, grease, pesticides, herbicides, water disinfectants, fertilizers, etc.). The use of these materials will be in small quantities and in accordance with the manufacturers' instructions for use, storage, and disposal of such products which have been formulated to avoid substantial exposure hazards.

c) Emergency Preparedness: A project would result in a significant impact related to emergency preparedness if it would warrant a new, or interfere with an existing, risk management plan, emergency response plan, or evacuation plan, and does not provide new plans. The Project will not include a land use that would constitute a potential hazard to the community, nor will it close any existing streets or otherwise represent a significant impediment to emergency response and evacuation of the local area.

2. Project Design Features: The City finds that Project Design Feature PDF-TRAF-1, which is incorporated into the Project and incorporated into these Findings as though full set forth herein, will reduce the already less than significant emergency preparedness impacts of the Project. This Project Design Feature was taken into account in the analysis of potential impacts.

3. Findings: Changes or alternations have been required in, or incorporated into, the Project that avoid or substantially lessen potential significant environmental effects of emergency preparedness impacts of the Project to less than significant levels.

a) Demolition Impacts: Project impacts related to demolition will be less than significant. No mitigation measure is required.

b) Handling and Storage of Hazardous Materials: Project impacts related to the handling and storage of hazardous materials will be less than significant. No mitigation measure is required.

c) Emergency Preparedness Impacts: With implementation of Project Design Feature PDF-TRAF-1, Project impacts on emergency preparedness will be less than significant. No mitigation measure is required.

b) Cumulative Impacts (Except residual soil contamination and vapor encroachment): With implementation of Project Design Feature PDF-TRAF-1, the Project's cumulative impact related to demolition, handling and storage of hazardous materials and emergency preparedness will be less than significant. No mitigation measure is required.

4. Rationale for Findings: The Project will demolish all existing on-site improvements. To accommodate the new subterranean parking levels, the Project Site will be excavated to a depth of approximately 40 feet bgs, resulting in the excavation of approximately 185,000 cubic yards of soil material, all of which will be exported off-site. No Project design features related to hazards or hazardous materials have been identified for the Project. (Draft EIR page 4.6-17.) However, Project Design Feature PDF-TRAF-1, is incorporated into the Project to ensure the maintenance of emergency access and response during Project construction which would include any response needed as a result of the encounter or removal of hazardous materials.

a) Demolition Impacts: Based on the age of the existing improvements and the fact that ACMs and LBPs were banned as a building material prior to its construction, it is unlikely that the building contains ACMs or LBPs. (Draft EIR page 4.6-20 and Appendix G.) Nonetheless, in the unlikely event ACMs are discovered, the removal of ACMs will be subject to detailed SCAQMD and Cal-OSHA requirements to ensure proper training, containment, handling, notification, and disposal and would be performed by a licensed asbestos abatement contractor. Similarly, in the unlikely event LBPs are discovered, the removal of LBP will be subject to detailed Cal-OSHA requirements to ensure proper containment, handling,

notification, and monitoring and would be performed by a licensed LBP abatement contractor. (Draft EIR page 4.6-21.) Compliance with regulatory requirements will ensure that impacts associated with ACMs or LBPs and other lead-containing materials will be less than significant and, therefore, no mitigation measure is required.

During the field reconnaissance of the Project Site conducted for the Phase I/II environmental site assessment in late 2015, (Draft EIR Appendix G), no evidence was apparent of any of the following: hazardous substances spills (staining, residue, etc.); the past use, treatment, storage, disposal or generation of hazardous substances, strong, pungent or noxious odors; or stressed vegetation. (Draft EIR page 4.6-21) However, the Project Site is listed in the HAZNET database by Department of Toxic Substance Control (DTSC) for the periodic generation of waste oil and waste associated with the existing refrigeration compressors. Furthermore, a pad-mounted transformer was observed in the western portion of the property, an above-ground storage tank (AST) containing diesel was observed in the eastern portion of the property, three 55-gallon drums containing Mycold AB 68 were observed in the compressor room, and one 55-gallon drum containing CWT-3 was observed in the former compressor room in the western portion of the property. Diesel, Mycold AB 68, CWT, and any polychlorinated biphenyls (PCBs) in the transformer will be removed and disposed of in accordance with existing regulations which have been formulated to avoid a substantial exposure hazard. As part of standard construction practices, checking for the potential presence of PCBs in the transformer or any other oil-containing electrical devices (electrical transformers, fluorescent lamp ballasts, high voltage capacitors, high voltage electrical switches, high voltage circuit breakers, etc.) will occur, and if discovered the removal of such materials, would be carried out pursuant to the Toxic Substance Control Act (TSCA) (40 CFR 761) and the California Hazardous Waste Control Law (HWCL) (Health and Safety Code Sections 25100 et seq. and 22 CCR Sections 66260.1) (Draft EIR pages 4.6-11 and 4.6-21.) Pursuant to regulatory requirements, such checks will be performed at the time of building demolition. Compliance with regulatory requirements will ensure that impacts associated with these hazardous materials during construction will be less than significant and, therefore, no mitigation measure is required.

b) Handling and Storage of Hazardous Materials Impacts: Construction of the Project will involve the temporary use of hazardous substances in the form of paint, adhesives, surface coatings and other finishing materials, and cleaning agents, fuels, and oils. All materials will be used, stored, and disposed of in consumer quantities and in accordance with applicable laws and regulations and manufacturers' instructions. Furthermore, any emissions from the use of such materials will be minimal and localized to the Project Site. (Draft EIR page 4.6-22.) Therefore, construction of the Project will not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, nor exacerbate any existing hazardous condition. Accordingly, the Project's impact related to the use of hazardous materials during construction will be less than significant and, therefore, no mitigation measure is required.

Operations of the Project will consist of the typical, common activities associated with operation of residential, commercial (e.g., commercial, art production, grocery store, and restaurant) uses, and associated amenities (e.g., recreational facilities and open space). No hazardous materials will be utilized during day-to-day operation of the Project other than typical household, restaurant, vehicle, pool, and landscape maintenance materials (i.e., cleaning supplies, paints, oil, grease, pesticides, herbicides, water disinfectants, fertilizers, etc.). The use of these materials will be in small quantities and in accordance with the manufacturers' instructions for use, storage, and disposal of such products which have been formulated to avoid substantial exposure hazards. (Id.) Therefore, operation of the Project will not create a significant hazard to the public or the

environment through the routine transport, use, or disposal of hazardous materials, nor exacerbate any existing hazardous condition. Accordingly, the Project's impacts related to the use of hazardous materials during operation will be less than significant and, therefore, no mitigation measure is required.

c) Emergency Preparedness Impacts: The Project Site, and the greater City, are subject to the emergency preparedness requirements of the City's Safety Element. The Emergency Operations Organization (EOO) is the City department that implements the City's General Plan Safety Element. As shown in the Critical Facilities & Lifeline Systems Map of the City's General Plan Safety Element, S. Alameda Street is designated as a Selected Disaster Route, a primary thoroughfare for the movement of emergency response traffic and access to critical facilities during an emergency.

Project Design Feature PDF-TRAF-1 was designed to ensure the maintenance of emergency access and response during Project construction. This Project Design Feature requires the development of a detailed Construction Traffic Management Plan (CTMP), including street closure information, detour plans, haul routes, and staging plans, to be submitted to the City for its review and approval. The CTMP will be based on the nature and timing of the specific construction activities of the Project and other construction projects in the immediate area, to ensure that there is minimal interference with street use in connection with regular traffic and emergency preparedness plans and policies of the EOO.

The Project will include temporary construction activities (e.g., temporary lane closures, etc.) and traffic, which could potentially affect the S. Alameda Street disaster route. However, the construction activities will not require full street closures and most Project construction activities will be confined to the Project Site. (Draft EIR page 4.6-23.) Additionally, the Project Site is located in an established urban area that is well served by the surrounding roadway network, and multiple routes exist in the area for emergency vehicles and evacuation. Furthermore, as indicated in Sections 4.11.1, *Fire Protection*, 4.11.2, *Police Protection*, and 4.12, *Transportation and Traffic*, of the Draft EIR, Project construction activities will result in less than significant impacts to emergency access, response times and traffic with implementation of Project Design Feature PDF-TRAF-1. Because of the short-term nature of the construction activities, and with implementation of a CTMP, the Project's construction activities will not require a new, or significantly interfere with an existing risk management, emergency response, or evacuation plan. Under the Project, Alameda Street adjacent to the Project Site would still be available as a Disaster Route, even with the addition of Project traffic. No policy or procedural changes to an existing risk management plan, emergency response plan, or evacuation plan would be required. (Id.)

Furthermore, during an unanticipated disaster event, the EOO along with City Police and Fire Departments would implement operational protocols, as well as plans and programs, on a case-by-case basis to facilitate emergency evacuations and/or response, which would consider traffic conditions at the time of the emergency. In such instances, traffic would be routed along the City's numerous disaster routes, as determined appropriate, by the applicable responding City agencies. For these reasons, despite the Project Site being located along a designated Disaster Route, the Project will not warrant a new, or significantly interfere with an existing risk management plan, emergency response plan, or evacuation plan. (Draft EIR page 4.6-24.) As such, impacts regarding emergency preparedness would be less than significant and, therefore, no mitigation measure is required.

b) Cumulative Impacts (Except for residual soil contamination and vapor encroachment): The Project will not result in a cumulatively considerable impact related to ACMs, LBPs, or PCBs at adjacent properties. As indicated above, the existing on-site building was constructed after ACMs and LBPs were prohibited as building materials such that the demolition of the existing on-site building and other on-site improvements is not anticipated to emit ACMs or LBPs that could potentially represent a hazard to adjacent properties. Even if discovered, compliance with applicable regulatory requirements pertaining to ACM and LBP removal will ensure impacts in these regards are less than significant. Furthermore, while an existing on-site transformer may contain PCBs, compliance with applicable regulatory requirements and standard construction practices to confirm the presence/absence of PCBs and if discovered, properly remove and dispose of any PCBs that may be present, will ensure that removal of the existing buildings and transformer under the Project will not represent a potential hazard to adjacent properties. Similarly, given that the related projects will be subject to the same regulatory requirements, they will not have the potential to result in cumulatively considerable ACM-, LBP-, and/or PCB-related hazards impacts. (Draft EIR page 4.6-25.)

Project construction and operation will use, store, and dispose of routine hazardous materials in accordance with applicable regulations. All related projects will be subject to the same federal, State, regional, and local regulations pertaining to hazards and hazardous materials. If any of the related projects handle materials in excess of routine quantities, they will be required to comply with all regulatory mandates including filing notice with the LAFD in accordance with California's Hazardous Materials Release Response Plans and Inventory Law, which would detail the hazardous materials inventories used and stored on-site, a program of employee training for hazardous materials release response, identification of emergency contacts and response procedures, and reporting of releases of hazardous materials. (Id.) Based on the above, the Project will not result in a cumulatively significant impact related to the exposure of persons to substantial risk resulting from the handling, storage or release of hazardous materials or from exposure to a health hazard in excess of regulatory standards.

With regards to cumulative impacts on emergency preparedness, the City revises its emergency and evacuation plans on a periodic basis, as required, to address increased growth and changes in regulatory requirements. Furthermore, like the Project, each of the related projects would be required by the City to comply with applicable emergency response and evacuation plans. This includes the implementation of measures to avoid conflicts with such plans, such as the implementation of a construction traffic management plan to ensure that emergency access and response is maintained during construction activities, and the implementation of CEQA mitigation measures to avoid and/or minimize significant traffic impacts. (Draft EIR page 4.6-25.) With ongoing updating of emergency and evacuation plans by the City, and with compliance by related projects with the requirements specified above, the Project's cumulative impact on emergency preparedness will be less than significant and, therefore no mitigation measure is required.

5. References: For a complete discussion of impacts associated with Hazards and Hazardous Materials, please see Draft EIR Section 4.6 and Appendix G.

G. Hydrology and Water Quality

1. Description of Effects:

a) Hydrology (Drainage):

(1) Construction: Construction activities for the Project will include demolition of the existing buildings and hardscape, excavation for the subterranean parking, and construction of the Project. It is anticipated that up to approximately 185,000 cubic yards of soil will be graded and exported to construct the Project. These activities would have the potential to temporarily alter existing drainage patterns and flows on the Project Site by exposing the underlying soils, modifying flow direction, and making the Project Site temporarily more permeable. However, the temporary increase in permeable surfaces during Project construction will reduce rather than increase off-site runoff from the Project Site during construction.

(2) Operations: With Project implementation, due to Project landscaping, impervious surfaces at the Project Site will be reduced from approximately 100 percent to approximately 95 percent of the Project Site. Further, the Project will concentrate the stormwater runoff from the Project Site, which currently flows to the Mill Street storm drain but also sheet flows to Alameda and Industrial Streets, to the Mill Street storm drain and approximately 11,380 cubic feet of stormwater will be stored and infiltrated within the Project Site. Through the Project's new drainage and infiltration system, the Project will eliminate stormwater discharge to Alameda Street without increasing the volume discharged to Mill Street.

b) Surface Water Quality:

(1) Construction: Construction activities such as earth moving, maintenance and operation of construction equipment, potential dewatering, and handling, storage and disposal of materials could contribute to pollutant loading in stormwater runoff. However, with compliance with regulatory measures and implementation of best management practices (BMPs), the Project will reduce or eliminate the discharge of pollutants in stormwater runoff to the maximum extent practicable.

(2) Operations: The Project Site currently generates rainfall runoff from the on-site structures, surface parking lots, loading areas and hardscape areas. This drainage is conveyed into the adjacent streets untreated, making its way to the local municipal storm drainage system. The Project will comply with all relevant regulations regarding surface water quality including a storage and infiltration system which will result in a net reduction in stormwater runoff currently being discharged from the Project Site.

c) Groundwater Quality and Recharge:

(1) Construction: The Project is not expected to encounter ground water because groundwater is expected to occur at depths greater than 150 feet bgs while the maximum depth of construction activities is approximately 40 feet bgs. Nonetheless, if groundwater is encountered during construction, the Project will comply with all relevant regulatory measures regarding dewatering, treatment and disposal of groundwater. These measures will avoid adverse effects on surface water as well as groundwater quality. Additionally, compliance with all applicable Federal, State and local regulations will ensure safe handling and disposal of any hazardous soils or materials encountered during construction. As to groundwater recharging, the Project will be using municipal water supplies, not wells. As such, no dewatering is anticipated. However, if required, dewatering would be temporary and limited and not expected to permanently impact groundwater levels. Additionally, since the Project Site is currently approximately 100 percent impervious, construction of the Project will result in some recharging of the groundwater through infiltration.

(2) Operations: Operation activities will comply with all applicable regulatory measures to ensure that there will be no significant impact on groundwater including regulatory compliance measures regarding storage and treatment of runoff and usage of common hazardous materials such as cleaning solutions. The Project will be required to implement BMPs as a means of pretreatment prior to infiltration of the first flush or equivalent of rainfall in any storm event. The Project does not involve the use of any water from wells or other forms of groundwater extraction.

d) Cumulative Impacts: All of the related projects are located within the highly urbanized portion of the City's Arts District and, as such, the potential to generate a notable amount of new impermeable surfaces is limited. All related projects will have to comply with the same regulatory measures as the Project related to hydrology and water quality and will be evaluated by the City on a case-by-case basis to ensure that sufficient local and regional drainage capacity is available. The Project's potential for temporary extraction of groundwater would be minimal and, therefore, would not affect the long-term water table conditions in combination with the related projects.

2. Project Design Features: None.

3. Findings: Changes or alternations have been required in, or incorporated into, the Project that avoid or substantially lessen potential significant environmental effects of hydrology and water quality impacts of the Project to less than significant levels.

- a) Project construction and operational impacts on hydrology will be less than significant. No mitigation measure is required.
- b) Project construction and operational impacts on surface water quality will be less than significant. No mitigation measure is required.
- c) Project construction and operational impacts on groundwater quality and recharge will be less than significant. No mitigation measure is required.
- d) The Project's construction and operational contribution to cumulative hydrology and water quality impacts will be less than significant. No mitigation measure is required.

4. Rationale for Findings:

a) Hydrology Impacts: The Project Site is currently almost entirely covered with impervious surfaces. As a result, the Project Site does not currently contribute to groundwater recharge. (Draft EIR page 4.7-4.) The existing on-site drainage conditions, including the size, percent imperviousness, and existing stormwater runoff quantities for the 50-year storm (Q50 flow rate) for each of the three on-site drainage areas, are summarized in Draft EIR Table 4.7-1, *Existing On-Site Drainage Conditions*. As indicated therein, the Project Site currently generates an estimated 11.88 cubic feet per second (cfs) of stormwater runoff during the 50-year storm event.

The Project Site lies within Los Angeles River Watershed Reach 2 and drains indirectly to the Los Angeles (River) discharging into the San Pedro Bay. (Draft EIR page 4.7-2.) Constituents of

concern listed for this reach of the River under Section 303(d) of the California Clean Water Act (CWA) include cadmium (sediment), copper (dissolved), lead, selenium, zinc, E. Coli, and trash. Based on a Project Site investigation, it appears that the Project Site currently does not implement surface water quality BMPs, and apparently has no existing means of treatment for stormwater runoff. (Draft EIR page 4.7-4.)

(1) Construction: The temporary increase in permeable surfaces during Project construction will reduce rather than increase off-site runoff from the Project Site during construction since the Project Site is currently almost entirely covered with impervious surfaces. (Draft EIR pages 4.7-25 and 4.7-26.) Furthermore, the Project will be required to obtain the General Construction stormwater permit under the National Pollution Discharge Elimination System (NPDES). In accordance with the requirements of that permit, the Project will implement a Storm Water Pollution Prevention Plan (SWPPP) that specifies BMPs to be implemented during construction to manage runoff flows and avoid on- or off-site flooding. BMPs will be designed to reduce runoff during construction. The NPDES and SWPPP measures will contain stormwater or construction watering on the Project Site so runoff does not impact off-site drainage facilities. (Draft EIR page 4.7-26.) Also, the Project will be required to comply with all applicable City grading permit regulations that require necessary measures, plans, and inspections to control runoff from the construction site and avoid on- and off-site flooding during the construction period. Furthermore, construction activities will be temporary. (Id.) Thus, through compliance with all NPDES General Construction Permit requirements, including preparation of a SWPPP, implementation of BMPs, and compliance with applicable City grading regulations, the Project will not substantially alter the Project Site drainage patterns in a manner that would result in substantial flooding on- or off-site. Similarly, adherence to standard compliance measurements in construction activities will not cause flooding, substantially increase or decrease the amount of surface water flow from the Project Site into a water body, or result in a permanent, adverse change to the movement of surface water. (Id.) Thus, construction related hydrology and drainage impacts will be less than significant and, therefore, no mitigation measure is required.

(2) Operations: With Project implementation, impervious surfaces at the Project Site will be reduced from approximately 100 percent to approximately 95 percent of the Project Site. As indicated in Figure 4.7-2, *Proposed Drainage Conditions*, on-site drainage conditions under the Project will consist of a single drainage area draining via building roof drains, surface flow and subterranean drainage to one or the other (e.g., either the 16- or 21-inch) existing storm drains in Mill Street. The connection to the existing pipe network could be located at the back of an existing catch basin located at the eastern end of the Project Site along the Mill Street curb line. (Draft EIR page 4.7-26.) As indicated in Table 4.7-2, *Pre- and Post-Project 50-Year Frequency Peak Flow Rates*, the 50- year (Q50) peak flow rate of stormwater runoff from the Project Site is expected to decrease from the current 11.88 cfs to an estimated 11.85 cfs, with all of this flow controlled via diversion to the Mill Street storm drain. The Project will concentrate the stormwater runoff from the Project Site, which currently flows to the Mill Street storm drain but also sheet flows to Alameda and Industrial Streets, to the Mill Street storm drain. To meet the City's Low Impact Development (LID) ordinance requirements, approximately 11,380 cubic feet of stormwater will be stored and infiltrated within the Project Site. This represents a greater volume than the 50-year storm event runoff volume discharged to Alameda Street under the existing conditions (calculated to be 8,220 cubic feet). Therefore, as a result of the proposed storage and infiltration of stormwater within the Project Site, in addition to not increasing the 50-year peak flow rate from the entire Project Site, the Project will eliminate stormwater discharge to Alameda Street without increasing the volume discharged to Mill Street. (Draft EIR pages 4.7-26 and 4.7-27.)

Furthermore, as part of the required Project-specific Standard Urban Stormwater Mitigation Plan (SUSMP) for the Project to manage post-construction stormwater runoff, the Project will include the installation of catch basins, planter drains, and building roof drain downspouts throughout the Project Site to collect roof and Project Site runoff and direct stormwater away from structures through a series of underground storm drain pipes. This on-site stormwater conveyance system will serve to prevent on-site flooding and nuisance water on the Project Site. Also, with implementation of the proposed LID BMPs, the volume of water leaving the Project Site will be further reduced compared to existing conditions. (Draft EIR page 4.7-27.) In addition, no water bodies are located within the Project's nearby downstream area and, as such, the Project will not substantially reduce or increase the amount of surface water in a local water body. The incremental decrease in surface water runoff will not substantially affect surface water in any ultimate, receiving water body such as the River or San Pedro Bay. (Id.) Therefore, the Project will have a less than significant impact with respect to water surface levels in receiving water bodies. Thus, as shown in the Draft EIR and summarized above, the Project will not: (i) cause flooding during the 50-year developed storm event, which would have the potential to harm people or damage property or sensitive biological resources; (ii) substantially reduce or increase the amount of surface water in a water body; nor (iii) result in a permanent, adverse change to the movement of surface water sufficient to produce a substantial change in the current or direction of water flow. Thus, operations-related hydrology (drainage) impacts will be less than significant and, therefore, no mitigation measure is required.

b) Water Quality Impacts:

(1) Construction: Construction activities such as earth moving, maintenance and operation of construction equipment, potential dewatering, and handling, storage, and disposal of materials could contribute to pollutant loading in stormwater runoff. However, the Project will be required to obtain a permit under the NPDES General Construction Permit and, in accordance with the requirements of the permit, the Project Applicant will prepare and implement a site-specific SWPPP that will specify BMPs to be used during construction. BMPs will include, but will not necessarily be limited to: erosion control, sediment control, non-stormwater management, and materials management BMPs. (See Exhibit 1 of Appendix H, *Hydrology and Water Quality Report*, of the Draft EIR, for typical SWPPP BMPs). In addition, the Project will be required to comply with City grading permit regulations, which include standard measures, plans (including a wet weather erosion control plan if construction occurs during the rainy season), and inspections to reduce sedimentation and erosion. With implementation of these BMPs and compliance with regulations, the Project will reduce or eliminate the discharge of pollutants in stormwater runoff to the maximum extent practicable. Further, as discussed in Section 4.6, *Hazards and Hazardous Materials*, the Project will be required to implement a Soils Management Plan (SMP) per Mitigation Measure MM-HAZ-2, should future on-site soils assessments required under Mitigation Measure MM-HAZ-1 reveal chemicals of concern above applicable clean-up goals. The SMP would be implemented during excavation and grading activities on the Project Site to ensure that any contaminated soils are properly identified, excavated, and disposed of off-site. Through compliance with NPDES requirements, implementation of a SMP, and compliance with City grading regulations, construction of the Project will not result in discharge that would cause: (i) pollution that would alter the quality of the Waters of the State (i.e., the Los Angeles River and San Pedro Bay) to a degree that unreasonably affects beneficial uses of the waters; (ii) contamination of the quality of the waters of the State to a degree that creates a hazard to the public health through poisoning or through the spread of diseases; or (iii) nuisance that would be injurious to health; affect an entire community, neighborhood, or any considerable number of persons; or occurs during or as a result of the treatment or disposal of wastes. Additionally, construction activities will not result in discharges

that would violate regulatory standards in the Los Angeles River. (Draft EIR page 4.7-28.) Thus, construction-related, short-term impacts on surface water quality will be less than significant and, therefore, no mitigation measure is required.

(2) Operations: The Project Site currently generates rainfall runoff from the on-site structures, surface parking lots, loading areas and hardscape areas. This drainage is conveyed into the adjacent streets untreated, making its way to the local municipal storm drainage system. Stormwater runoff from the Project Site has the potential to introduce pollutants into the municipal storm drain system. Runoff from developed urban sites generally have the potential to contain pollutants such as nutrients, pesticides, organic compounds, sediments, oil and grease, suspended solids, metals, gasoline, pathogens, and trash and debris among other pollutants. The Project will be required to comply with regulatory measures including implementing a Project-specific SUSMP, compliance with the LID ordinance throughout the operational life of the Project, and compliance with other applicable City plans and regulations to, among other things, help achieve the water quality goals for the River and San Pedro Bay. As part of these requirements, the Project will prepare a SUSMP which will outline the stormwater treatment measures or post-construction BMPs required to control pollutants of concern. (Draft EIR pages 4.7-28 and 4.7-29.) In addition, consistent with LID requirements to reduce the quantity and improve the quality of rainfall runoff that leaves the Project Site, the Project will include the installation of a storage and infiltration system as established by the LID Manual. This storage and infiltration system will result in a net reduction in stormwater runoff currently being discharged from the Project Site. (Draft EIR page 4.7-29, Appendix H-2.)

As set forth in the LID Manual, infiltration facilities will be sized to capture and infiltrate the design capture volume based on the runoff produced from the greater between the 85th percentile storm event and the 0.75-inch storm event. Based on these requirements, the total storage volume needed within the Project Site was determined to be approximately 11,380 cubic feet. To achieve this storage volume, the Project will install an infiltration system supplemented by underground storage pipes. The pipes will temporarily store the captured stormwater until the stored volume is entirely infiltrated through the infiltrations systems. The infiltration facilities and underground pipes will be located underground below the paseo in the eastern half of the Project Site between the proposed building and Mill Street. Since the Project Site currently does not have structural BMPs for the treatment of stormwater runoff from the existing impervious surfaces, implementation of BMP systems proposed as part of the Project will result in a substantial improvement in surface water quality runoff from the Project Site. (Draft EIR pages 4.7- 29 and 4.7-30.)

In addition, the implementation of BMPs which will utilize the natural absorption and filtration characteristics of vegetated swales and pervious surfaces, will allow for more opportunities to direct stormwater to flow through the planting media where pollutants are filtered, absorbed, and biodegraded by the soil and plants, prior to infiltrating to the ground below. (Draft EIR page 4.7-30.) Based on the above, the Project will both reduce the quantity of stormwater currently being discharged from the Project Site and improve the quality of the stormwater that is discharged from the Project Site. Hence, with implementation of statutorily required BMPs such as those described above, operation of the Project will not result in discharges that would create pollution, contamination or nuisance as defined in Section 13050 of the CWC, or that would cause regulatory standards to be violated as defined in the applicable NPDES stormwater permit or Water Quality Control Plan for the receiving water body. Further, the Project will not adversely affect the rate or change the direction of movement of existing contaminants; or expand an area affected by contaminants. Thus, Project operational impacts on surface water quality will be less than significant and, therefore, no mitigation measure is required.

c) Groundwater Quality and Recharge Impacts:

(1) Construction: In regards to groundwater quality, because groundwater is expected to occur at depths greater than 150 feet bgs while Project excavation will not exceed approximately 40 feet bgs, the Project is not expected to require dewatering during construction. Nonetheless, if groundwater is encountered during construction, dewatering will be required. Dewatering, treatment, and disposal of groundwater will be conducted in accordance with the Los Angeles Regional Water Quality Control Board's (LARWQCB) Waste Discharge Requirements for Discharges of Groundwater from Construction and Project Dewatering to Surface Waters in Coastal Watersheds of Los Angeles and Ventura Counties. These measures will avoid adverse effects on surface water, as well as groundwater quality. Any contaminated soils found during construction will be captured within that volume of excavated material, removed from the Project Site, and remediated at an approved disposal facility in accordance with regulatory requirements and the SMP, as necessary. (Draft EIR page 4.7-31.)

Additionally, hazardous materials, such as fuels, paints, solvents, and concrete additives, could be used during on-site grading and building construction activities which will require proper management and, in some cases, disposal. The management of any resultant hazardous wastes could increase the opportunity for hazardous materials releases into groundwater. However, compliance with all applicable Federal, State, and local requirements concerning the handling, storage and disposal of hazardous waste, will reduce the potential for the construction of the Project to release contaminants into groundwater that could affect existing contaminants, expand the area or increase the level of groundwater contamination. (Draft EIR page 4.7-31.) In addition, there are no groundwater production wells or public water supply wells within one mile of the Project Site and Project construction activities will not affect existing wells. Therefore, the potential of the Project to release contaminants will not cause a violation of regulatory water quality standards at an existing production well. (Id.) Thus, the Project will not result in any substantial increase in groundwater contamination through hazardous materials releases and impacts on groundwater quality will be less than significant and, therefore, no mitigation measure is required.

As to groundwater levels and recharge, water use during Project construction will be limited and temporary in nature, and will be obtained from the City's municipal water system rather than from wells. Furthermore, while dewatering is not expected to be required during construction due to the relatively deep historic depth of the local groundwater table. If required, dewatering would be temporary and not be expected to substantially or permanently impact groundwater levels. Furthermore, construction activities will not result in depleting the groundwater since Project construction activities (at least during building removal, excavation and grading) will substantially increase pervious surfaces and the infiltration of rainwater to groundwater at the Project Site. (Draft EIR page 4.7-32.) Thus, Project construction activities will not substantially affect groundwater levels/recharge, and impacts on groundwater levels/recharge will be less than significant and, therefore, no mitigation measure is required.

(2) Operations: Operational activities which could affect groundwater quality include spills or hazardous materials and leaking underground storage tanks. Surface spills from the handling of hazardous materials most often involve small quantities and are cleaned up in a timely manner, thereby resulting in little threat to groundwater. In addition to the underground LID infiltration BMP systems described above, multiple underground stormwater storage pipes/tanks will be operated by the Project. All underground facilities will be installed and maintained in compliance of all applicable regulations. (Draft EIR page 4.7-32.) Thus, operation

of underground facilities on the Project Site will result in a less than significant impact on groundwater quality and, therefore, no mitigation measure is required.

In addition, while the development of the Project's uses will include the use of common hazardous materials (cleaning solutions, etc.), compliance with all applicable regulations at the Project Site will prevent the Project from affecting or expanding any potential areas of contamination, increasing the level of contamination, or causing regulatory water quality standards at an existing production well to be violated, as defined in CCR, Title 22, Division 4, Chapter 15 and the Safe Drinking Water Act. (Draft EIR page 4.7-32.) Furthermore, operation of the Project will not require extraction from the groundwater supply based on the depth of excavation for the proposed uses and the depth of groundwater below the Project Site. The Project does not include the installation or operation of water wells, or any extraction or recharge system that is in the vicinity of the coast, an area of known groundwater contamination or seawater intrusion, a municipal supply well or spreading ground facility. The Project does not include surface or subsurface application or introduction of potential contaminants or waste materials during construction or operation. The Project is not anticipated to result in releases or spills of contaminants that could reach a groundwater recharge area or spreading ground or otherwise reach groundwater through percolation. Additionally, the Project will include the installation of structural BMPs as a means of pretreatment prior to infiltration of the first flush or equivalent of the greater between the 85th percentile storm event and the first 0.75-inch of rainfall for any storm event, which will allow for treatment of the on-site stormwater prior to potential contact with the groundwater below. (Id.) Accordingly, the operation of the Project will result in a less than significant impact on groundwater quality and, therefore, no mitigation measure is required.

As to groundwater levels and recharge, as the Project will not include water wells or other forms of groundwater extraction and water for the Project will be provided by the City's municipal water system. Also, due to Project landscaping, the infiltration of rainwater to the groundwater at the Project Site will marginally increase rather than decrease under the Project. (Draft EIR page 4.7-33.) Furthermore, the Project's storm drainage system will include an infiltration system which will infiltrate a portion of the stormwater runoff generated at the Project Site into the ground, thereby reducing peak runoff flows from the Project Site and reducing the amount of urban contaminants in that runoff. This infiltration system will have the added benefit of diverting into the ground some rainwater which is currently going onto the streets and into the City's storm drain system to the ground, thereby marginally increasing groundwater levels/recharge. (Id.) Lastly, since the groundwater level is significantly below the Project's excavation, it is not anticipated that the Project will require permanent dewatering, such that no dewatering impacts on groundwater levels/recharge will occur. (Id.) Thus, Project operations-related impacts on groundwater levels/recharge will be less than significant and, therefore, no mitigation measure is required.

d) Cumulative Impacts: As identified in Section 3, *General Description of Environmental Setting*, of the Draft EIR, there are 163 related projects within the vicinity of the Project. These projects could potentially increase the volume of stormwater runoff and contribute to pollutant loading in stormwater runoff, resulting in cumulative impacts to hydrology and water quality. However, as with the Project, all of the related projects are located within or near the highly urbanized portion of City's Arts District, which includes mostly hard surface project sites. Accordingly, the potential to generate a notable amount of new impermeable surfaces is limited. (Draft EIR page 4.7-33.) Pursuant to the City's LID Ordinance, the related projects will be required to capture and manage the first three-quarters of an inch of runoff flow during storm events as defined in the City's SUSMP BMPs, through one or more of the City's preferred SUSMP improvements: on-site infiltration, capture and reuse, or biofiltration/biotreatment BMPs, to the maximum extent feasible. Similarly, because most of the

related project sites are already developed with impervious surfaces, and would receive water from the City's Department of Water and Power rather than from private wells, development of the related projects is not be expected to have a measurable effect on groundwater levels/recharge or groundwater quality. Furthermore, the related projects will be subject to State NPDES permit requirements for both construction and operation. Each project greater than one-acre in size would be required to develop SWPPPs and will be evaluated individually to determine appropriate BMPs and treatment measures to avoid impacts to surface water quality. (Id.) Smaller projects would be minor infill projects with drainage characteristics similar to existing conditions, with negligible impacts. In addition, the City's Department of Public Works reviews all construction projects on a case-by-case basis to ensure that sufficient local and regional drainage capacity is available. (Id.) Thus, regulatory measures will avoid significant impacts on drainage/flooding conditions and the quality of water reaching the public drainage system. As a result, the Project's contribution to cumulative hydrology and water quality impacts will be less than significant and, therefore, no mitigation measure is required.

5. References: For a complete discussion of impacts associated with Hydrology and Water Quality, please see Draft EIR Section 4.7 and Appendices H-1 and H-2.

H. Land Use and Planning

1. Description of Effects:

a) Consistency with Applicable Plans and Policies: The development of the Project is subject to numerous land use plans, as well as the development regulations in the City's Planning and Zoning Code. With approval of the Project's requests for a General Plan change from Heavy Manufacturing/Industrial to Regional Center Commercial and zoning change from M3-1-RIO to CR-2-RIO, the Project will be brought into consistency with the Community Plan and the LAMC, and the Project will be consistent with the applicable plans and regulations including the City's General Plan Framework, Do Real Planning and related Walkability Checklist, Central City North Community Plan, LAMC, and the 2010 Bicycle Plan and Mobility Plan 2035.

b) Cumulative Impacts: There are 163 related projects, a number of which are specifically within the Arts District, an area that has been transforming from a predominately industrial area to one that is primarily made up of old warehouse converted to artists' lofts and studios. The related projects combined with the Project will provide housing and employment in the Arts District. The change from industrial uses to mixed-use or commercial projects that is occurring within the Arts District, including high density residential uses, will not conflict with the applicable plans and goals to revive properties within the Arts district and to place mixed-use project within close proximity to public transit.

2. Project Design Features: None.

3. Findings: Changes or alternations have been required in, or incorporated into, the Project that avoid or substantially lessen potential significant environmental effects of Land Use and Planning impacts of the Project to less than significant levels.

a) Consistency with Applicable Plans and Policies: Project impacts related to consistency with applicable plans and policies will be less than significant. No mitigation measure is required.

b) Cumulative Impacts: Project cumulative Impacts related to land use and planning will be less than significant. No mitigation is required.

4. Rationale for Findings:

a) Consistency with Applicable Plans and Policies:

The Project Site is located within the Central City North Community Plan Area, the River Improvement Overlay District, and the East Los Angeles State Enterprise Zone. The General Plan land use designation for the Project Site is Heavy Manufacturing/Industrial. The Project Site is zoned M3-1-RIO. The "M3" (Heavy Industrial) Zone permits a wide range of industrial and manufacturing uses prevalent in the area such as warehouse, cold storage, and food processing. The M3 Zone also permits commercial and office uses. The "1" indicates Height District 1, which establishes an FAR of 1.5:1. The "RIO" indicates that the Project Site is located within the River Improvement Overlay District, established by Ordinance Nos. 183144 and 183145 to support implementation of the Los Angeles River Revitalization Plan and establishes landscaping, design criteria, and administrative review procedures for projects within the RIO. The East Los Angeles State Enterprise Zone was established to stimulate local investment. (Draft EIR pages 4.8-1 and 4.8-2.)

The Arts District is not a formal zone or land use designation but a movement that evolved as the City's need for low-cost industrial and commercial space for joint art production/living space grew. The availability of low-cost industrial space in the Downtown area gave rise to such uses as art studios combined with living quarters and, thus, the Arts District arose as a land use concept. When published in 2000, the Central City North Community Plan's definition of an Artists in Residence District reflected the demand and the area of interest (industrial area) for such live/work units at that time. Subsequent to the publication of the Central City North Community Plan, the "Your Downtown Vision Plan" was published by the Downtown Los Angeles Neighborhood Council, further reflecting the continued demand for live/work space. As shown in that plan, the need for live/work space has expanded beyond the former area into the contiguous industrial area in the Project vicinity. Because of the proximity to the core of downtown, the availability of often underutilized industrial land, and the growing housing need, the City's understanding of the location of the Arts District has been expanded beyond that shown in the Central City North Community Plan and is reflected in the more current "Your Downtown Vision Plan." Although the Arts District is not one of the seven subareas or districts designated in the Central City North Community Plan, it is widely acknowledged as an area within the Central City North Community Plan. The current draft update of the Community Plan, known as DTLA 2040, reflects the many years of industrial conversion to creative live/work and commercial uses in the area, as it proposes a hybrid industrial zone that covers most of that area that is known as the Arts District.

Additionally, the City enacted the Hybrid Industrial Ordinance which established the Hybrid Industrial Live/Work (HI) zoning classification adjacent to the Project Site. Although that ordinance has been invalidated, since it represents the development standards goals of the City, the Project has nevertheless incorporated some of the development standards set forth in the HI Ordinance in order for the design of the Project to appropriately address the context of the Arts District's neighborhood form and character.

Over the past two decades, the area in the vicinity of the Project Site has been transforming from a predominately industrial area to one that is primarily made up of old warehouses converted to artists' lofts and studios. Recently this area has been experiencing an increase in unique and

creative commercial uses such as creative spaces, retail shops, galleries, studios, museums, restaurants, and bars that have blended well with the existing industrial and manufacturing uses and growing residential population. (Draft EIR page 4.8-2.) In general, the land uses within the vicinity of the Project Site are characterized by a mix of low- to medium-intensity industrial, commercial, and mixed-use buildings, which vary widely in building style and period of construction. The Los Angeles County Metropolitan Transportation Authority – Division 1 Natural Gas Fueling Station and bus yard are located west of the Project Site across S. Alameda Street. Uses to the north across Industrial Street include Union Central Cold Storage warehouse that is proposed for demolition for the development of the Industrial Street Lofts (Related Project 36). Further north along S. Alameda Street are wholesale food and produce warehouses, recently converted to live/work spaces, and small-scale restaurant/café spaces located towards 6th Street. Directly east of the Project Site and west of Mill Street, are wholesale food warehouses. Northeast and east of Mill Street are one- to two-story industrial uses, and adaptive reuse structures now occupied by retail shops, restaurants, bars, and creative offices and studios. To the south of the Project Site are low-rise commercial uses, including a McDonald's restaurant with a drive-through service, the Para Los Niños Charter School, the Institute of Contemporary Art Los Angeles Museum, LA Central Market and a vacant eight-story structure. South of 7th Street is a Greyhound bus terminal, a produce market, Metropolitan High School, and the ROW DTLA, a seven-story, 30-acre site of historic structures recently converted to include creative office and studio space, retail shops, and restaurants. (Id.)

The Project will provide for much needed housing near public transit through approximately 475 live/work units, including a fitness facility, clubhouse, residential lobby and gallery space. Though its commercial/retail space, arts and production space, grocery store, and restaurant uses, the Project will activate the streetscape by orienting ground-level commercial uses toward S. Alameda and Industrial Streets. Street trees will be provided within the S. Alameda Street and Industrial Street rights of way. The Project will add 44,623 sf of open space, of which 14,537 sf will be open space accessible to the public. Public open space will include The Lookout plaza on Industrial Street. This plaza will be located opposite a sidewalk “bump-out” extension that will have landscaping, seats, tables, and an artistic focal point and provide a staircase with secured access to the live/work terraces on Level 2. The Project will also include The Mews which consists of two intersecting paseos on the ground level that provide a publicly accessible connection between Industrial Street and Mill Street. The Mews will also include shaded, landscaped walkways that would incorporate art of different mediums, seating areas, and kiosks. (Draft EIR page 4.8-21.) In order to implement the Project, several entitlements approvals are needed including: (i) a General Plan Amendment from Heavy Manufacturing/Industrial to Regional Center Commercial; (ii) a Vesting Zone Change from M3 to C2; and, (iii) a Height District Change from Height District No. 1 to Height District No. 2. With approval of the requested entitlements, the Project will be substantially consistent with, and will not substantially impede implementation of, adopted land use plans, policies, guidance, and regulation adopted for the purpose of avoiding or mitigating an environmental effect as more fully analyzed in the Draft EIR Section 4.8, *Land Use*, and summarized below:

City General Plan Framework. The General Plan Framework sets forth Citywide comprehensive long-range growth strategy and establishes Citywide policies regarding land use, housing, urban form, neighborhood design, open space and conservation, economic development, transportation, infrastructure, and public services. General Plan Framework land use policies do not override or supersede the more detailed community plans and specific plans. Table 4.8-1, *Comparison of the Project to Applicable Policies of the General Plan Framework*, of the Draft EIR, which is incorporated by reference as though fully set forth herein, and summarized in part below, evaluates the consistency of the Project with objectives and policies of the General Plan

Framework. As discussed in Table 4.8-1, the Project is consistent with applicable objectives and policies of the General Plan Framework in that, among other characteristics, the Project will provide: (i) live/work housing units to meet the housing needs of the Arts District as well as commercial/retail space including retail and restaurant uses and a full service grocery store to meet the needs of the growing residential community in an area which has none; (ii) private and public open space including publically accessible landscaped open space, as well as shaded seating areas and public art and street landscaping to enhance the current area which is significantly devoid of landscaping and public amenities; (iii) a mixed-use development within close proximity to public transit and with bicycle parking and facilities to encourage use of alternative forms of transportation, as well as creating publically accessible public open space, paseos, and street level retail and restaurant uses to encourage pedestrian traffic; and, (iv) a development that is consistent in the scale and character of Arts District through ground level retail, landscaping and a building which is similar in height and character to the nearby ROW DTLA project.

These Project characteristics meet the relevant objects of the General Plan Framework since they work together to: accommodate a diversity of uses that support the needs of the City's existing and future residents, businesses, and visitors; contribute to the concentration of live/work units and commercial uses in the Arts District as well as retail, restaurant and entertainment activities within walking distance and via nearby public transit; provide new multi-family residential, retail and commercial development near public transit; implement landscape and amenities that enhance pedestrian activity; enhance the livability of the neighborhood by enhancing the appearance of the area with quality architecture, landscaping, streetscape and street trees while maintaining the character and scale of the Arts District; and, establish land uses that provide for commercial development which meets the needs of local residents, sustains economic growth and assures maximum feasible environmental quality. (Draft EIR pages 4.8-24 to 4.8-27.) Therefore, since the Project is consistent with applicable policies of the General Plan Framework, impacts with respect to consistency with the General Plan Framework will be less than significant and, thus, no mitigation is required.

Health and Wellness Element (Plan for a Healthy Los Angeles). This Plan provides a high-level policy vision, along with measurable objectives and implementation programs, to elevate health as a priority for the City's future growth and development. Draft EIR, Table 4.8-2, *Comparison of the Project to Applicable Policies of the Health and Wellness Element (Plan for a Healthy Los Angeles)*, which is incorporated by reference as though fully set forth herein, and summarized in part below, evaluates the consistency of the Project with the applicable portions of the Health and Wellness Element. As stated in Table 4.8-2, the Project will be consistent with the policies and objectives of the Health and Wellness Element in that it will provide approximately 44,623 square feet of open space, of which 14,537 square feet will be open space accessible to the public and which includes open plazas for tenants and the public, landscaped paseos and street level retail uses, restaurants and a full service grocery store all of which will enhance pedestrian-oriented circulation; all of which further healthy living goals, among others. The Project will comply with the California Green Building Code and the City's Green Building Code and have design features that will contribute to energy efficiencies such as, without limitation, the use of materials and finishes that emit low quantities of volatile organic compounds, or VOCs, the installation of heating, ventilation, and air conditioning (HAVC) systems that utilize ozone-friendly refrigerants, and high-efficiency appliances, all of which reduce GHG emissions. The Project will provide 581 bicycle spaces, including 77 short-term and 504 long-term spaces, as well as a workspace for bicycle maintenance which will encourage the use of bicycles in lieu of motorized transportation and thus support community health. (Draft EIR page 4.8-29.) Also, the Project will assist in the reduction of GHG emissions by being situated near various forms of public transit, compliance with the

Green Building Codes and, among other features, provide a cool roof, electric vehicle spaces and motion sensors in common areas (See Draft EIR Sections 4.2, *Air Quality*, and 4.3, *Greenhouse Gas Emissions*.) Thus, since the Project is consistent with the relevant policies of the Health and Wellness Element, Project impacts with respect to consistency with the Health and Wellness Element will be less than significant and, therefore, no mitigation measure is required.

Central City North Community Plan. The Project Site is located within the boundaries of the Central City North Community Plan in an area designated as “Heavy Industrial,” which corresponds to the M3 zone. The M3 Zone is cumulative in that it allows all uses allowed in less intensive industrial zones as well as most uses allowed in the C2 zone. Draft EIR Table 4.8-3, *Comparison of the Project to Provisions of the Central City North Community Plan*, which is incorporated by reference as though fully set forth herein, and summarized in part below.

The Central City North Community Plan includes objectives, goals in furtherance of those objectives, and policies in furtherance of the goals and objectives. The applicable objectives, goals and policies include those related to commercial development, industrial uses, artists-in-residence development, open space resources, encouraging bicycle and public transit use and pedestrian mobility, and provision of adequate parking. The Project is consistent with these goals in that it is comprised of a mixed-use development with live/work units that will provide new employment opportunities through the additional of commercial/arts and production space to the existing industrial setting. Additionally, the Project is designed to be compatible with the industrial theme of the area, as well as providing open space which is landscaped including seating and shading, street trees, and paseos which do not currently exist on the Project Site. It will also promote use of nearby transit facilities, bicycle usage and pedestrian amenities. It will further enhance the industrial area through the removal of exposed transformers, existing utility poles and chain link/barbed wire fence and it will bury utility lines. Although the Project Site will be rezoned from M3 to C2 to allow for a broader range of interrelated commercial uses, the Site is intended primarily for art production. As such, it will provide an employment base for community residents and increase employment over the current use. The Project will also develop ground floor and street-oriented commercial uses; provide adequate public services, utilities, and open space to meet anticipated demands; coordinate land use with transportation planning; preserve open space and views; and support pedestrian activity and bicycle networks. (Draft EIR pages 4.8-29 to 4.8-31.) Thus, since the Project will not conflict with the applicable objectives of the Central City North Community Plan, impacts with respect to consistency with the applicable Central City North Community Plan policies and objectives will be less than significant and, therefore, no mitigation measure is required.

City of Los Angeles Municipal Code (LAMC). The LAMC, Chapter 1 (Planning and Zoning Code) identifies a range of zoning classifications throughout the City, identifies the specific permitted uses applicable to each zone designation, and defines development standards applicable to each zone. Draft EIR Table 4.8-4, *Comparison of the Project to Applicable Land Use Regulations of the LAMC*, which is incorporated as though fully set forth herein, and summarized in part below, evaluates the consistency of the Project with applicable policies of the LAMC. The Project Site is zoned M3-1-RIO. As with many zoning designations in the LAMC, the M3 zone is cumulative in that it permits uses in less intense M (Industrial) zones and the C2 zone, except for certain accessory buildings (see LAMC Section 12.20A.1(a)). The requested General Plan amendment will change the General Plan designation on the Project Site from Heavy Manufacturing/Industrial to Regional Center Commercial. The requested Zone Change will change the zoning on the Project Site from M3 to C2. The C2 zone allows a range of commercial uses as well as residential uses. Pursuant to LAMC 12.22.A.18(a), developments that combine residential and commercial uses that are located in a C zone in a Regional Center land use designation are permitted at an

R5 residential density of 200 dwelling units per acre. Therefore, up to 816 units would be allowed on the approximately 3.75-acre Project Site. However, the “1” portion of the zoning designation indicates that the Project Site is located within Height District 1, which establishes a maximum Floor Area Ratio (FAR) of 1.5:1 in manufacturing zones. (Draft EIR pages 4.8-31 and 4.8-32.) The requested Zone Change from M3-1 to C2-2 (Height District 2) would allow for an increase in the maximum FAR from 1.5:1 to 3.55:1 needed to accommodate the range of the Project’s uses. The C2 zone would also permit the requested residential density and live/work land use. Section 419 of the Los Angeles Building Code permits the construction of live/work units that allow home occupations with up to five non-residential employees per unit, so long as the residential and commercial uses within the live/work unit are permitted by its zone. The Project will be consistent with the amended General Plan and the allowable floor area. (Draft EIR page 4.8-33.) As such, impacts with respect to the LAMC’s zoning restrictions will be less than significant.

The Project will comply with the RIO Zoning Ordinance. The purpose of RIO Overlay districts is to support the goals of the Los Angeles River Revitalization Plan, particularly on streets leading to the River or interfacing the River. The east edge of the Project Site at Mill Street is located approximately 0.4 mile from the River. Industrial Street and S. Alameda Street do not interface with the River or meet or cross the River and as such, the Project will not affect pedestrian or bicycle access or views of the river. In accordance with the Overlay Zone Ordinance, the Project will submit a landscaping and other plans. The Project will also meet the LID requirements and other SUSMP requirements of the Overlay Zone (see Section 4.7, *Hydrology and Water Quality*, of this Draft EIR). (Draft EIR page 4.1-54.) Because the Project will comply with the requirements of the RIO District Overlay Zone Ordinance, the Project will be consistent with the requirements of this adopted plan.

As shown in Table 4.8-4, the Project will also be consistent with the provisions of the LAMC related to the C2 zone. Furthermore, the Project will require Site Plan Review by the Department of City Planning prior to the issuance of any grading or building permits to ensure full compliance. (Draft EIR page 4.8-33.) Thus, since the Project will be consistent with applicable land use regulations of the LAMC, impacts with respect to consistency with the LAMC will be less than significant and, therefore, no mitigation measure is required.

Hybrid Industrial Live/Work Zone (HI Zone). The HI Zone, which was adjacent to the Project, is not currently in effect due to a successful challenge on the environmental clearance for the zone. Nonetheless, the design standards set forth in the HI Zone were not challenged and represent the general opinion of the City as to the desired design parameters within the HI Zone. Therefore, because of the similarity of uses between the HI Zone and the Project, for informational purposes only, a comparison of the Project to the requirements of the HI Zone is provided in the Draft EIR Table 4.8-5, *Comparison of the Project to Policies of the Hybrid Industrial Live/Work Zone*, which is incorporated by reference as though full set forth herein. As shown in Table 4.8-5, the Project will be substantially consistent with building height, use of live/work units, density bonus for the inclusion of restricted affordable units, public open space, paseos and pedestrian plaza, public art, gallery space, façade transparency, concealed trash, enclosed parking facilities, and signage design standards of the HI Zone. (Draft EIR page 4.8-33.) However, because HI Zone requirements are not applicable to the Project since the Project is only adjacent to the HI Zone and because the ordinance creating the HI Zone was recently invalidated, the Project will have no impact with respect to the standards set forth in the HI Zone and, therefore, no mitigation measure is required.

Do Real Planning. The City Planning Commission’s Do Real Planning document includes fourteen guidelines intended to set the City on a course toward sustainability. Many of the

guidelines address procedures for the operation of the Department of City Planning or issues isolated to specific settings and types of Projects that are different from the Project. However, of the fourteen guidelines, several address planning concepts that are applicable to the Project. Guidelines of particular note are those that pertain to location of land uses and density, walkability/site design/parking location, and green design with abundant landscaping. The Draft EIR Table 4.8-6, *Comparison of the Project to Applicable Guidelines of Do Real Planning*, which is incorporated by reference as though fully set forth herein, evaluates the consistency of the Project with applicable policies of the Do Real Planning document. (Draft EIR pages 4.8-35 and 4.8-36.) In summary, the Project is consistent with the applicable Guidelines in that it is designed to respond to the surrounding neighborhood through massing, articulation and the use of building materials that blend with the warehouse and industrial buildings in the immediate surrounding; it provides an abundance of landscaping including a total of 123 trees; it arrests the visual blight of the Project Site by removing above ground utilities, chain link/barbed wire fencing, and a fortress-line set of buildings and replacing it with a new high quality building, ground level retail, restaurant and grocery store uses, landscaped open spaces and paseos, and upgraded sidewalk and lighting; it provides housing and employment density around nearby public transit; it locates jobs near housing with its live/work units; it will meet green building requirements; and, it will include interior and subterranean parking, including vehicle parking, to meet smart parking requirements. Thus, since the Project will be consistent with the applicable Guidelines, it will be in substantial compliance with the Planning Commission's Do Real Planning Guidelines. Therefore, impacts will be less than significant and, thus, no mitigation measure is required.

Walkability Checklist. The City's Walkability Checklist for Site Plan Review (Walkability Checklist) is a guide that specifies urban design guidelines for projects required to undergo Site Plan Review. The Walkability Checklist consists of a list of recommended design elements intended to improve the pedestrian environment, protect neighborhood character, and promote high quality urban form. The suggested design guidelines are consistent with the General Plan and supplement applicable Community Plan requirements, but are not mandatory. The guidelines address such topics as building orientation, building frontage, landscaping, off-street parking and driveways, building signage, and lighting within the private realm; and sidewalks, street crossings, on-street parking, and utilities in the public realm. The Project's design is compared to the objectives and goals of the City's Walkability Checklist in Draft EIR Table 4.8-7, *Comparison of the Project to the Objectives and Goals of the Walkability Checklist*, which is incorporated by reference as though fully set forth here. In summary, the Project is consistent with the Walkability Checklist in that it supports ease of pedestrian movement and enriches the public realm by providing open space, two intersecting paseos on the ground level that provide public access between Industrial Street and Mill Street and which are landscaped and shaded and including seating, kiosks and art work, the Lookout Plaza and other public and private open space, all of which delineate the pedestrian corridor and provide for pedestrian safety and comfort, provide landscaping, and arresting blight. The Project also provides housing and employment near public transit, locates housing near jobs, and incorporates green building standards. (Draft EIR pages 4.8-36 and 4.8-37.) The Project is also consistent with the Walkability Checklist is that it supports retaining on-street parking while providing off-street parking for vehicles and bicycles; supports the eliminate of blight from above-ground utilities; uses the relationship between the building and the surrounding streets to improve neighborhood character including siting neighborhood uses at ground level; enhances the neighborhood through extensive landscaping including street trees, a plaza a sidewalk bump-out and seating, tables and public art; and, complements the surrounding neighborhood through adding visual interest while maintaining a contributing to the character of the Arts District and strengthening the pedestrian experience through signage and lighting and views beyond the sidewalk. (Draft EIR pages 4.8-37 to 4.8-43.) Thus, the Project will be consistent with Walkability

Checklist objectives and goals. As a result, impacts will be less than significant and, therefore, no mitigation measure is required.

Los Angeles Industrial Land Use Project (ILUP). The ILUP provides direction and guidance to City staff regarding the handling of industrially zoned properties. Industrial zoned lands are defined as those occupied by active and productive businesses that provide employment and services to City residents. (Draft EIR page 4.8-10.) Under the ILUP, the City's industrially zoned lands are categorized under four typologies including the Industrial Mixed-Use which are areas that should remain as predominantly industrial/employment districts, but which may support a limited amount of residential use such as that allowed in the Artist-in-Residence District which is adjacent to the Project Site in the Arts District. (Draft EIR page 4.8-11.)

The Project Site is consistent with the Industrial Mixed-Use typology designation which supports maintaining existing industrial properties as predominantly industrial/employment, but which allows that they may support a limited amount of residential uses. The Project's 475 live/work units and 15,815 sf of arts and production/commercial floor area will allow for creative employment/production for residents of the Project. As discussed in Section 4.10, *Population, Housing, and Employment*, of the Draft EIR, the Project's commercial and grocery component would generate approximately 139 new on-site employment opportunities, which would be in addition to creative work opportunities associated with the 475 live/work units. (Final EIR pages 3-4 and 3-5.)

Additionally, the Project is located within a Transit Priority Area, which is consistent with the ILUP's Transition District, in which the viability of industrial use has been compromised by significant conversions and where "Alternate Policies" such as Transit Oriented Districts and other planning efforts are anticipated or in process. Stand-alone housing or mixed use developments containing housing and commercial uses may be appropriate in Transition Districts. As such, the Project will be consistent with the purpose of the ILUP to implement Goals 7A and 7B of the General Plan Framework for industrial growth that provides job opportunities for the City's residents and maintains the City's fiscal viability, including the City's intent to: (i) protect industrial zoned land; (ii) retain and expand existing businesses; (iii) attract new uses that provide job opportunities for the City's residents; and (iv) maintain a healthy jobs/household ratio that supports the General Fund and its capacity to pay for essential services and programs for the City's existing and future population. (Final EIR page 3.5.) Because the Project is located adjacent to the Artists-in-Residence District and will increase employment within the Project Site associated with arts production, it would be consistent with the intent of the ILUP to continue the function of the existing industrial land use while proving new uses and job opportunities and promoting a healthy jobs/housing ratio. Thus, the Project will have a less than significant impact with respect to the objectives of the ILUP and, therefore, no mitigation measure is required.

SCAG's 2016 RTP/SCS. In April 2016, SCAG adopted the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). The RTP/SCS includes goals and policies that pertain to economic development, mobility, accessibility, travel safety, productivity of the transportation system, protection of the environment and health through improved air quality, energy efficiency, and land use and growth patterns that complement the state and region's transportation investments, and security of the regional transportation system. The RTP/SCS incorporates several policies that are applicable to the Project. (Draft EIR page 4.8-44.) Draft EIR Table 4.8-8, *Consistency of the Project with Applicable Policies of the 2016-2040 Regional Transportation Plan*, which is incorporated by reference as though fully set forth herein, provides a detailed analysis of the Project's consistency with applicable RTP/SCS policies. In summary,

the location of the Project, with access to the Metro Gold Line station and regional bus service, as well as the freeway system, will maximize mobility and accessibility; the Project is designed in accordance with City standards to ensure travel safety and reliability; the proximity of the Project to public transit supports the sustainability of the regional transportation system; the mixed-use nature of the Project in an area served by a range of existing local and regional transit lines and the proximity to jobs, retail and entertainment venues maximizes the use of the transportation system; the green building standards, reduction in GHG emissions through proximity to jobs, housing, retail, and commercial uses along with the bicycle parking and amenities will promote protection of the environment and the health of City residents; the Project supports a land use pattern that provides increased opportunities for the use of alternative transportation which will contribute to reductions in VMTs with resulting benefit to energy consumption as well as provide a building with high energy efficiency measures such as using drought-tolerant landscaping, stormwater retention systems and incorporation of water conservation features; and, the Project will not hinder the attainment of the RTP/SCS goals since it is designed in furtherance of the goals and will contribute to the economic growth of the area and increased use of public transit and alternative modes of transportation. (Draft EIR pages 4.8-45 to 4.8-46.) Thus, since the Project is consistent with policies of the RTP/SCS, impacts with respect to this adopted plan will be less than significant and, therefore, no mitigation measure is required.

Los Angeles River Revitalization Master Plan (LARRMP). In 2005, the City Council developed the LARRMP, which serves as a 25 to 50-year blueprint for implementing a variety of comprehensive improvements to make the River a landmark and catalyst for sustainability. Although the Project Site is located within the LARRMP Area, the LARRMP is largely focused on projects and developments that directly border the River or otherwise affect its drainage or its banks. Because the Project will not be developing any uses that will directly affect the River, there are no relevant LARRMP policies that are applicable to the Project. (Draft EIR page 4.8-46.)

SCAQMD's AQMP. The Project Site is located within the South Coast Air Basin (the Basin), making it subject to policies set forth by the SCAQMD. The SCAQMD, in conjunction with SCAG, is responsible for establishing and implementing air pollution control programs throughout the Basin. The AQMP presents strategies for achieving the air quality planning goals set forth in the Federal and California Clean Air Acts, including a comprehensive list of pollution control measures aimed at reducing emissions. Specifically, the AQMP proposes a comprehensive list of pollution control measures aimed at reducing emissions and achieving ambient air quality standards. The Project will meet the City's requirements for the inclusion of electric vehicle charging stations. The use of electric vehicles will assist in reducing emissions generated by the Project. (Draft EIR page 4.8-26.) The consistency of the Project with applicable policies of the AQMP is further evaluated in Section 4.2, *Air Quality*, of the Draft EIR. (See Section VII.A. of these Findings.)

Therefore, based on the analysis of Project consistency with applicable policies of General Plan Framework, Health and Wellness Element, Central City North Community Plan, Do Real Planning, Walkability Checklist, the ILUP, the 2016 RTP/SCS, and the AQMP, the Project will be substantially consistent with all relevant land use policies adopted for the purpose of avoiding or mitigating a significant environmental effect. Approval of the Project's General Plan change from Heavy Manufacturing/Industrial to Regional Center Commercial and zone change from M3-1-RIO to CR-2-RIO to allow for the mixed-use development will bring the Project into consistency with the Community Plan and LAMC with respect to use, density and FAR. Accordingly, with the approval of the requested entitlements, the Project will be consistent with applicable plans and regulations, impacts will be less than significant and, therefore, no mitigation measure is required.

b) Cumulative Impacts: 27 of the 163 related projects are located within the Arts District. The majority of the related projects are mixed use, residential and commercial, including retail, restaurant and office floor area. A few of the projects do not include residential uses; they consist of office space, a clinic, and a private club. (Draft EIR page 4.4-47.) The related projects are in-fill in nature and, while increasing density, they will not alter the land use pattern in the Central City North Community Plan. The related projects combined with the Project will provide housing and employment opportunities in the Arts District. The change from industrial uses to mixed-use or commercial projects that is occurring within the Arts District, including high density residential uses, will not conflict with the applicable plans and goals to revive properties within the Arts District and are consistent with the City's goal of increasing housing, employment and recreational opportunities near public transit. (Draft EIR pages 4.8-47 and 4.8-48.) Thus, the Project, considered together with the related projects, will not have a cumulatively considerable contribution to cumulatively significant impacts regarding land use and planning and, therefore, no mitigation is required.

5. References: For a complete discussion of impacts associated with Land Use and Planning, please see Draft EIR Section 4.8 and Final EIR Chapter 3.0, Revisions, Clarifications, and Corrections.

I. Noise (Off-Site Construction Noise and Operation)

1. Description of Effects:

a) Off-Site Construction Noise Impacts: Project off-site construction traffic will increase noise levels at noise-sensitive uses in the Project Area. However, increases to ambient noise levels at noise sensitive uses along the haul route will not increase by 5 dBA or more due to construction traffic and, therefore, will not exceed the established threshold of significance.

b) Operation Noise Impacts:

(1) Traffic Noise: Project operational traffic will increase noise levels at off-site noise-sensitive uses in the Project area. However, increases in ambient noise levels due to operational traffic will not exceed established thresholds of significance.

(2) Non-traffic Operation Noise: The Project will generate non-roadway operational noise from sources such as outdoor activities and building mechanical and electrical equipment use. However, the Project's noise impacts on existing sensitive receptors from operational on-site noise sources will not increase ambient noise levels in excess of the established 5 dBA threshold of significance. Additionally, Project Design Feature PDF-NOISE-3 prohibits amplified music in the outdoor common areas of The Hub during school hours and in The Lookout areas between 10 p.m. and 7:00 a.m.

c) Ground-Borne Vibration - Human Annoyance (Operations only): The Project will not have a significant impact on human annoyance from ground-borne vibrations due to Project operational activities because such activities will not generate vibrations that exceed the established thresholds of significance of 80 Vdb at nearby vibration sensitive receptor locations.

d) Cumulative Noise Impacts:

(1) Construction (Off-Site Noise): The addition of the Project's haul trucks along the haul route will result in a vehicle noise increase of less than 1 dBA. Related project haul trucks in and around the Arts District are expected to be distributed amongst the various roadways capable of accommodating haul trucks in the local Project vicinity. This distribution will be ensured through implementation of Project Design Feature PDF-TRAF-1 which requires that bimonthly construction management meetings with City staff be conducted to coordinate construction related issues, including hauling activities, to ensure that construction vehicle-related noise impacts will not be cumulatively considerable.

(2) Operation: The development of the Project and the related projects will result in generating noise that will contribute to cumulative noise from a number of noise sources including vehicle travel, mechanical equipment use, and landscaping maintenance activities. Both the Project and the related projects are subject to the City's noise ordinances that limit on-site stationary source noise to less than a significant levels at the property line for each project. Cumulative noise impacts due to roadway traffic will not exceed the clearly noticeable increase of 5 dBA which is the established threshold of significance.

2. Project Design Features: The City finds that Project Design Features PDF-NOISE-1, PDF-NOISE-2, PDF-NOISE-3, and PDF-TRAF-1, which are incorporated into the Project and incorporated into these Findings as though full set forth herein, will reduce the already less than significant off-site construction and operations noise impacts of the Project. These Project Design Features were taken into account in the analysis of potential impacts.

3. Findings: Changes or alternations have been required in, or incorporated into, the Project that avoid or substantially lessen potential significant environmental effects of off-site construction and operations noise impacts of the Project to less than significant levels.

a) Off-Site Construction Noise Impacts: With implementation of Project Design Features PDF-NOISE-1, PDF-NOISE-2, and PDF-TRAF-1, Project off-site construction noise impacts will be less than significant. No mitigation measure is required.

b) Operation Noise Impacts: With implementation of Project Design Feature PDF-NOISE-2, Project operational noise impacts will be less than significant. No mitigation measure is required.

c) Ground-Borne Vibrations: Project operational ground-borne vibration human annoyance impacts will be less than significant. No mitigation measure is required.

d) Cumulative Noise Impacts: With implementation of Project Design Features PDF-NOISE-1, PDF-NOISE-2, PDF-NOISE-3, and PDF-TRAF-1, the Project's cumulative contribution to operational noise and human annoyance vibration impacts will be less than significant. No mitigation measure is required.

4. Rationale for Findings:

a) Off-Site Construction Noise Impacts: The Project would have a significant impact if off-site construction traffic causes the exterior ambient noise level to increase by 5 A-weighted decibels (dBA), Community Noise Equivalent Level (CNEL) or more at a noise-sensitive use, as measured at the property line of any sensitive use. Schools, residences, libraries, religious institutions, hospitals, nursing homes, parks, motels and hotels are generally

more sensitive to noise than commercial and industrial land uses. Existing noise sensitive uses within 500 feet of the Project Site are the Para Los Niños Charter School, located to the south, and the Metropolitan High School, located to the southeast. (Draft EIR page 4.9-7.)

Construction truck trips will occur throughout the construction period. Trucks traveling to and from the Project Site will be required to travel along the haul route(s) approved by the City as described in the Draft EIR. (Draft EIR page 4.9-22.) Each of the arrival and departing routes will avoid passing by the Para Los Niños Charter School and Metropolitan High School and minimize noise impacts to sensitive uses (i.e., schools and residential uses). An estimated maximum of 428 haul truck trips will occur per day. The average daily traffic volumes for the roadways designated for the haul truck routes are greater than 5,000 vehicles. The addition of 428 haul trucks trips per day will result in a noise level increase by approximately 3 dBA and will not increase noise levels by 5 dBA over the ambient condition. (Draft EIR pages 4.9-23 and 4.12-29 through 32.) Thus, noise impacts from off-site construction traffic will be less than significant and, therefore, no mitigation measure is required.

b) Operation Noise Impacts: Sound levels at the Project Site will increase due to activity associated with occupants, visitors, automobiles and landscaping, and the operation of mechanical equipment. The Project must comply with applicable noise regulations including LAMC Section 112.02 which limits the noise output from the Project's building, outdoor-mounted mechanical, and electrical equipment, to no more than a five decibel increase over the ambient noise level. In addition, Project Design Feature PDF-NOISE-3 prohibits amplified music in the outdoor common areas of The Hub during school hours and in The Lookout areas between 10 p.m. and 7:00 a.m.

The Project would have a significance impact if it would cause ambient noise levels to increase by 5 dBA, CNEL and the resulting noise falls on a noise-sensitive land use. (Draft EIR page 4.9-18; see Draft EIR Table 4.9-5, *City of Los Angeles Land Use Compatibility for Community Noise*, for description of these categories.) As to off-site, or traffic noise generated from trips to and from the Project Site, the calculations included consideration of impacts under existing traffic conditions, (see Draft EIR Table 4.9-10, *Off-Site Traffic Noise Impacts-Existing Baseline Conditions*) and impacts under future traffic baseline conditions, (see Draft EIR Table 4.9-11, *Off-Site Traffic Noise Impacts – Future 2022 Conditions*), to determine if noise level thresholds would be exceeded at any of the various arterial street segments adjacent to the Project Site. As shown in Table 4.9-10, the maximum increase in Project-related traffic noise levels over the existing noise levels will be 0.3 dBA, CNEL, well below the 5 dBA, CNEL threshold of significance for the area. Thus, the Project-related noise increases, when measured against the existing conditions, will be less than the threshold of 5 dBA, CNEL, and, as a result, less than significant and, therefore, no mitigation is required.

As summarized in Table 4.9-11, future roadway noise was also calculated along various arterial segments adjacent to the Project Site as compared to 2022 traffic noise that would occur with implementation of the related projects. Also, as indicated in the table, the maximum increase in Project-related traffic noise levels over the future traffic noise levels would be 0.2 dBA, CNEL, which would occur along Mateo Street, between 6th Street and 7th Street. This increase in sound level will be less than the threshold of 5.0 dBA, CNEL and the increase in sound will be lower at the remaining roadway segments analyzed. (Draft EIR page 4.9-24 and 4.9-25; see also, Appendix I, *Noise and Vibration Technical Report*, of the Draft EIR for the calculations summarized in the tables referenced above.) Thus, since the Project-related noise increases, when measured against the 2022 conditions, will be less than the threshold noise impacts will be less than significant and, therefore, no mitigation measure will be required.

Similar to the analysis for roadway noise, the Draft EIR calculated the noise which will be generated from on-site sources. The Project would have a significant impact if Project-related operational, non-roadway, noise sources such as outdoor activities, building mechanical/electrical equipment, parking structure, etc. increase ambient noise level by 5 dBA, causing a violation of the City Noise Ordinance. As analyzed in the Draft EIR and summarized below, the Project's noise impacts on existing sensitive receptors from operational on-site noise sources will not exceed established noise thresholds and, therefore, no mitigation measure is required. (Draft EIR pages 4.9-26 to 4.9-28 and Appendix I.)

Fixed Mechanical Equipment. The operation of mechanical equipment typically installed for developments like the Project, such as air conditioners, fans, generators, and related equipment, may generate audible noise levels. Project mechanical equipment including air conditioning condensers will be installed on the building rooftop, with other equipment contained within the building. The Project's heating, ventilation, and air conditioning (HVAC) units will either be mini-split systems or a conventional system mounted on the roof and screened from view. All Project outdoor mounted mechanical and electrical equipment will be designed to meet the requirements of LAMC Section 112.02, which limits the noise output from such equipment to no more than a 5 dBA increase over the ambient noise level. Compliance will be achieved through the use of noise control devices such as sound attenuators, acoustic louvers, or sound screens/parapet walls. (Draft EIR page 4.9-26.) Therefore, operation of mechanical equipment on the Project building will not exceed the City's noise thresholds and impacts will be less than significant and no mitigation measure is required.

Open Space. The Project will provide public, common area, and private open spaces. The publicly-accessible and common open space areas will provide a wide range of indoor and outdoor amenities that will be located in several distinct nodes. In addition, two intersecting paseos providing a public connection between Industrial Street and Mill Street, and a plaza fronting Industrial Street will be provided on the ground level. The Para Los Niños Charter School and future residential uses proposed at Related Project No. 36 are located approximately 15 feet to the south and 50 feet to the north, respectively, to the nearest on-site common open space areas. (Draft EIR page 4.9-26.) Pursuant Project Design Feature PDF-NOISE-3, the Project will not allow amplified music in The Hub during school hours. Also, approximately 42-inch high parapet walls would be located along the south boundary of The Hub. For purposes of the noise analysis in the Draft EIR, it was estimated that there could be up to approximately 371 people within The Hub and its pool at one time on a peak weekend day. Noise from human conversation is approximately 55 dBA at a distance of 3 feet. (Id.) Assuming 186 visitors of the total 371 visitors talking simultaneously, since one visitor would listen to the other visitor who is talking, the continuous noise level would be up to 78 dBA at 3 feet. As explained in the Draft EIR, based on a noise level source strength of 78 dBA at a reference distance of 3 feet, and accounting for distance attenuation (a minimum of 14 dBA attenuation) and partial barrier insertion loss by parapet walls (a minimum of 5 dBA attenuation), the open space noise will be reduced to 59 dBA at the Para Los Niños Charter School (shown as location R2 in Draft EIR Figure 4.9-2, *Noise Measurement Locations*), which is below the significance thresholds of 73 dBA (daytime noise level of 68 dBA at R2 plus 5 dBA). (Draft EIR page 4.9-26 and 4.9-27.)

The future residential uses at Related Project No. 36, if built, will be located approximately 50 feet from The Lookout on Level 1 and approximately 90 feet from The Lookout on Level 2. Given the possible capacity of The Lookout, the Draft EIR estimated that there could be up to approximately 177 people within The Lookout on Level 1 and 145 people within The Lookout on Level 2 at one time on a peak weekend day. Assuming 161 visitors of total 322 visitors talking simultaneously, since one visitor would listen to the other visitor who is talking, the continuous noise level would

be up to 77 dBA at 3 feet. Based on a noise level source strength of 77 dBA at a reference distance of 3 feet, and accounting for distance attenuation (a minimum of 24 dBA attenuation), The Lookout area noise would be reduced to 53 dBA at the future residential uses (shown as location R4 in Draft EIR Figure 4.9-2, *Noise Measurement Locations*), which is below the significance thresholds of 74 (daytime noise level of 69 dBA at R4 plus 5 dBA). As such, the impacts of noise associated with the use of common outdoor open spaces will be less than significant and, therefore, no mitigation is required.

Parking Areas. Parking for visitors will be provided at the ground level of the structure, with additional parking for visitors and residents provided within three subterranean levels. The commercial parking will generally be located on the ground level and the P1 level of the parking structure with the live/work parking contained within the P1, P2, and P3 subterranean levels of the parking structure. The ground level of the parking structure will not be visible from Industrial Street other than the driveway entry as it will be located behind the commercial store fronts. Sources of noise associated with parking facilities typically include engines accelerating, doors slamming, car alarms, and people talking. (Draft EIR page 4.9-27.) Noise levels at the Project's parking facilities will fluctuate throughout the day with the amount of vehicle and human activity. Noise levels will generally be the highest in the early morning and evening hours when the largest number of people will enter and exit the parking facility. For the purpose of providing a conservative, quantitative estimate of the noise levels that will be generated from vehicles entering and exiting the Project's parking structure, the methodology recommended by the Federal Transit Administration (FTA) for the general assessment of stationary transit noise sources was used in the noise technical analysis (Draft EIR Appendix I.)

Based on the Project's traffic study, the Project is forecasted to generate 4,470 total daily vehicle trips with an anticipated 328 trips and 403 trips during the AM and PM peak hours, respectively. (Draft EIR Appendix L-1.) Using the FTA's reference noise level, the noise analysis determined that the Project's highest peak hour vehicle trips, which will be 403 trips during the PM peak hour, will generate noise levels of approximately 52 dBA Leq at 50 feet from the Project's parking entrance. (Draft EIR page 4.9-28.) The adjacent Para Los Niños Charter School is approximately 15 feet from the access driveway to the parking structure. Based on this distance, the vehicle related noise levels will be approximately 63 dBA Leq, which does not exceed the ambient noise level of 68 dBA by 5 dBA at the Para Los Niños Charter School. (Id.) During other hours of the day when less overall vehicles arrive and depart from the Project Site, the noise levels at the nearest offsite noise sensitive land uses will be even lower. Noise level increases at all other noise sensitive receptor locations are expected to be less than significant since they are farther from the noise sources than the Para Los Niños Charter School. (Id.) Thus, noise impacts from the parking areas will be less than significant and, therefore, no mitigation measure is required.

Composite Noise Level Impacts from Project Operations. The Draft EIR also evaluated the combined noise from the Project's various noise sources (i.e., composite noise level) to ascertain conservatively the potential maximum Project-related noise level increase that may occur at the noise-sensitive receptor locations. Noise sources associated with the Project will include traffic on nearby roadways, on-site mechanical equipment, parking-related noise, and open spaces. Based on a review of the noise-sensitive receptors and Project noise sources, the only existing noise-sensitive location at which composite noise impacts could occur is the Para Los Niños Charter School. The predominant Project noise source that could potentially affect this receptor site will be traffic noise, mechanical noise, open space related noise, and parking related noise. (Draft EIR page 4.9-28 and Final EIR page 3-6.) As shown in the Final EIR Table, *Composite Noise Levels at Sensitive Receptor Location R2 from Project Operations*, page 3-7, based on the existing traffic noise level of 68.1 dBA along 7th Street, between Alameda Street and Mateo

Street, the Project is estimated to increase the ambient noise level by approximately 2.0 dBA at the Para Los Niños Charter School (R2) to the south, which is less than the significance threshold of a 5 dBA, CNEL increase. This analysis conservatively assumes that the Project's operational noise sources will generate maximum noise levels simultaneously. Composite noise level increases at all other receptor locations are expected to be less than significant as well, given their distance from the Project Site and the presence of intervening structures. (Final EIR page 3-7.) As such, the composite noise level impacts due to the Project's future operations will be less than significant and, therefore no mitigation measure is required.

c) Ground-Borne Vibrations: Vibrations generally dissipate with distance from the vibration source and become less perceptible with increasing distance from the source. (Draft EIR page 4.9-6.) The vibration velocity level threshold of perception for humans is approximately 0.035 in/sec PPV. (Id.)

The Para Los Niños Charter School and the Related Project No. 36 are within the area (less than 50 feet) with the potential for perceptible vibration due to long-term Project operations. Because the City has not adopted policies or guidelines relative to ground-borne vibration, the Draft EIR estimated ground-borne vibration levels using data published by the FTA in its *Transit Noise and Vibration Impact Assessment* (2006) document. (Draft EIR page 4.9-14.) The FTA vibration thresholds associated with human annoyance for sensitive land-use categories are shown in Draft EIR Table 4.9-7, *Groundborne Vibration Impact Criteria for General Assessment*. Pursuant to the FTA thresholds, the Project would have a significant impact on human annoyance if Project operational activities cause ground-borne vibration levels above 80 VdB at nearby vibration sensitive uses. The Project's operations will transient vibrations from vehicle circulation within the parking structure and vibrations from typical commercial-grade stationary mechanical and electrical equipment, such as air handling units. However, vibration isolators and mounts will be installed to reduce vibration velocities from typical commercial-grade station machinery. As a result, ground-borne vibration generated by each of the above-mentioned activities will generate approximately up to 50 VdB adjacent to the Project Site. (Draft EIR page 4.9-31.) Thus, the potential vibration levels from all Project operational sources at the closest existing and future sensitive receptor locations will be less than the significance threshold of 80 VdB for perceptibility. (Id.) As such, vibration impacts associated with operation of the Project will be below the significance threshold. Thus, impacts will be less than significant and, therefore, no mitigation measure is required.

d) Cumulative Noise Impacts: Noise is by definition a localized phenomenon, and significantly reduces in magnitude as the distance from the source increases. As such, only projects and growth due to occur in the immediate Project area would be likely to contribute to cumulative noise impacts.

(1) Construction (Off-Site Noise): Of the 163 related projects, four are located within the immediate vicinity of the Project Site with a potential to cumulatively contribute to ambient noise levels from the construction activities associated with each project. Construction traffic from the related projects would contribute to noise levels on major thoroughfares throughout the area, although the related projects are located in different areas and to some extent would have varied haul routes and traffic patterns associated with their construction. The Project's haul routes will avoid passing by the Para Los Niños Charter School and the Metropolitan High School and will be selected for minimizing noise impacts to sensitive uses. The addition of the Project's haul trucks along these roadways will result in a vehicle noise level increase of less than 1 dBA. Related projects in and around the Arts District could use similar routes. As such, it can be expected that heavy truck traffic will be distributed amongst the various

roadways capable of accommodating haul trucks in the local Project vicinity. This distribution of traffic will be ensured through implementation of Project Design Feature PDF-TRAF-1 which requires that bimonthly, or as otherwise determined appropriate by City Staff, construction management meetings with City Staff and other surrounding construction related project representatives whose projects will potentially be under construction at around the same time as the Project. This coordination will ensure construction activities of the concurrent related projects and associated hauling activities are managed in collaboration with one another and the Project. (Draft EIR page 4.9-32.) With these considerations, the Project's contribution to off-site construction vehicle-related noise impacts will not be cumulatively significant and, therefore, no mitigation measure is required.

b) Operation: The development of the Project Site and surrounding area will generate noise that will contribute to cumulative noise. Due to City's regulations that limit on-site stationary-source noise such as outdoor air-conditioning equipment, noise levels will be less than significant at the property line for each related project. As the Project's stationary-source impacts will be less than significant, and all the related projects must comply with the City's noise ordinance restrictions, stationary-source noise impacts attributable to cumulative development will also be less than significant and, therefore, no mitigation measure is required. (Draft EIR page 4.9-34.)

However, the Project and other developments in the Project vicinity will produce traffic volumes that are capable of generating a roadway noise impacts. Cumulative noise impacts due to roadway traffic was assessed in the Draft EIR based on the difference between noise generated by existing traffic volumes and traffic volumes projected at the Project opening year (2022) and are presented in Table 4.9-14, *Off-Site Traffic Noise Impacts – Future 2022 Cumulative Increment*. As indicated in Table 4.9-14, the maximum cumulative noise increase from the Project plus related Project traffic would be 4.1 dBA, CNEL, which would occur along 7th Street, between Mateo Street and Santa Fe Avenue. This increase in sound level will not exceed the threshold of 5.0 dBA, CNEL. As a result, cumulative traffic related noise impacts will be less than be less than significant and, therefore, no mitigation measure is required.

c) Ground-Borne Vibrations: The closest related project to the Project Site is Related Project No. 36 located to the north of the Project Site across Industrial Street. The nearest vibration sensitive receptor, the Para Los Niños Charter School, is located over 230 feet from Related Project No. 36, south of the Project Site. Vibration can be interpreted as energy transmitted in waves through the ground or man-made structures, which generally dissipate with distance from the vibration source. Because energy is lost during the transfer of energy from one particle to another, vibration becomes less perceptible with increasing distance from the source. (Draft EIR page 4.9-6.) Due to the rapid attenuation characteristics of ground-borne vibration and distance of the related projects to the Project Site, there is no potential for cumulative construction or operational impacts with respect to ground-borne vibration producing vibrations in excess of the threshold for human annoyance. (Draft EIR page 4.9-35.) Thus, impacts will be less than significant and, therefore, no mitigation measure is required.

5. References: For a complete discussion of impacts associated with Noise, please see Draft EIR Section 4.9 and Appendix I and Final EIR Chapter 3.0, Revisions, Clarifications, and Corrections.

J. Population, Housing and Employment

1. Description of Effects:

a) Growth Projections:

(1) Construction: The number of construction workers on the Project will vary on a day-to-day basis with an estimated of 300 to 350 employees during peak construction activity. Given the mobility of construction workers and short durations of work at a particular site, and large construction labor pool that can be drawn upon in the region, construction employees are not expected to relocate residences within this region or move from other regions as a result of their work on the Project. As the Project will draw on an existing labor pool, the construction impacts of the Project on the number of employees in the region will be negligible.

(2) Operations: Operation of the Project will generate approximately 139 net new employees. The Project's 475 dwelling units will generate up to 1,520 new residents. These increases in population, household and employees are well within the amount of growth projected by SCAG in the Central City North Community Plan area. It will comprise approximately 31 percent of the projected population, approximately 22 percent of the projected housing and approximately 6.0 percent of employment growth projected for the Community Plan area at Project buildout and an even smaller amount at the horizon 2040 year: approximately 7.6 percent of the population, approximately 5.6 percent of the housing and approximately 1.6 percent of employment growth. Therefore, the Project's contribution to City growth will be negligible.

b) Introduction of Unplanned Infrastructure: The Project is an infill project in an urban area with an established infrastructure system. The Project will add no new infrastructure other than as needed to serve the Project Site such as service connections to local water and sewer systems. The Project will not create new development in an area not currently served by infrastructure nor add new facilities that will encourage growth not otherwise planned for the Project vicinity.

c) Cumulative Impacts: 44 of the 163 related projects are located within the Central City North Community Plan area. Assuming all the related projects are developed, the cumulative number of housing units, approximately 47,349, population, approximately 93,929, and employment, approximately 60,929, are all within the long-term SCAG 2040 horizon projections for the City though slightly more than the current SCAG projections for the Community Plan area. The current pace of development will be addressed in the upcoming RTP/SCS cycle in 2020 prior to completion of the Project and a considerable amount of the development of the related projects.

2. Project Design Features: None.

3. Findings: Changes or alternations have been required in, or incorporated into, the Project that avoid or substantially lessen potential significant environmental effects of population, housing and employment impacts of the Project to less than significant levels.

a) Growth Projections: Project impacts related to growth projections will be less than significant. No mitigation measure is required.

b) Introduction of Unplanned Infrastructure: Project impacts related to introduction of unplanned infrastructure will be less than significant. No mitigation is required.

c) Cumulative Impacts: The Project's contribution to cumulative population, housing and employment impacts will be less than significant. No mitigation is required.

4. Rationale for Findings:

a) Growth Projections: As analyzed in the Draft EIR, Section 4.10, *Population, Housing and Employment*, and discussed below, the Project will create new housing units and generate new employment opportunities. The Project's contributions to housing, population and employment will be consistent with SCAG's growth projections for the Central City North Community Plan area and the City, and will help the City meet or exceed its housing objectives per the General Plan Housing Element, and the housing allocation established in the SCAG's Regional Housing Needs Assessment (RHNA). Therefore, impacts regarding the relationship of the Project to SCAG growth projections will be less than significant.

(1) Construction: Construction of the Project will generate construction jobs that will be filled by hiring from a mobile regional construction work force that moves from project to project. Typically, construction workers pass through various development projects on an intermittent basis as their particular trades are required. The number of construction workers will vary on a day-to-day basis over the course of Project construction with the number of employees estimated to range from 300-350 employees during peak construction activity. As the Project will draw on an existing labor pool, the construction impacts of the Project on the number of employees in the region will be negligible. Further, given the temporary nature of the construction activity, the mobility of construction workers, and availability of a labor pool to draw on, construction workers will not have notable impact on the demand for housing, nor affect general housing occupancy and population patterns. (Draft EIR pages 4.10-10 and 4.10-11.) The addition of construction employment opportunities will contribute to the economic well-being of the City and region by creating direct employment opportunities for the individuals hired and indirect contributions to the local and regional economy through expenditures of those employees, particularly at retail operations in the Project vicinity. (Draft EIR page 4.10-11.) Thus, Project construction impacts to population, housing and employment will be less than significant and, therefore, no mitigation measure is required.

(2) Operations:

Consistency with SCAG Growth Projections. The Project's contribution to housing stock, residential population, and employment opportunities is summarized in Draft EIR Table 4.10-2 *Project Increases in Population, Housing, and Employment*. The projected Project increase of population, households and employment is compared to growth projections in the SCAG 2016 RTP/SCS for the Central City North Community Plan area and the City in Draft EIR Table 4.10-3, *Project Population, Housing and Employment Impacts*. As shown in those tables, the Project will add 475 new housing units with a population of 1,520 and 139 net new employees.

Table 4.10-3, compares the Project's increases in population, households, and employees to the projected growths for Project Buildout in 2022 and the SCAG 2016 RTP/SCS 2040 Projection Horizon year. As indicated, in the table, the Project's growth increment at Project buildout will be well within the amount of growth projected within the Community Plan area. It will comprise approximately 31 percent of the projected population, approximately 22 percent of the housing and approximately 6 percent of employment. Over the longer term 2040 planning horizon, the Project will comprise approximately 7.6 percent of the population, approximately 5.6 percent of the housing and approximately 1.6 percent of the employment growth. The Project's contribution

to the City growth, as shown in the table would be negligible. Therefore, the Project is consistent with the SCAG projections. (Draft EIR pages 4.10-13 and 4.10-14.)

Consistency with Central City North Community Plan. The Central City North Community Plan includes for reference purposes a 2010 estimate of the Community Plan population based upon 1990 to 2010 growth forecasts developed in preparation of the Framework Element; and also housing and population estimates for development in the residentially zoned parcels in the Community Plan area. The Framework Element projected that the Central City North Community Plan area would have a 2010 population of 38,839 people, along with 7,481 housing units. (Draft EIR page 4.10-14.) The 2010 housing and population estimate for the residentially zoned parcels is 5,761 dwelling units with an expected reasonable population of 19,230. The Community Plan does not include an estimate for residential development that would occur within the mixed-use, commercial, and non-residential zones. Combining the Project population of 1,520 residents with the estimated 2016 baseline population of 24,580 yields a total population of 26,100 people, which is well below the 38,839 reference population originally included in the Framework Element. Combining the Project's 475 housing units with the estimated 2016 baseline 6,917 housing units yields a total of 7,392 housing units, which approximates the Framework Element 2010 projection of 7,481 housing units. (Draft EIR page 4.10-14.)

However, the 2016 baseline plus Project population estimate of 26,100 people is greater than the Community Plan estimate of 19,230 people for the residentially zoned areas. While the baseline plus Project number of housing units of 6,917 is greater than the 5,761 number of units the Community Plan estimated for development in residentially zoned areas. Nonetheless, these numbers are consistent with developments trends that provide more residential development in mixed-use and commercially zoned areas. Increasing development rates in the Community Plan Area, and construction of more densely populated developments in mixed-use, commercial, and non-residential zones are consistent with the Community Plan policies, as well as related policies in the Framework Element and Sustainable City pLAn that seek to place housing units in mixed-use developments within transit corridors. (Draft EIR page 4.10-14.)

The Project Site is located in a transit oriented development corridor that is projected to have increased population and housing growth in proximity to multiple transit options. The bus and light rail services in the area will allow for the Project's population and housing growth to meet City demand for new housing near easily accessible transit. The Project's location in a transit oriented development corridor will serve to reduce vehicular trips and add to the economic base of the Central City North Community Plan area. As noted above, increases in population, housing, and employment are consistent with SCAG's growth projections and Central City North Community Plan policies for the period between 2016 and 2022, the Project buildout year, for the Community Plan area and the City as a whole. (Draft EIR page 4.10-14 and 4.10-15.)

The total estimated amount of development in the Community Plan area for 2016 Baseline plus Project population and housing is greater than that anticipated within the residentially zoned area, but consistent with development that might be expected with increases of population in commercially zoned and other non-residential areas. The change in population conditions are accounted for in SCAG population projections that continuously monitor development and are updated in four-year intervals to represent the best data for planning services and infrastructure to meet the needs of the future. The City is currently preparing an update to the Central City North Community Plan that will be based on SCAG projections that serve as the basis for providing services and infrastructure. (Draft EIR page 4.10-15.)

Consistency with the General Plan Housing Element. The purpose of the General Plan Housing Element is to provide guidance for meeting the City's need for housing per the allocation defined in the RHNA. The 2013–2021 Housing Element cites the RHNA goal of 82,002 new housing units citywide. Based on the City's programs and policies, the Housing Element anticipates a total of 59,559 units to be constructed citywide. (Draft EIR page 4.10-15.) The Project's 475 proposed residential units will contribute to meeting the housing needs for different household income levels as it would include an affordable housing component. Further, the Project will support Housing Element policies by providing residential development in an area that is a City-designated transit priority area.

Consistency with the Regional/SCAG Policies. SCAG is tasked with providing demographic projections for use by local agencies and public service and utility agencies. Projections in the SCAG 2016 RTP/SCS serve as the bases for demographic estimates in the Draft EIR analysis of Project consistency with growth projections. The findings regarding growth in the region are consistent with the methodologies prescribed by SCAG and reflect SCAG goals and procedures. (Draft EIR page 4.10-15.)

SCAG data is periodically updated to reflect changes in development activity and provisions of local jurisdictions such as zoning changes. Changes in the growth rates would be reflected in the new projections for service and utilities planning through the long-term time horizon. Also, SCAG establishes policies pertaining to regional growth and efficient development patterns to reduce development impacts on traffic congestion and related increases in air quality emissions. These policies are discussed in detail in Draft EIR Section 4.8, *Land Use and Planning*. As indicated in that analysis, Project growth will support the attainment of the SCAG policies by providing increasing population density in an area already well served by public transit. (Draft EIR page 4.10-15.)

The Project Site is located within a HQTAs, which is defined in the RTP/SCS as a "walkable transit village or corridor". The Project's mixed-use components and contributions to walkable communities will also contribute to the attainment of the SCAG policies. The 2016 RTP/SCS includes policies to provide an integrated approach to expanding the region's transportation system in concert with the encouragement of "Smart Land Use." Smart land use strategies encourage walking, biking, and transit use, thereby reducing vehicular demand. This is intended to save travel time, reduce pollution, and improve health. SCAG has been working with subregions and local communities to increase development densities and improve the jobs/housing balance. A component of the SCAG strategy has been to focus new growth in HQTAs, with the Downtown Los Angeles area being an integral component of this strategy. (Draft EIR page 4.10-16.)

The Project's development will support the attainment of the SCAG policies by providing increased population density and employment opportunities in an extremely well served HQTAs. The Project has access to the Metro Gold Line Little Tokyo/Arts District Station, located one-mile north of the Project Site, providing direct linkages to East Los Angeles and Pasadena, as well as other lines within the Metro Rail system. Union Station, located approximately 1.5 miles north of the Project Site, is a major hub for public transportation, including Amtrak, Metrolink, and bus lines providing national, regional, and local access. Metro is also constructing the Regional Connector Project, which will extend the Metro Gold Line from the Little Tokyo/Arts District Station to the 7th Street Metro Center Station in Downtown Los Angeles, allowing passengers to transfer to Blue, Expo, Red and Purple Lines, bypassing Union Station. The 1.9-mile alignment will serve Little Tokyo, the Arts District, Civic Center, The Historic Core, Broadway, Grand Avenue, Bunker Hill, Flower Street, and the Financial District. Numerous regional and local bus lines are located near

the Project area. The closest bus stop to the Project Site is at S. Alameda Street and 7th Street, which is served by Metro Line 60 and Metro Rapid Line 760. Both lines provide service between Downtown Los Angeles and Long Beach and provide connections to the 7th Street Metro Center in Downtown Los Angeles and the Metro Blue, Expo, Purple, and Red Lines and various bus lines. (See Draft EIR Section 4.12, *Transportation and Traffic*, for a summary of all bus lines providing service in the Project vicinity). (Draft EIR page 4.10-15.)

Improving the jobs/housing balance is one tool for reducing vehicle miles traveled (VMT). The ratio of jobs to housing is an indicator of proximity between employment and residential locations for population in the region. The jobs/housing ratio for the entire SCAG region is approximately 1.35. That is, there are approximately 1.35 jobs for each household unit in the region. Large variations from this ratio in local communities indicate that the communities are housing rich (i.e. bedroom communities) or employment rich. Such communities with the more extreme ratios indicate longer commuting distances between home and work, which translate into increased VMT. Communities whose ratios are closer to 1.35 have a balance between residents and employees within their boundaries. (Draft EIR page 4.10-15 and 4.10-16.)

Based on the 2016 employment and household estimates presented in Draft EIR Table 4.10-2, the 2016 jobs/housing ratio in the Central City North Community Plan area is approximately 3.80, which indicates the area is employment rich. The projected 2022 estimate is 3.14, and the projected 2040 estimate is 2.28. SCAG projections reflect the trend toward increased housing within the Central City North Community Plan area. This trend will allow more opportunities for people to reside and work in near proximity – thereby supporting greater use of public transit and bringing the jobs/housing ratio in the area towards a balance between residents and employees. (Draft EIR page 4.10-17.) Based on the information shown in Table 4.10-2, the Project's ratio of net new jobs to housing units will be 0.29. Thus, while providing additional employment opportunities, the Project will contribute a relative increase in households, thus supporting the anticipated population trends and SCAG efforts to improve the jobs/housing balance of local communities in the region.

In summary, the Project's growth projections are within the amount of development anticipated in the Central City North Community Plan area for the near-term and substantially below projections for the longer term in the SCAG projections. The Project's growth contributes to a growth pattern that is encouraged in the Central City North Community Plan area and in SCAG policies for development that reduces reliance on individual automobiles, with related lessening of impacts on the environment. Thus, the Project is consistent with the growth projections and policies contained in the applicable plans and, thus, Project impacts related to population, housing and employment will be less than significant and, therefore, no mitigation measure is required.

b) Introduction of Unplanned Infrastructure: The Project is an infill development in an urban area with an established infrastructure system. The Project will add no new infrastructure other than that needed to serve the Project Site. The Project will link with and tie into an existing infrastructure system. New infrastructure that will be required, such as service connections to local water and sewer systems or electrical transformation facilities, will be sized to serve the Project's needs. No new roadways will be created as a Project component. (See Draft EIR Chapter 2, *Project Description*.) Therefore, the Project will not create new development in an area currently not served by infrastructure nor add new facilities that will encourage growth, not otherwise planned in the Project vicinity. (Draft EIR page 4.10-17.) Impacts regarding growth associated with the provision of new infrastructure will be less than significant and no mitigation measure is required.

c) Cumulative Impacts: The calculation of the cumulative number of housing units, population, and employees is provided in Appendix J of the Draft EIR. A summary of the total cumulative growth, which is a combination of the related projects and the Project, is shown in Draft EIR Table 4.10-4, *Total Cumulative Development*. As indicated therein, within the Central City North Community Plan area, the Project plus related projects will create a total of 8,957 housing units and generate 28,663 new residents and 22,122 new employees. The total cumulative development inclusive of the Project and related projects within and outside of the Central City North Community Plan area is 47,349 housing units with a population of 93,929 people and 60,929 employees. (Draft EIR page 4.10-18.)

Population and Housing Growth. As indicated in Draft EIR Table 4.10-5, *Cumulative Population, Housing and Employment Impacts*, the cumulative population growth of 28,663 in the Central City North Community Plan area is equal to 143.2 percent of the population growth in the SCAG projections by the 2040 horizon year; and the number of new units from related projects would represent 105.2 percent of the new households projected. Projected estimates for housing growth are typically a more reliable measure than the projected estimates for population growth as SCAG methodologies for housing growth relies on building permit activity at the local level, whereas population estimates take into account more variable assumptions. Hence, population and housing growth in the near-term future may be seen as generally approaching levels in the Community Plan area that are projected for 2040. (Draft EIR page 4.10-19.)

This assessment is conservative, as cumulative calculations do not fully account for existing development that would be replaced, as opposed to net new development. Further, it is likely that some of the related projects will not be developed, and others would reach their build-out completion beyond the 2040 SCAG horizon year. The current pace of development will continue to be addressed in upcoming RTP/SCS cycles. The next RTP/SCS cycle will be published in 2020 prior to completion of the Project and a considerable amount of the cumulative development. (Draft EIR page 4.10-19.)

In regard to the City level, the total cumulative population growth inclusive of all of the related projects (including those outside of the Central City North Community Plan area) is 93,929, or 13.9 percent of Citywide population growth. The total cumulative development of 47,349 housing units would be 15.4 percent of expected households Citywide. These amounts represent small, but notable components of the overall City growth. (Draft EIR page 4.10-20.)

The large amount of growth occurring within the Central City North Community Plan, and its contribution to the City growth reflects renewed interest and market forces that are pursuing a transformation of this area into more of a mixed use, residentially-oriented region. The amount of the increase at the City level suggests that the Central City North Community Plan area, along with rejuvenation of the overall Downtown area, is providing an opportunity for populations to locate within the HQTa and transit priority area, thus reducing demands for development in lower density areas of the City and providing greater efficiency in the provision of services and infrastructure.

However, the evaluations of cumulative impacts on public services and transportation in Chapter 4, *Environmental Impact Analysis*, of the Draft EIR conservatively assumed that all of the related projects would be constructed by 2022, which is unlikely to occur and the estimates do not take into account replacement of existing uses. Yet, even under the conservative assumption, if all of the related projects were developed by the Project's 2022 buildout year, the Project will not have a significant cumulative impact on public services or utilities, as discussed in Draft EIR Section 4.11, *Public Services*, and Section 4.13, *Utilities*. The Project's traffic impacts will be limited to

potentially significant operational impacts at six intersections. The Project will mitigate impacts at three intersections with the implementation of Mitigation Measure MM-TRAF-1. However, impacts at three intersections would remain significant and unavoidable as more fully discussed in Section 4.12, *Transportation and Traffic*, of the Draft EIR and Section IX of these Findings.

SCAG growth projections reflect current development trends that provide more residential development in mixed-use and commercially zoned areas not just residential zones. As shown in Draft EIR Table 4.10-1, *Projected Population, Housing and Employment Estimates*, SCAG's estimated population within the Central City North Community Plan area will increase by 4,940 from 2016 to 2022. SCAG growth projections reflect current development trends that provide more residential development in mixed-use and commercially zoned areas. In contrast, as shown in Table 4.10-5, the estimated cumulative population growth within the Central City North Community Plan area will increase by 28,663 during the same period. Also, the estimated cumulative 8,957 housing units in the Central City North Community Plan area is more than the estimated 2016-2022 growth increment of 2,187 housing units. (Also, the cumulative increase of 22,122 employees in the Central City North Community Plan area is greater than the SCAG 2016-2022 growth increment of 2,336 new employees). For reasons discussed above, the short-term growth anticipated in SCAG projections is not an appropriate benchmark for cumulative development. Anticipated development will occur over a longer time frame beyond Project buildout, year-to-year variations in development average out over the longer term horizon projections, and current growth will be accounted for in RTP/SCS updates that will be prepared in the future. (Draft EIR pages 4.10-20 and 4.10-21.)

Employment Growth. The number of new cumulative employees shown on Table 4.1-5, and in Appendix J of the Draft EIR, represents 247.9 percent of the projected new employees in the Central City North Community Plan area and 16.4 percent of the employment expected Citywide. As discussed previously, the construction of the new development projects is taken into account in the analyses of the Project impacts in the Draft EIR sections pertaining to services and infrastructure. The number of employment opportunities created by the related projects will increase the availability of transit-accessible work places, which will reduce VMT and air quality and greenhouse gas emissions impacts on a per-capita basis. (Draft EIR page 4.10-20.) Analysis regarding air quality and greenhouse gas emissions impacts are found in Section 4.2, *Air Quality*, and Section 4.5, *Greenhouse Gas Emissions*, of the Draft EIR.

The ratio of jobs to housing for the related projects will be 2.5 and 1.29 for the Central City North Community Plan area and City, respectively. The cumulative developments will bring the Central City North Community Plan area jobs/housing ratio closer to 1.35, which represents a more balanced jobs to housing ratio. The decrease towards 1.35 for the Central City North Community Plan area indicates more housing located within close proximity to a variety of transit options and also provides for shorter commuting distances between home and work, thus leading to reduced VMT. The added employment within the area will absorb new jobs that might otherwise be located in lower density areas that do not provide these advantages. (Draft EIR page 4.10-20.)

Impacts Regarding Cumulative Growth Projections of Applicable Plans:

- **Consistency with Central City North Community Plan.** As discussed above, the Framework Element estimates of population and housing indicates that a large portion of the residential population growth was expected to occur within non-residential, mixed-use, and commercially zoned areas. However, the amount of existing development when combined with the current estimated cumulative development exceeds those amounts included, for reference purposes, in the Community Plan. The SCAG estimated 2016 population in the Central City North

Community Plan area is 24,580 people, and the cumulative developments including the Project account for a potential increase of 28,663, resulting in a total of 53,243 by the Project's buildout year in 2022. (Draft EIR page 4.10-21 and Appendix J.) This amount is closer to SCAG's estimate for 2040 of 44,601 people than SCAG's estimate for 2020 of 25,766 people; and is therefore accounted for in the most recent projections for addressing long range planning of services. However, the high amount of cumulative development suggests that either the growth rate may flatten out or will need to be accounted for in the 2020 RTP/SCS cycle update, as well as the Community Plan update which is in progress.

The growth occurring within the Community Plan area is consistent with and furthers the attainment of Objective 1-2: "To locate new housing in a manner which reduces vehicular trips and makes it accessible to services and facilities." The growth reflects better than expected achievement in the attainment of City and regional policies to generate transit oriented development and revitalize the Central City North Community Plan area; and intentions for the revitalization of the area.

The cumulative development includes a balanced mix of residential, retail, and office uses, as well as other uses such as a schools, museums, and additional entertainment uses. This development will add to the Central City North Community Plan area in a synergistic manner, providing a balance of uses that enhance walkability and fully realize the development of this area as a focal, high-density area of the City as envisioned in the Framework Element, Central City North Community Plan, and recent City efforts to promote development patterns that will reduce VMT, providing relative reductions in energy consumption and air quality emissions, as well as convenience for commuters as accounted for in the Sustainable City pLAN. (Draft EIR page 4.10-22.)

The growth also signifies the Community Plan area's transition from a lower density area into a HQTAs and transit priority area. The Central City North Community Plan area's proximity to transit that connects the Project vicinity to the wider City allows for more residents and employees to either reside in or commute to the area. The growth is in line with the regulatory policies by encouraging population and employment growth within HQTAs and transit priority areas where they would be well-served and supported by existing services and infrastructure.

- **Consistency with the General Plan.** As previously discussed, the purpose of the General Plan Housing Element is to provide guidance for meeting the City's need for housing, particularly with respect to the allocation defined in the RHNA, which identifies a need for 82,002 new housing units. The related projects' proposed cumulative housing units (47,349) would provide approximately 57.7 percent of the needed housing stock. (Draft EIR page 4.10-22.) This will support the City's need to meet its housing obligations, pursuant to California state law, that every jurisdiction is obligated to provide housing to meet its "fair share" of the regional need. Further, the added housing would expand the opportunity for population to locate/relocate to high quality transit areas increasing the opportunity to avail such population of extremely well served public transit and walkability opportunities.
- **Consistency with Regional/SCAG Plans.** As noted previously, the SCAG 2016 RTP/SCS projections served as the basis for the demographic estimates in the Draft EIR's analysis consistency with growth projections. The findings regarding growth in the region are consistent with the methodologies prescribed by SCAG and reflect SCAG goals and procedures. SCAG data is periodically updated to reflect changes in development activity and provisions of local jurisdictions such as zoning changes. Through this updating, service

agencies have advance information regarding changes in growth that must be addressed in planning for their provision of services. (Draft EIR page 4.10-22.) As is the case with the Project, the related projects will generally support the development for the area with a mix of residential, commercial, entertainment and office uses. Development through the vicinity is generally well-served by the same transportation infrastructure as the Project, including the Metro Gold Line, numerous regional Metro Bus lines, and local Los Angeles Department of Transportation (LADOT) Dash lines. All of this development is occurring within the SCAG-designated HQTAs, where these related projects will reduce vehicle miles traveled and support regional sustainability development. (Draft EIR pages 4.10-22 and 4.10-23.) Therefore, the cumulative development is supportive of recommended growth patterns.

Therefore, the development of the related projects will contribute to local and regional growth patterns that are encouraged in the Framework Element, Central City North Community Plan, and SCAG RTP/SCS policies for development that reduces reliance on individual automobiles, with related lessening of impacts on the environment. The cumulative development will contribute to the revitalization of the Central City North Community Plan area by providing needed housing stock. Thus, the cumulative development is consistent with the growth provisions of the applicable plans, and the Project's contribution to impacts regarding plan consistency will be less than significant and, therefore, no mitigation is required.

5. References: For a complete discussion of impacts associated with Population and Housing, please see Draft EIR Section 4.10 and Appendix J.

K. Fire Protection and Emergency Medical Services

1. Description of Effects:

a) Fire Protection and Emergency Medical Services: The Project will connect to the existing 8-inch water main in Industrial Street with a lateral that will be adequately sized to simultaneously accommodate both domestic water demand and fire demand. Water for firefighting purposes will be provided to the Project by the six existing off-site fire hydrants the immediate vicinity of the Project Site along Industrial Street and S. Alameda Street. The Project will also include a fire sprinkler suppression system to reduce or eliminate public hydrant demand. The Project is designed to, and its operations will be implemented in a manner that will, comply with applicable State and local codes, ordinances, objectives, and policies, including those found in the City's General Plan Framework and Safety Elements, Central City North Community Plan, and all applicable requirements of the LAMC, including the Fire Code and Building Codes. Thus, due to compliance with State and City regulatory requirements and guidelines that address emergency response time, emergency access, water infrastructure, and fire flow, as well the implementation of the Project Design Feature related to construction management, PDF-TRAF-1 SCAG growth projections reflect current development trends that provide more residential development in mixed-use and commercially zoned areas. .

b) Cumulative Impacts: Of the 163 related projects, 124 are located within the service area of the fire stations serving the Project. These related projects will cumulatively generate, in conjunction with the Project, the need for additional fire protection and emergency medical services from these fire stations and will introduce new uses which will generate additional traffic in the vicinity of the Project with the potential to impact emergency response time. However, the impacts of each related project will be evaluated by the City at the time of the related project's development review process. Any concurrently occurring construction of these projects with the Project will be required to coordinate activities through Project Design

Feature PDF-TRAF-1 to ensure access to emergency vehicles is maintained. Impacts to fire protection and medical emergency services will be reduced through regulatory compliance, site specific design, and the existence of these projects in an urbanized area within acceptable distance to one or more existing fire stations. Moreover, emergency vehicle can access any of these project sites from various surrounding roadways and drivers of emergency vehicles have a variety of options for avoiding traffic. Accordingly, the Project's contribution to cumulative impacts associated with fire protection and emergency medical services will be less than significant.

2. Project Design Features: The City finds that Project Design Features PDF-TRAF-1, which is incorporated into the Project and incorporated into these Findings as though full set forth herein, will serve to will reduce the already less than significant fire protection and emergency medical services impacts of the Project. This Project Design Feature was taken into account in the analysis of potential impacts.

3. Findings: Changes or alternations have been required in, or incorporated into, the Project that avoid or substantially lessen potential significant environmental effects of fire protection and emergency medical services impacts of the Project to less than significant levels.

a) Fire Protection and Emergency Medical Services Impacts: With implementation of Project Design Features PDF-TRAF-1, Project impacts on fire protection and emergency medical services will be less than significant. No mitigation measure is required.

b) Cumulative Impacts: With implementation of Project Design Features PDF-TRAF-1, the Project's contribution to cumulative impacts on fire protection and emergency medical services will be less than significant. No mitigation is required.

4. Rationale for Findings: Fire prevention, fire suppression, life safety and emergency medical services within the City are provided by the Los Angeles Fire Department (LAFD). As shown in Draft EIR Figure 4.11.1-1, *LAFD Fire Stations in the Project Vicinity*, there are four LAFD fire stations that will provide primary fire protection service to the Project Site. The Project Site is accessible by emergency vehicles from major roadways near the Project Site, including S. Alameda Street and E. 7th Street, with direct emergency access available from the three streets bordering the Project Site. The location, distance/direction from the Project Site, average response times, and equipment of each of these fire stations are summarized in Table 4.11.1-1. The distance standards established by the LAFD are 1.0 miles for the first due engine companies and 1.5 miles for the first in truck companies. (Final EIR page 3-7.) As indicated in Figure 4.11.1-1, Fire Stations 9, 17, and 4 are within the standards for engine companies and fired trucks while Fire Station 3 is just beyond the 1.5 miles for truck companies. Additionally, all for Fire Stations' response times are lower than the LAFD's response time standards. (Draft EIR page 4.11.1-3.)

a) Fire Protection and Emergency Medical Services Impacts:

(1) Construction: Construction activities associated with the demolition of the existing on-site structures and construction of the Project may temporarily increase the demand for fire protection and emergency medical services, and may cause the occasional exposure of combustible materials, such as wood, plastics, sawdust, coverings and coatings, to heat sources including machinery and equipment sparking, exposed electrical lines, welding activities, and chemical reactions in combustible materials and coatings. However, in compliance with OSHA and Fire and Building Code requirements, construction managers and personnel will be trained in fire prevention and emergency response. Fire suppression equipment

specific to construction will be maintained on-site. Additionally, Project construction will comply with applicable existing codes and ordinances related to the maintenance of mechanical equipment, handling and storage of flammable materials, and cleanup of spills of flammable materials. Therefore, Project construction impacts on the demand for fire protection and emergency medical services will be less than significant. (Draft EIR page 4.11.1-16.)

Construction staging, including material stockpiling and equipment storage, will occur within the Project site boundaries. Notwithstanding, construction-related traffic on adjacent streets could potentially affect emergency response times and emergency access to the Project site and neighboring uses. Construction activities may involve temporary lane closures for utility construction. Construction-related traffic could result in increased travel time due to flagging or stopping of traffic to accommodate trucks entering and exiting the Project site during construction. As such, construction activities could increase response times for emergency vehicles to local business and/or residences within the Project vicinity, due to travel time delays to through traffic. However, the impacts of such construction activity would be temporary and on an intermittent basis. Further, truck routes for material and equipment deliveries, as well as for soil export and disposal, would require approval by the City's Board of Building and Safety Commissioner prior to construction activities. Further, as discussed in Draft EIR Section 4.12, *Transportation and Traffic*, pursuant to Project Design Feature PDF-TRAF-1, a Construction Management Plan will be prepared in order to minimize disruptions to through traffic flow, maintain emergency vehicle access to the Project Site and neighboring land uses, and schedule worker and construction equipment delivery to avoid peak traffic hours. As a component of the Construction Management Plan, the times of day and locations of all temporary lane closures will be coordinated so that they do not occur during peak periods of traffic congestion, to the extent feasible and coordination of haul truck and other vehicles to minimize queuing on adjacent streets. The Construction Management Plan will be prepared for review and approval by the Los Angeles Department of Transportation (LADOT) prior to commencement of any construction activity. These practices, as well as techniques typically employed by emergency vehicles to clear or circumvent traffic, are expected to limit the potential for significant delays in emergency response times during construction of the Project. (Draft EIR pages 4.11.1-16 and 4.11.1-17.)

Moreover, as indicated in Table 4.11.1-1, three fire stations serving the Project Site are located within 1.5 miles of the Project Site, including the nearest, Fire Station 9 (the first due-in station), located 0.7 miles to the northwest and the fourth is located just beyond the 1.5 mile standard for a truck company. (Final EIR page 3-7.) Further, response times to the Project Site from all four fire stations serving the Project Site meet the LAFD's response time standards. (Draft EIR page 4.11.1-3.) Based on the above, Project construction impacts on fire protection facilities, services and response times will be less than significant and, therefore, no mitigation measure is required.

(2) Operation:

Fire Protection Facilities, Emergency Medical Services and Response Times. The development of the Project will introduce new residents, visitors, employees and customers at the Project Site, which will increase the demand for fire protection and emergency medical services from the LAFD. Fire Station 9 is located nearest the Project Site (approximately 0.7 miles northwest of the Project Site in driving miles) and will be the first due-in station to respond to an emergency. Additional back up response to the Project Site is provided by Fire Stations 17, 4, 3, and 10. As indicated in Table 4.11.1-1, Fire Stations 9, 17, and 4 meet both the engine company standard and the truck company standard while Fire Stations 3 and 10 are just beyond the truck company standard. (Final EIR page 3-7.) Four of the five fire stations – Fire Station 9, 17, 4, and 3 – meet the LAFD's response time standards of five minutes for 90 percent of EMS incident responses

and 5:20 minutes for 90 percent of Non-EMS; Fire Station 10 has an average EMS response time of 6:16 minutes and an average non-EMS response time of 5:37 minutes. (Draft EIR page 4.11.1-17.)

The Project-related increase in traffic on surrounding roadways could potentially affect emergency response times in the area. A number of factors would serve to facilitate responses to emergency calls. Emergency response is routinely facilitated, particularly for high priority calls, through the use of sirens to clear a path of travel, driving in lanes of opposing traffic, use of alternate routes, and multiple station response. The Project vicinity is well served by five nearby fire stations within close proximity to one-another and the Project site, and which are consistent with response time standards. Also, these five fire stations have access to multiple routes to attend emergency calls. The Project will incorporate applicable provisions of the Fire Code, including fire resistant doors, materials, walkways, stairwells, and elevator systems (including emergency and fire control elevators); installation of automatic sprinkler systems, smoke detectors, appropriate signage and internal exit routes to facilitate a building evacuation if necessary; as well as a fire alarm system, emergency communication system and smoke control system. (Draft EIR page 4.11.1-18.) New construction would also be subject to other requirements of the Fire Code, Building Code, and the LAFD that addresses structure design and building materials.

There are a number of additional factors that influence emergency response times in addition to traffic, including alarm transfer time, alarm answering and processing time, mobilization time, risk appraisal, signals, and roadway characteristics. The LAFD has taken a number of steps to improve their related systems, processes and practices. Upgrades include installation of automated vehicle locating systems on all LAFD apparatus; replacement of fire station alerting systems that control fire station dispatch audio, signal lights, and other fire station alerting hardware and software; development of a new computer aided dispatch system to manage fire and emergency medical service incidents from initial report to conclusion of an incident; and, use of traffic pre-emption systems. A traffic pre-emption system allows the normal operation of traffic lights to be preempted by an emergency vehicle to improve response times by stopping conflicting traffic in advance, providing the emergency vehicle the right-of-way. (Draft EIR page 4.11.1-18.) Based on the ability of LAFD to respond to emergency situations, the number, proximity, and accessibility of fire stations in the Project vicinity and the multiple steps being taken by the LAFD to improve response times, Project impacts on fire protection, services, and response times would be less than significant and, therefore, no mitigation measure is required.

With incorporation of applicable regulatory requirements (i.e., building design, fire safety features, emergency safety provisions, LAFD access, construction measures, and plot plan review), along with the fact that the LAFD has no known or proposed plans to expand their fire protection facilities within the Downtown and/or Arts District areas at this time, the Project is not expected to result in a substantial increase in demand for additional fire protection services that would exceed the capability of the LAFD to serve the Project such that it would require construction of new fire facilities. (Draft EIR page 4.11.1-18.)

Even if a new fire station, or the expansion, consolidation, or relocation of a station was determined warranted by LAFD, and was foreseeable, the Downtown and/or Arts District community is highly developed, and the site of a fire station or expansion of a fire station would likely be on an infill lot. Most fire stations in the Project vicinity are typically on small lots of approximately 1 acre or less (i.e., Fire Stations 3, 9, 10 and 17), although some larger stations do occur (i.e., Fire Station 4: approx. 3.5 acres). Generally, development associated with typical fire stations is unlikely to result in significant unavoidable impacts, and projects involving the construction or expansion of a fire station are anticipated to be addressed pursuant to CEQA

through categorical exemptions or (mitigated) negative declarations since they are likely relatively small structures on infill parcels. (Draft EIR pages 4.11.1-18 and 4.11.1-19.) Further, the protection of public safety is the first responsibility of local government and local officials have an obligation to give priority to the provision of adequate public safety services, which are typically financed through the City general funds. Accordingly, state court have held that the need for additional fire protection services as part of an unplanned fire station at this time is not an environmental impact that the Project is required to mitigate. (Draft EIR page 4.11.1-19.)

Based on the above, the addition of a new fire facility, or the expansion, consolidation, or relocation of an existing facility, is not foreseeably needed to maintain service and the potential for physical impacts associated with construction of fire facilities are considered less than significant and, therefore, no mitigation measure is required.

Emergency Access. Emergency access to the Project Site is available from the three streets bordering the Project Site, including from the north and south by S. Alameda Street and Mill Street, and from the east and west by Industrial Street. Also, the Project will provide specific life safety features as outlined in LAFD Requirement No. 10, which include providing an additional Fire Service Access Elevator in addition to the number of elevators required in the California Building Code; two (2) stairways (and a third if added) shall have roof access; enclosed elevator lobbies; escalator openings or stairways that are not part of the means of egress system and connect more than two stories protected by approved power-operated automatic shutters at every penetrated floor; automatic sprinkler systems; and a Video Camera Surveillance System with cameras located in all Firefighter Elevator Vestibules and on every 5th floor landing in exit stairway shafts, with an additional camera at the top of the exit stairway shaft. (Draft EIR page 4.11.1-19.) The Project will be subject to the review and approval of the LAFD for compliance with emergency access requirements, including but not limited to the firefighting personnel and firefighting apparatus access requirements prior to issuance of building permits. Thus, compliance with the applicable provisions of the Fire Code will ensure Project impacts regarding emergency access are less than significant and, therefore, no mitigation measure is required.

Water Infrastructure/Fire Flow for Firefighting Services. Fire flow requirements are closely related to land use as the quantity of water necessary for fire protection varies with the type of development, life hazard, type of occupancy, and degree of fire hazard. Fire flow requirements vary from 2,000 GPM in low-density residential areas to 12,000 GPM in high-density commercial or industrial areas with a minimum residual water pressure of 20 PSI. Based on the fire flow standards set forth in LAMC Section 57.507.3, and as determined by the Fire Department, the Project has a required fire flow of 6,000 to 9,000 GPM from four to six hydrants flowing simultaneously with a residual pressure of 20 PSI. (Draft EIR pages 4.11.1-19 and 4.11.1-20 and Appendix K-1.) This translates to a required flow of 1,500 GPM for each hydrant. A request for an Information of Fire Flow Availability Report (IFFAR) was submitted to LADWP regarding available fire hydrant flow to demonstrate compliance. The completed IFFAR provided by LADWP is attached as Exhibit 1 of Appendix M, *Utility Infrastructure Technical Report for Water*, of the Draft EIR. The LAFD has determined that the six existing fire hydrants nearest the Project Site have the ability to provide a combined fire flow of 9,000 GPM flowing simultaneously. (Final EIR page 3-8.) Further, the Project will incorporate a fire sprinkler suppression system to reduce or eliminate the public hydrant demands, which will be subject to LAFD review and approval during the design and permitting of the Project. Additionally, the existing 8-inch water line in Industrial Street will meet the fire flow pressure requirements of the Project. As indicated in the approved FSPFR from LADWP for this water line, which is attached as Exhibit 2 of Appendix M of the Draft EIR) the existing 8-inch water line in Industrial Street can provide a static pressure of 65 PSI and a flow of up to 2,500 GPM at a residual pressure of 45 PSI (which exceeds the 20 PSI requirement

for the surrounding public hydrants). Therefore, adequate water pressures exist to serve the Project. Based on all the above, with implementation of Project Design Feature PDF-TRAF-1 and compliance with all applicable LAMC Fire Code and Building Code requirements, Project impacts with respect to fire protection facilities, services, response times, emergency access, water infrastructure and fire flow for firefighting purposes will be less than significant and, therefore, no mitigation is required.

b) Cumulative Impacts: 124 of the 163 related projects are located within the service areas of the same five LAFD fire stations that would serve the Project (Fire Stations 9, 17, 4, 3, and 10) as shown in Draft EIR Table 4.11.1-3, *Related Projects for Fire Protection*. These related projects would cumulatively generate, in conjunction with the Project, the need for additional fire protection and emergency medical services from these fire stations. In general, impacts to LAFD services and facilities during the construction of each related project will be addressed as part of each related project's development review process conducted by the City. However, due to the proximity to the Project Site should Project construction occur concurrently with the construction of Related Project Nos. 36, 139, 84 and/or 122, which occur in close proximity to the Project Site, then specific coordination among these multiple construction sites will be required and implemented through the Project's construction management plan, which will ensure emergency access and traffic flow are maintained on adjacent right-of-ways. In addition, construction-related traffic generated by the Project and the related projects will not significantly impact LAFD response within the Project vicinity as emergency vehicles normally have a variety of options for avoiding traffic, such as using sirens to clear a path of travel or driving in the lanes of opposing traffic. Finally, the Project in and of itself will not cause a significant impact to fire services during construction. (Draft EIR pages 4.11.1-29 and 4.11.1-30.) Thus, the Project's contribution to cumulative impacts during construction on LAFD's emergency response will not be cumulatively considerable and, therefore, no mitigation is required.

During operation, although there will be cumulative demand on LAFD services, cumulative impacts on fire protection and emergency medical services will be reduced through regulatory compliance and site specific design and safety requirements, similar to the Project. All related projects are located in a developed, urbanized area within an acceptable distance to one or more existing fire stations. Each related project will be subject to the required review by the LAFD for compliance with Fire Code and Building Code regulations related to emergency response, emergency access, fire flow, and fire safety that will reduce potential impacts to fire protection and emergency services. Project-by-project traffic mitigation, multiple fire station response, and system wide upgrades to improve response times, and other requirements imposed by the LAFD, are expected to help support adequate response times. (Draft EIR page 4.11.1-30.)

As discussed above for the Project, LAFD has no known or proposed plans to expand their Downtown and Arts District fire facilities. If a new fire station, or the expansion, consolidation, or relocation of a station was determined to be warranted by LAFD, the Downtown and Arts District areas are highly developed, and the site of a fire station would likely be an infill lot that would likely be less than an acre in size. Generally, development associated with typical fire stations is unlikely to result in significant unavoidable impacts, and projects involving the construction or expansion of a fire station are anticipated to be addressed pursuant to CEQA through categorical exemptions or (mitigated) negative declarations since they likely relatively small structures on infill parcels. (Draft EIR page 4.11.1-30) Further, the protection of public safety is the first responsibility of local government and local officials have an obligation to give priority to the provision of adequate public safety services, which are typically financed through the City general funds. Through the City's regular budgeting efforts, LAFD's resource needs would be identified and monies allocated according to the priorities at the time. Accordingly, the need for additional

fire protection services as part of an unplanned or expanded fire station at this time is not an environmental impact that the Project would be required to mitigate.

With regard to emergency response, the Project and related projects will introduce new uses which will generate additional traffic in the vicinity of the Project Site. Traffic from the Project and related projects could have the potential to affect emergency vehicle response to the Project Site and surrounding properties due to travel time delays caused by the additional traffic. As discussed above, the Project is not anticipated to substantially affect existing emergency response and the Project will not significantly contribute to a cumulative impact regarding emergency response. As is the case under existing conditions, emergency vehicles would access the Project Site and each of the related projects directly from the surrounding roadways. The drivers of emergency vehicles have a variety of options for avoiding traffic, such as using sirens to clear a path of travel or driving in the lanes of opposing traffic. (Draft EIR pages 4.11.1-30.) As such, emergency access to the Project vicinity will be maintained at all times, and the increase in cumulative traffic generated by the Project and related projects will not significantly impact emergency vehicle response to the Project vicinity, including along designated disaster routes.

Based on the above considerations, with implementation of Project Design Feature PDF-TRAF-1 and compliance with applicable requirements of the LAMC Fire Code and Building Code, the Project will not make a cumulatively considerable contribution to cumulative impacts associated with the construction of fire facilities and operational fire service impacts. As such, cumulative impacts on fire protection services will be less than significant and, therefore, no migration measure is required.

5. References: For a complete discussion of impacts associated with Fire Protection and Emergency Medical Services, please see Draft EIR Section 4.11.1 and Appendices K-1 and M and Final EIR Chapter 3.0, Revisions, Clarifications, and Corrections.

L. Schools

1. Description of Effects:

a) Construction Impacts: The Project could result in a significant impact on schools if it would require the addition of a new school or the expansion, consolidation or relocation of an existing facility to maintain service levels. Construction of the Project will require the participation of construction workers. However, because of the large labor pool that can be drawn from the region, the mobile regional construction work force that moves from project to project, and the temporary nature of the construction activities, Project construction will not generate new students needing to attend local schools.

b) Operation Impacts: The Project will generate approximately 143 net new students. However, because of the nature of live/work units which are anticipated to be occupied by adults and their workspace and less likely households with school-aged children, and the large number of studio and one-bedroom units that are less likely to include school-age children, the Project's project student generation rate is likely to be less than 143 net new students. Nonetheless, all schools serving the Project Site except for the 9th Street Elementary School are expected to have available capacity in 2021-2022 that is adequate to accommodate Project students. With addition of the Project's conservative estimate of student generation, 9th Street Elementary School is expected to have a shortage of eight seats. With compliance with the regulatory fee requirements of Government Code Section 65995, the Project's impacts on schools will be less than significant.

c) Cumulative Impacts: 129 of the 163 related projects are located within the attendance boundaries of one or more of the schools serving the Project Site. Based on the proposed uses of the relevant related projects, the cumulative student generation for the schools serving the Project is conservatively estimated 5,139 at the 9th Street Elementary School, 1,432 students at the Hollenbeck Middle School, and 2,946 combined students at the Boyle Heights S.T.E.M. High School, Theodore Roosevelt Senior High School, and Felicitas and Gonzalo Mendez Senior High Schools. This would result in a shortage of seats at all these facilities. However, like the Project, the related projects will be required to mitigate the shortage through payment of regulatory fees imposed by the Government Code. Therefore, the Project's incremental contribution towards school impacts will not be cumulatively considerable.

2. Project Design Features: None.

3. Findings: Changes or alternations have been required in, or incorporated into, the Project that avoid or substantially lessen potential significant environmental effects of school impacts of the Project to less than significant levels.

a) Construction: Project construction impacts on schools will be less than significant. No mitigation measure is required.

b) Operation: Project operations impacts on schools will be less than significant. No mitigation measure is required.

c) Cumulative Impacts: The Project's contribution to cumulative impacts on schools will be less than significant. No mitigation is required.

4. Rationale for Findings: SB 50, enacted in 1998, is a program for funding school facilities largely based on matching funds between the State and local school districts. SB 50 also permits the Los Angeles Unified School District (LAUSD) to levy a fee, charge, dedication, or other requirement against any development project within its boundaries, for the purpose of funding the construction or reconstruction of school facilities. SB 50 also sets a maximum level of fees a developer may be required to pay. Pursuant to Government Code Section 65995, the payment of these fees by a developer serves to mitigate all potential impacts on school facilities that may result from implementation of a project to a less than significant level.

a) Construction Impacts: Construction of the Project will require the participation of construction employees that will be hired from a mobile regional construction work force that moves from project to project. Typically, construction workers pass through various development projects on an intermittent basis as their particular trades are required. Given the mobility and short durations of work at a particular site, and a large construction labor pool that can be drawn upon in the region, construction employees are not expected to relocate residences within this region or move from other regions as a result of their work on the Project. Therefore, Project construction will not generate new students needing to attend local schools. (Draft EIR page 4.11-8.)

Para Los Niños Charter School is located immediately adjacent to the Project Site and the Draft EIR analyzed air quality and noise impacts in addition to its discussion of capacity impacts. Construction air quality and noise impacts to the school are analyzed in Draft EIR Section 4.2, *Air Quality*, and Section 4.9, *Noise*, respectively. As discussed therein, Project-related air quality and noise impacts will be less than significant with implementation of the prescribed mitigation measures, as applicable (see Section XIII of these Findings). Additionally, there will be no Project-

related construction staging or road closures along 7th Street or Alameda Street that would affect access to the school. (Draft EIR page 4.11.3-8.)

For the foregoing reasons, the Project's construction activities will not adversely affect the operations of nearby schools nor will it result in needing the addition of a new school or the expansion, consolidation or relocation of an existing facility to maintain service levels. Thus, construction impacts on schools would be less than significant and, therefore, no mitigation measure is required.

b) Operations Impacts: The LAUSD has established student generation rates for a variety of uses including residential development (multi-family) as well as other employment generating uses such as commercial/restaurant/retail uses. Based on the LAUSD generation rates, the number of students that could be generated by the Project is illustrated in Draft EIR Table 4.11.3-2, *Estimated Number of Students Generated by the Project*. As shown in Table 4.11.3 -2. Subtracting the number school students generated by the existing commercial uses on the Project Site, the Project will result in a net increase of 77 elementary school students, 21 middle school students, and 45 high school students for a total of 143 students over existing conditions. (Draft EIR page 4.11.3-8.) However, because of the nature of the live/work units, which are anticipated to be occupied by adults and their workspace and less likely households with school-aged children, the Project's projected student generation is likely to be less than the LAUSD generation factors. The Project's large number of studio apartments (50 units) and one-bedroom apartments (172 units) would generate few, if any, students. The analysis is also conservative in that it assumes that none of the future Project residents with families would already have students attending the affected schools. Furthermore, although a portion of the Project's school-aged children may attend private schools, thus reducing attendance at LAUSD schools, that assumption is not accounted for in the analysis. For these reasons, the Draft EIR's analysis is conservative and likely overestimates the Project's actual potential to generate new students. (Draft EIR page 4.11.3-9.)

Students generated by the Project would attend 9th Street Elementary School and Hollenbeck Middle School with a choice of either Boyle Heights S.T.E.M. High School, Theodore Roosevelt Senior High, or Felicitas and Gonzalo Mendez Senior High. (Id.) Information regarding LAUSD projections for 2021-2022 (Project buildout year) capacities and enrollments at the local schools are shown in Draft EIR Table 4.11.3-3, *Projected Capacity and Enrollment of LAUSD Schools Serving the Project Site*. As indicated in the table, all of the schools serving the Project Site, except the 9th Street Elementary School, are expected to have available capacity in 2021-2022 that is adequate to accommodate Project students. The Hollenbeck Middle School would have an excess of 391 seats. The three high schools included within the Boyle Heights Academic Zone of Choice would have a combined excess of 676 seats. With the addition of Project-generated number of elementary students, the 9th Street Elementary School would have a shortage of eight seats, or 38 seats less than the 30-seat safety margin. (Draft EIR page 4.11.3-10.) However, as discussed above, the Project's projected student generation is likely to be less than estimated in the Draft EIR's conservative analysis. (Draft EIR page 4.11.3-10.) Further, according to the LAUSD, there is no overcrowding of these schools projected in the future. (Draft EIR Appendix K-3.)

In addition, pursuant to Section 65995 of the California Government Code, the Project applicant will pay fees in accordance with SB 50. Payment of such fees is intended for the general purpose of addressing the construction of new school facilities, whether schools serving the Project in question are at capacity or not and, pursuant to Section 65995(h), payment of such fees is

deemed full mitigation of a project's development impacts. As such, Project impacts to schools would be less than significant and, therefore, no mitigation measure is required.

The Para Los Niños Charter School, which has approximately 400 students in grades K-5, admits students from throughout the State of California on a first-come, first-serve basis. If there is more interest than available openings, entrance is determined by a public lottery. The Project will not affect the School's admission policies. (Draft EIR page 4.11.3-5.) Therefore, Project impacts to this school's capacity, if any, will be negligible.

c) Cumulative Impacts: 129 of the 163 related projects are located within the attendance boundaries of the schools serving the Project Site. Draft EIR Table 4.11.3-4, *Cumulative Student Generation*, shows the number of students projected to be generated by the related projects for each of the schools, the number of students generated by the Project, and the cumulative total. The location of these related projects in relation to the school boundaries are shown in Draft EIR Figure 4.11.3-2, *Designated LAUSD School Service Boundaries and Related Projects*. Similar to the Project, the number of students anticipated to be generated by related projects was estimated based on the type of development proposed. As shown in Table 4.11.3-4, related projects could potentially generate 5,139 students at the 9th Street Elementary School, 1,432 students at the Hollenbeck Middle School, and 2,946 combined students at the Boyle Heights S.T.E.M. High School, Theodore Roosevelt Senior High, and Felicitas and Gonzalo Mendez Senior High. As more fully explained below, these are very conservative estimates.

Draft EIR Table 4.11.3-5, *Projected Capacity and Enrollment of LAUSD Schools with Cumulative Development*, illustrates the cumulative impacts on projected enrollment, capacity, and seating at the nearby schools. Based on the 2021-2022 projected seating capacity estimates provided by LAUSD, 9th Street Elementary School would have a shortage of 5,070 seats, or 5,100 seats less than the 30-seat safety margin with the addition of the Project students combined with related projects. The Hollenbeck Middle School would have a shortage of 1,020 seats, or 1,050 seats less than the 30-seat safety margin with the addition of the Project students combined with related projects. The Boyle Heights S.T.E.M. High School, Theodore Roosevelt Senior High School, and the Felicitas and Gonzalo Mendez Senior High Schools would have a combined shortage of 2,225 seats, or 2,255 seats less than the 30-seat safety margin with the addition of the Project students combined with related projects. Cumulative development, therefore, has the potential to generate more students than these schools are projected to be able to accommodate.

However, the impacts of cumulative development on local schools is likely to be overstated, since the projected population increase from related projects is conservatively calculated, and the analysis does not take into account projects that will not be constructed and occupied within the timeframe analyzed, projects that may be reduced in size, or demolition of existing housing or commercial structures to accommodate the planned new development. Further, the future LAUSD enrollment estimates already account for some growth that may be inclusive of the related projects cited here.

Additionally, as with the Project, future related projects will be required to pay development fees for schools to LAUSD prior to the issuance of grading permits pursuant to SB 50. Pursuant to Government Code Section 65995, the payment of developer fees will be considered full and complete mitigation of school impacts by the related projects. Thus, the Project's incremental contribution to cumulative schools impacts will be less than significant and, therefore, no mitigation measure is required.

5. References: For a complete discussion of impacts associated with Schools, please see Draft EIR Section 4.11-3 and Appendix K-3.

M. Libraries

1. Description of Effects:

a) Construction Impacts: The Project's construction workers will be coming from an existing labor pool whose workers move between construction projects on short-term basis without requiring relocation. Workers traveling to work may stop at a library that is outside of their residential neighborhood. However, such stops would be incidental, short-term, and typical of workers throughout the region and would not raise the total library usage. Consequently, the Project's increase in demand for library services due to construction activity will be negligible. Therefore, there will be no need for the construction of library facilities to accommodate construction population. Moreover, there are no libraries located in the immediate vicinity that will be affected by construction activities occurring at the Project Site. The nearest library, the Little Tokyo Branch Library, located approximately one mile northwest of the Project Site, is separated by intervening development. There will be no Project-related construction staging or road closures at or adjacent to the Little Tokyo Branch Library. Therefore, construction activities will not adversely affect the operations of nearby libraries.

b) Operation Impacts: Based on an average household size of 3.2 persons per household within the Central City North Community Plan area from the 2010 Census, the Project's 475 residential live/work units will generate an estimated 1,520 new residents. Since the Project will increase the residential population in the Project area, the Project will increase demand for library services. However, there is sufficient capacity to accommodate that demand through the existing libraries serving the Project.

c) Cumulative Impacts: The total cumulative population growth associated with the related projects is 93,929 people. Similar to the Project, related projects would generate revenue to the City's general funds that could be used to fund expenditures as necessary to offset the cumulative incremental impact on library services. Additionally, the libraries closest to the Project Site, the Central Library and the Little Tokyo Branch Library, have adequate capacity to serve the Project and the related projects.

2. Project Design Features: None.

3. Findings: Changes or alternations have been required in, or incorporated into, the Project that avoid or substantially lessen potential significant environmental effects of libraries impacts of the Project to less than significant levels.

a) Construction: Project construction impacts on libraries will be less than significant. No mitigation measure is required.

b) Operation: Project operations impacts on libraries will be less than significant. No mitigation measure is required.

c) Cumulative Impacts: The Project's contribution to cumulative impacts on libraries will be less than significant. No mitigation is required.

4. Rationale for Findings:

a) Construction Impacts: The Project's construction workers will be coming from an existing labor pool whose workers move between construction projects on short-term basis without requiring relocation. Workers traveling to work may stop at a library that is outside of their residential neighborhood. Such library stops would be incidental and typical of workers throughout the region. Such stops would increase library use at one location while reducing it at another. Such variations would occur on short-term basis. There would be no notable increase in library usage at the libraries serving the Project Site; and therefore no need for the construction of library facilities to accommodate construction population. (Draft EIR page 4.11.4-7.) There are no libraries located in the immediate vicinity that will be affected by construction activities occurring at the Project Site. The nearest library, the Little Tokyo Branch Library, located approximately one mile northwest of the Project Site, is separated by intervening development. There will be no Project-related construction staging or road closures at or adjacent to the Little Tokyo Branch Library. (Id.) Therefore, construction activities will not adversely affect the operations of nearby libraries. Based on the above, the Project's increase in demand for library services due to construction activity will be negligible and construction activities will not adversely affect local libraries. Thus, construction impacts on library services will be less than significant and, therefore, no mitigation measure is required.

b) Operation Impacts: The Project will generate an estimated 1,520 new residents which, for analysis purposes, are all expected to use the nearby libraries. (Draft EIR page 4.11.4-8.) The LAPL has identified four libraries serving the Project Site as shown in Draft EIR Table 4.11.4-1, *LAPL Libraries in the Project Vicinity*. The Little Tokyo Branch Library is the nearest library to the Project Site, approximately one mile northwest, and thus is expected to be the primary facility used by the Project residents. The second nearest library, the Richard J. Riordan Central Library, is also expected to draw most of the library uses due to its close proximity (approximately 1.4 miles) and because it is the largest library in the LAPL system and has the most extensive and diverse collection. While Project residents could also utilize the Ben Franklin Branch Library and the Robert Louis Stevenson Branch Library, any use of these facilities is expected to be negligible due to their smaller sizes and greater distances from the Project Site compared to the closer libraries. (Id.)

As identified in Table 4.11.4-2, *LAPL Branch Facilities Plan - Library Building Size Standards*, the Little Tokyo Branch Library, at 12,500 sf, is currently sized below the 14,500 sf standard recommended to serve a population above 45,000 persons. However, while the LAPL considers possible development of a new library when a community in a service area reaches 90,000 persons, the current population in the service area is only 45,796 person; below the level at which a new library might be considered. The Project's 1,520 new residents will not cause total population to exceed the threshold for consideration of the need for new facilities. Moreover, the Project's relatively small contribution to total population in the service area will not result in a major increase in demand at the Little Tokyo Branch Library. Thus, the library's existing service level will be maintained without an additional library or alterations to the existing library. (Draft EIR page 4.11.4-8.) The LAPL Branch Facilities Plan does not identify population served or facility size criteria for the Richard J. Riordan Central Library which serves the entire City and County as a unique facility with resources that go beyond what is provided through local and regional branch libraries. (Id.)

As shown in Table 4.11.4-2, the Ben Franklin Branch Library, at 9,656 sf, is currently sized below the 12,500 sf standard recommended to serve a population of up to 45,000 persons. However, the current population within the service boundary is only 40,319 persons, or 4,681 persons below the level at which a new library might be considered. The Project's 1,520 new residents will not trigger the LAPL's threshold for considering the need for a new branch library. As such, the

library's existing service level will be maintained without an additional library or alterations to the existing library. Further, the use of the Ben Franklin Branch Library by Project residents is anticipated to be minimal, due to its distance from the Project Site and the likely scenario of Project residents to use the nearest library, the Little Tokyo Branch Library, as well as the Richard J. Riordan Central Library. (Draft EIR pages 4.11.4-8 and 4.11.4-9.) Similarly, as shown in Table 4.11.4-2, the Robert Louis Stevenson Branch Library, at 6,000 sf, is currently sized below the 12,500 sf standard recommended to serve a population of up to 45,000 persons. However, the current population within the service boundary is 35,629 persons, below the level at which a new library might be considered and the Project's will not cause the population to reach the threshold for consideration of the need for a new branch library. As such, the library's existing service level will be maintained without an additional library or alterations to the existing library. (Draft EIR page 4.11.4-9.) However, as with the case of the Ben Franklin Branch Library, the use of the Robert Louis Stevenson Branch Library by Project residents is anticipated to be minimal, due to its distance from the Project Site and the likely scenario of Project residents to use the nearest library, the Little Tokyo Branch Library, as well as the Richard J. Riordan Central Library.

Given the Project's proximity to the Little Tokyo Branch Library and the Richard J. Riordan Central Library, the existing capacities within the Richard J. Riordan Central Library, Ben Franklin Branch Library, and the Robert Louis Stevenson Branch Library, and population service levels at the three LAPL branch locations below the 90,000 population size that the LAPL uses to consider the possibility of new libraries/library expansion that serve Project residents, there currently exists sufficient library capacity to meet Project needs and no new facilities or physically altered facilities will be necessary. Further, the LAPL does not currently have plans to expand any of the four libraries serving the Project area, nor does it currently have plans to construct new libraries in the Project vicinity. (Draft EIR Appendix K-4.) Thus, impacts on library services will be less than significant and, therefore, no mitigation measure is required.

Additionally, the Project will also generate revenue for the City's general fund that could be used for the provision of public services such as library facilities. Measure L, which gradually increases library funding from its current level of 0.0175 percent of assessed property value to 0.0300 percent to keep libraries open longer and improve library services, also provides LAPL with a mechanism to address the needs of additional residents. Further, the LAPL recommends a mitigation fee of \$200 per capita based upon the projected residential/business population of the development. The funds would be used for staff, books, computers, and other library materials. Fees would be paid by the developer, as applicable. (Draft EIR page 4.11.4-9.)

c) **Cumulative Impacts:** As discussed in Draft EIR Section 4.10, *Population, Housing and Employment*, the total cumulative population growth associated with the related projects is 93,929 people. Similar to the Project, related projects will generate revenue to the City's general funds that could be used to fund LAPL expenditures as necessary to offset the cumulative incremental impact on library services. Also, as previously noted, Measure L gradually increased LAPL funding from its current level of 0.0175 percent of assessed property value to 0.0300 percent, to keep libraries open longer and improve library services, thereby providing LAPL a mechanism to address the needs of additional population. In addition, the LAPL recommends a mitigation fee of \$200 per capita based upon the projected residential/business population of new development. The funds would be used for staff, books, computers, and other library materials.

Regarding the two smaller libraries in the Project area, the Project's contribution to cumulative impacts will be negligible and not cumulatively considerable given the expectation that most all residents would use the closest libraries, the Central Library and Little Tokyo Branch Library, both

of which have adequate capacity to serve the Project and related projects. Therefore, no new facilities that would require changes to the physical environment will be needed. Additionally, there are no planned improvements to add capacity through expansion to existing libraries and no plans for the development of any other new libraries to serve the Project community. (Draft EIR Appendix K-4.) Thus, the Project's incremental contribution towards library impacts will not be cumulatively considerable, and cumulative impacts will be less than significant and, therefore, no mitigation measure is required.

5. References: For a complete discussion of impacts associated with Libraries, please see Draft EIR Section 4.11.4 and Appendix K-4.

N. Parks and Recreation

1. Description of Effects:

a) Construction Impacts: Construction of the Project will not interfere with existing park usage because there are no parks in the vicinity of the Project. The nearest park is located 0.4 miles northwest of the Project Site. However, it is not located along a major street that would provide access to the Project Site for construction equipment.

b) Operational Impacts: The Project will not result in requiring new or physically altered park facilities to meet the need of the Project nor increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial deterioration of the facility would occur or be accelerated. The Project will add new residential population to the Project area which will increase the demand for park services. However, the Project will include recreational amenities and open space although it will not meet the City's standards for parks and recreational facilities per resident. The Project will comply with the regulatory requirements of the LAMC regarding park development fees.

c) Cumulative Impacts: The total cumulative residential population anticipated from the 163 related projects, combined with the Project, is 93,929 based on a cumulative total of 47,026 residential units. The related projects represent a large number of large-scale projects that typically include adequate recreational amenities to meet market demand for its occupants. All related projects with residential uses will be required to comply with LAMC regulations which require the provision of on-site open space and recreational facilities and/or payment of in-lieu fees to off-set a project's impacts to off-site parks and recreational facilities. For those residential related projects that are not required provide on-site facilities, the developer will be required to pay a fee of \$200 per unit for the acquisition and development of park and recreational sites and facilities.

2. Project Design Features: None.

3. Findings: Changes or alternations have been required in, or incorporated into, the Project that avoid or substantially lessen potential significant environmental effects of parks and recreation impacts of the Project to less than significant levels.

a) Construction: Project construction impacts on parks and recreation will be less than significant. No mitigation measure is required.

b) Operation: Project operations impacts on parks and recreation will be less than significant. No mitigation measure is required.

c) Cumulative Impacts: The Project's contribution to cumulative impacts on parks and recreation will be less than significant. No mitigation is required.

4. Rationale for Findings: The City's Department of Recreation and Parks (LADRP) is responsible for the establishment, operation, and maintenance of parks and recreational facilities in the City. Existing parks and recreational facilities located within two miles of the Project Site are shown in Draft EIR Figure 4.11.5-1, *Parks and Recreational Facilities Located in the Vicinity of the Project Site*. The following parks are in the Project vicinity: four neighborhood parks located within a 2-mile radius; 63 community parks located within a 5-mile radius; and, 23 regional parks located within a 10-mile radius. None of the parks are within the Arts District. The nearest park, Gladys Park at 624 East 6th Street, is located approximately 0.4 miles northwest of the Project Site. This approximate 0.3-acre neighborhood park includes basketball courts (unlighted / outdoor), outdoor exercise equipment (without weights), and picnic tables. (Draft EIR page 4.11.5-2.) Also, the approximate 12 acre Sixth Street Park, Arts, River, and Connectivity Improvements Project (PARC Project) is being proposed in the Project vicinity. The PARC Project includes the creation of public recreational space in areas underneath and adjacent to the Sixth Street Viaduct (Viaduct), including park space between the LA River and Mateo Street in the Arts District. The Project will not inhibit development of the PARC Project and therefore it will not conflict with the PARC Project. The Project will conform to the Los Angeles River Revitalization Master Plan, the City of Los Angeles Mobility Plan 2035, the One Water LA Plan, and other local and adopted plans as applicable. (Draft EIR page 4.11.5-2.)

a) Construction Impacts: The nearest park to the Project Site, the 6th and Gladys Street Park, is not located along major streets that would provide access to the Project Site for construction equipment. The distance of this park from construction activity, approximately 0.4 miles, and the intervening development will avoid potential noise or conflict with construction worker activities. A few construction workers may visit a park to eat lunch or for recreation activity after a day of work. However, construction workers are temporary employees with high turnover associated with the various phases of construction. Such park use would be rare. (Draft EIR page 4.11.5-10.) Thus, impacts on park due to construction activities would be less than significant and, therefore, no mitigation measure is required.

b) Operation Impacts: The Project will provide public and private open space. As shown in Draft EIR Table 2-1 in Section 2.0, *Project Description*, the Project will provide 44,623 sf of open space, of which 14,537 sf will be open space accessible to the public; 23,974 sf would be common open space for Project residents, including 4,612 sf of recreation room and fitness center and a pool deck serving as primary recreational amenities. The publicly-accessible and common open space areas will provide a wide range of indoor and outdoor amenities that will be located in several distinct nodes along with paseos and a plaza on the ground floor. In addition to publicly-accessible and common open space there would be 1,500 sf of private open space in the form of a private terraces and patios. (Draft EIR page 4.11.5-8.)

Pursuant to LAMC Section 12.22.A.25(c) the Project includes an affordable housing component, and as such, the Project qualifies for a by-right residential density bonus over the otherwise allowable maximum density which would total 812 units. However, since the Project will only contain 475 units, a density bonus would not be required and, instead, as an on-menu incentive under LAMC Section 12.22.A.25(f)(6) for providing affordable housing, the Project Applicant has requested a 20 percent reduction in the required amount of open space.

Parks and Recreation Plan (PRP). The PRP's long-range citywide standard of two acres each of neighborhood and community parkland per 1,000 persons, and six acres of regional parkland per

1,000 residents, for a combined total of ten acres of parkland per 1,000 residents may not be reached during the life of the plan. Therefore, the PRP includes more attainable short and intermediate-range standards of one acre each of neighborhood and community parkland per 1,000 residents. The Project's 475 residential units will generate an estimated 1,520 residents which would require 6.08 acres¹⁸ of parkland to meet the PRP's long-range standard and 3.04 acres to meet the short and intermediate-range standards. The Project will provide approximately 1.02 acres (0.67 acres per 1,000 residents) of on-site recreational amenities and open space. Thus, the Project will not meet the PRP's short or long-range standards. However, given the Project's open space and recreational amenities, it is expected that the majority of recreation use will take place within the Project Site. (Draft EIR page 4.11.5-11.) Additionally, residual off-site park usage will likely be dispersed among the four neighborhood parks, 63 community parks, and 23 regional parks of which will serve the Project. Therefore, the impacts at any single park location will be small, and the Project's contribution to park use will not cause substantial degradation of existing facilities or require a new public park. (Id.)

The Project's provision of on-site open space and recreation facilities will reduce the use of area parks by Project residents. Nonetheless, some Project residents are expected to utilize nearby park amenities such as picnic areas, sports fields, and basketball courts. As a result, the Project's approximately 1,520 residents could result in a small incremental increase in the use of area public parks. However, the Project will be subject to the regulatory requirements of the LAMC which have been formulated to reduce impacts of new development on parks and recreation facilities to a less than significant level by requiring the dedication of parkland, payment of in-lieu fees, or provision of comparable on-site recreational facilities in compliance with the LAMC.

Community-Wide Needs Assessment. In addition to the PRP, the City's 2009 Community-Wide Needs Assessment provides more recent standards for the provision of park space. The Project's approximately 1,520 new residents would require 0.152 acres of mini-parks, 2.28 acres of neighborhood parks, 3.04 acres of community parks, and 9.12 acres of regional and large urban parks to meet the Community-Wide Needs Assessment standards. While the Project will provide 1.02 acres of on-site recreational amenities and open space, all of which would be available to Project residents, the Project will not meet provide on-site park space per Community-Wide Needs Assessment standards. (Draft EIR pages 4.11.5-11 and 4.11.5-12.)

However, the Project will comply with the LAMC regulations regarding parks and recreational facilities. Further, it is anticipated that, due to convenience, most Project residents will more frequently use on-site recreational amenities (e.g. fitness facility, clubroom, etc.) and open space (e.g., plazas, paseos, terraces, patios, landscaped areas, etc.) rather than off-site public parks and recreational facilities. Thus, the Project's provision of on-site recreational amenities and open space will reduce the use of area parks and recreational facilities by Project residents. Nonetheless, some Project residents are still be expected to utilize public parks and recreational facilities which will result in an incremental increase in the use of area public parks and recreational facilities. However, the impacts at any single park location will be small and the Project's contribution to park use will not cause substantial degradation of existing facilities or require a new public park. Accordingly, with compliance with the regulatory provisions of the LAMC which require the dedication of parkland, payment of in-lieu fees, and/or provision of comparable on-site recreational facilities, this impact will be less than significant.

LAMC Requirements. The Project's open space requirements are set forth in Draft EIR Table 4.11.5-1, *Project Open Space Requirements*. The Project's 475 residential units based on LAMC Section 12.21.G, will generate an estimated usable open space requirement of 55,775 sf prior to application of the on-menu incentive for affordable housing. With the incentive's 20 percent open

space reduction, the Project is required to provide 44,620 sf of open space. Per LAMC Section 12.21.G, at least 50 percent (e.g., 22,310 sf) of this open space must be common open space, with at least 25 percent of this common open space (e.g., 5,578 sf) planted with ground cover, shrubs, or trees. The Project will provide approximately 44,623 sf of on-site recreational amenities and open space, thereby meeting City's open space requirements. In addition, approximately 5,580 sf of the 14,537 sf of publicly-accessible and common open space will include planted landscaping, thereby meeting the City's landscape requirements. (Draft EIR page 4.11-12.) Accordingly, the Project will meet LAMC Section 12.21.G useable open space and landscape requirements.

Parkland Requirements. LAMC Section 12.33 sets park and recreational facility dedication and/or in lieu fee requirements for new residential subdivisions based on the maximum residential density at which a site may or will be developed. Based on LAMC Section 12.33.D, up to approximately 2.54 acres will be required to be dedicated to the City (or equivalent in-lieu fees paid) for parkland and recreational facilities. The Project will not include the dedication of any portion of the Project Site to the City for parks and recreational facilities. However, LAMC Section 12.33.H permits privately-held park and recreational facilities developed within a project site to be credited against the project's park dedication and/or in lieu fee requirement as long as these park and recreational facilities are available for use by all project residents. This requirement is met as the Project includes 44,623 sf (1.02 acres) of open space and recreational amenities, of which 14,537 sf (0.33 acres) will be open space accessible to the public; 23,974 sf will be common open space for Project residents; and, there will be a 4,612 sf recreation room and fitness center space for Project residents. (Draft EIR page 4.11.5-13.) Through the payment of required in-lieu fees for parks and recreational facilities, the Project will be consistent with the LAMC Section 12.33 parkland requirements.

LAMC Section 21.10.3 sets a dwelling unit construction tax of \$200 for each new residential unit for City acquisition of new park space, with the set aside or dedication of parkland and recreational facilities and/or payment of in-lieu fees under LAMC Section 12.33.H credited against the payment of this tax. As the Project Applicant will pay the \$200 tax, the Project will be consistent with LAMC Section 21.10.3 dwelling unit construction tax requirements. Further, per Section 12.33.G., the Project may be eligible to receive an affordable housing exemption from a portion of the park fee and land dedication requirement based on the final number of affordable units provided by the Project. (Draft EIR page 4.11.5-14.)

For all the above reasons, the Project's impact on parks and recreational facilities will be less than significant and, therefore, no mitigation measure is required.

c) *Cumulative Impacts:* The related projects with residential components would cumulatively generate, in conjunction with the Project, the need for additional parks and recreational facilities. Similar to the Project, the residential population was determined in the Draft EIR by multiplying the number of residential units by the average household size for the Central City North Community Plan, which is 3.2 persons per household for related projects located in the City. As illustrated in Draft EIR Table 4.11.5-2, *Cumulative Impacts to Parks and Recreational Facilities*, this will result in a cumulative population growth of 93,929 residents. Although the standards set forth in the PRP are Citywide goals and are not intended to requirements for individual development projects, development of the Project and related projects could exacerbate deficiencies in parkland per the PRP standards. The City's PARC Project, if developed, will help offset such deficiencies in the Arts District.

The related projects represent a large number of large-scale projects that typically include adequate recreation amenities to meet market demand among condominium purchasers and renters. As is the case with the Project, impacts on local parks would be residual effects after first use of on-site activities and would be dispersed over the large number of parks throughout the area. Further, all related projects with residential uses will be required to comply with the LAMC Sections 12.21 and 12.33, which require the provision of on-site open space and park facilities and/or payment in-lieu fees to offset a project's impact to off-site park and recreational facilities. Should any residential developments not require park and recreation facilities pursuant to Sections 12.21 and 12.33, they will be required to pay a \$200 per unit fee to the "Park and Recreational Sites and Facilities Fund" for the acquisition and development of park and recreational sites and facilities, pursuant to Section 21.10.3 of the LAMC. (Draft EIR pages 4.11-15 and 4.11.5-16.)

With the Project's on-site open space and recreational facilities in addition to the required payment of in-lieu park fees, the Project will be consistent with the City's applicable open space and parkland requirements. Payment of these fees will constitute the Project's fair share of measures/fees to help offset the Project's relatively small contribution to cumulative impacts as compared to the overall residential population generated by the related projects. (Draft EIR page 4.11-5-15.) Additionally, with compliance to applicable regulations, cumulative impacts to parks and recreational facilities from related projects will be less than significant. Thus, based on the above considerations, the Project will not make a considerable contribution to cumulative parks and recreational facilities impacts. Accordingly, cumulative impacts on parks and recreational facilities will be less than significant and, therefore, no mitigation measure is required.

5. References: For a complete discussion of impacts associated with Parks and Recreation, please see Draft EIR Section 4.11.5 and Appendix K-5.

O. Transportation and Traffic

1. Description of Effects:

a) Construction: Traffic impacts from construction activities could occur as a result of the following types of Project activities: (i) increases in truck traffic associated with export or import of fill materials and delivery of construction materials; (ii) increases in automobile traffic associated with construction workers traveling to and from the Project Site; (iii) reductions in existing street capacity or on-street parking from temporary lane closures necessary for the construction of roadway improvements, utility relocation, and drainage facilities; or, (iv) blocking existing vehicle or pedestrian access to other parcels fronting streets. With the implementation of Project Design Feature PDF-TRAF-1, the Construction Management Plan, potential construction impacts associated with hauling, deliveries, lane closures, and worker vehicles will be reduced through scheduling, traffic controls, notification, and safety procedures to ensure that the Project will not result in substantial disruption of traffic flow, intersection operational impacts, conflicts with pedestrians and/or bicyclists, the loss of on-street parking, or conflicts with existing Metro operations. Any temporary relocation of bus stops will not exceed one-quarter mile distance from the Project Site.

b) Operation (Existing with Project Conditions): The Project would have a significant impact on intersection service levels if the Project would increase the volume-to-capacity (V/C) ratio above the level-of-service (LOS) thresholds. Existing with Project conditions at all 18 signalized study intersections will operate at LOS D or better during peak hours with 17 of the 18 intersections operating at LOS C or better. Two of the three unsignalized

study intersections already meet the peak hour volume threshold which will result in a determination of whether a signal at either of those two intersections is required regardless of Project traffic. However, this does not correlate to a threshold of significance, it merely means that the City or Caltrans must determine, based on several factors including spacing with adjacent intersections and interruption of traffic flow on major streets, if a new traffic signal is appropriate.

c) Operation (Future with Project Conditions, except for the intersections of Alameda Street and 6th Street, afternoon (PM) peak hours, Alameda Street and 7th Avenue, morning (AM) and PM peak hours, Mateo Street and 7th Avenue, AM and PM peak hours, Central Avenue and 7th Street, PM peak hours, Santa Fe Avenue and 7th Street, AM and PM peak hours, and Alameda Street and Olympic Boulevard, AM and PM peak hours [the “Six Intersections”]): Other than at the Six Intersections at the peak hours listed above, the remaining intersections in the Study Area will not exceed the threshold of significance for increased traffic level from the Project, related projects and ambient growth.

d) Regional Transportation System: In accordance with the 2010 Congestion Management Program (CMP), the impacts at all CMP arterial monitoring stations to which the Project would add 50 or more trips during either the AM or PM weekday peak hours, or 150 or more trips to a mainline freeway monitoring location during either the AM or PM weekday peak hours, are required to be examined. The CMP analysis identified one arterial monitoring intersection, Alameda Street and Washington Boulevard, and one mainline freeway monitoring location, US-101 north of North Vignes Street, in the Study Area. The Project will add less than 50 trips at the arterial monitoring intersection and less than 150 trips at the mainline freeway monitoring location. Additionally, the Project meets the screening criteria identified in an approved Memorandum of Understanding between the City and Caltrans attached as Exhibit A to the Draft EIR Appendix L-1, *Traffic Study*.

e) Public Transit: Transit ridership generated by the Project will not exceed the residual capacity of the Project’s area transit lines. Additionally, the Project will not conflict with adopted policies, plans or programs supporting alternative transportation because development will be concentrated near public transit, will provide pedestrian and bicycle amenities and will implement a transportation demand management program to further encourage the use of public transit.

f) Access and Circulation: Vehicular access to the Project Site will be provided from Industrial Street, Mill Street and S. Alameda Street and will be designed based upon the City’s Department of Transportation (LADOT) standards that will not impede traffic movements on City streets. The existing network of traffic lanes, public sidewalks and pedestrian crosswalks will be maintained. In addition, the Project will provide separated access for pedestrian and vehicular traffic. Bicycle access will be the same as pedestrian visitor access and no safety or operational impact relative to bicycle traffic is anticipated.

g) Cumulative Impacts:

(1) Construction: Impacts on traffic associated with construction are typically considered short-term adverse impacts, but not significant. Compliance with regulatory measures and implementation of Project Design Feature PDF-TRAF-1, the Construction Management Plan, which will incorporate scheduling, notification, and safety procedures, will insure that the Project’s construction impacts will be less than significant. Each related project will be required to comply with City requirements regarding haul routes and will implement mitigation measures and/or include project characteristics, such as traffic controls and

scheduling, notification, and safety procedures, to reduce potential traffic impacts during construction.

(2) Operation (Except for the Six Intersections): Other than the Six Intersections, the combination of Project trips, related project trips and ambient growth will not result in exceeding intersection capacity thresholds of significance at the Study Area intersections.

(3) Regional Transportation System, Public Transit, and Access and Circulation: The CMP analysis includes procedures calculated to address countrywide cumulative growth impacts on regional transportation facilities. In addition, although Caltrans methodology for determining a project's contribution to cumulative freeway traffic does not contain any thresholds of significance, for informational purposes, the traffic study for the Project calculated the Project's contribution at 0.31 percent. With regard to public transit, the trips generated by the Project will not exceed the capacity of the Project area's transit lines. Given the available residual capacity, the Project will not result in a cumulatively considerable contribution to cumulative impact on public transit. With regard to vehicular, pedestrian and bicycle access and circulation, the Project will not contribute to a cumulatively significant impact since each related project will be reviewed by the City to ensure compliance with the City's regulatory requirements relative to safe access to each specific project site.

2. Project Design Features: The City finds that Project Design Features PDF-TRAF-1 and PDF-TRAF-2, which are incorporated into the Project and incorporated into these Findings as though full set forth herein, will reduce the already less than significant transportation and traffic impacts of the Project (except for the cumulative operational impacts of the Six Intersections). These Project Design Features were taken into account in the analysis of potential impacts.

3. Findings: Changes or alternations have been required in, or incorporated into, the Project that (except for the Six Intersections which are covered in a Sections IX and X of these Findings), avoid or substantially lessen potential significant environmental effects of transportation and traffic impacts of the Project to less than significant levels.

a) Construction Impacts: With implementation of Project Design Feature PDF-TRAF-1, Project impacts related to transportation and traffic construction impacts will be less than significant. No mitigation measure is required.

b) Operation (Existing with Project Conditions): Project impacts related to transportation and traffic associated with the existing with Project conditions only, will be less than significant. No mitigation measure is required.

c) Operation Impacts (Future with Project Conditions except for the Six Intersection): With implementation of Project Design Feature PDF-TRAF-2, except for the Six Intersections, Project impacts related to transportation and traffic associated with the Project and future conditions, will be less than significant. No mitigation measure is required.

d) Regional Transportation System: With implementation of Project Design Feature PDF-TRAF-2, Project impacts related to the regional transportation system will be less than significant. No mitigation is required.

e) Public Transit Impacts: With implementation of Project Design Feature PDF-TRAF-2, Project impacts related to public transit will be less than significant. No mitigation measure is required.

f) Access and Circulation Impacts: Project impacts related to the access and circulation will be less than significant. No mitigation is required.

g) Cumulative Impacts (Except for the Six Intersections): With implementation of Project Design Features PDF-TRAF-1 and PDF-TRAF-2, the Project's contribution to transportation and traffic impacts, except for the Six Intersections, will be less than significant. No mitigation measure is required.

4. Rationale for Findings: A Traffic Study was conducted based on the Study Area determined by the LADOT. The Project's Traffic Study Area includes a geographic area generally bounded by 4th Street to the north, US 101 and I-5 to the East, I-10 to the south, and San Pedro Street to the west. Draft EIR Figure 4.12-1, *Traffic Study Area and Analyzed Intersection Locations*, depicts the Study Area and the intersections analyzed. The Study Area is well-served by a network of freeways and streets. The streets in the Study Area are under the jurisdiction of the City. Freeways are under the jurisdiction of the California Department of Transportation (Caltrans).

The Project Site is served by a grid of streets that are generally oriented toward the north-south and east-west directions. The major arterials providing regional and sub-regional access to the Project vicinity include Olympic Boulevard, Central Avenue and Alameda Street. The Mobility Plan 2035 (Mobility Plan), which was adopted in January 2016 and is a comprehensive update of the Transportation Element, provides the City's classification system for roadways. The Mobility Plan also provides revised street standards in an effort to provide a more enhanced balance between traffic flow and other important street functions including transit routes and stops, pedestrian environments, bicycle routes, building design, and site access. Although the Mobility Plan was approved, a lawsuit filed on September 9, 2015, seeks to halt its implementation. Given the uncertain legal environment surrounding implementation of the Mobility Plan, the Draft EIR describes the major roadways in the Study Area including the classifications under the Mobility Plan and the Transportation Element. (Draft EIR pages 4.12-3 through 4.12-4.)

In conformance with LADOT's *Transportation Impact Study Guidelines*, intersection capacity was analyzed in the Draft EIR using the Critical Movement Analysis (CMA)-Planning methodology. (Draft EIR page 4.12-20.) This methodology describes the operating characteristics of an intersection in terms of the LOS, based on intersection traffic volumes and other variables such as the number and type of signal phases, lane geometries, and other factors which determine both the quantity of traffic that can move through an intersection (Capacity) and the quality of that traffic flow (Level of Service). (Draft EIR page 4.12-21.) The traffic analysis also takes into account that each of the signalized study intersections is equipped with the Automated Traffic Surveillance and Control (ATSAC) and the Adaptive Traffic Control System (ATCS). LADOT estimates that implementation of the ATSAC system improves intersection capacity by an average of seven percent and the ATCS system improves intersection capacity by an additional three percent over those operating under the ATSAC system alone. Therefore, in accordance with standard LADOT procedures, the Traffic Study (Draft EIR Appendix L-1) applied a capacity increase of 10 percent (0.10 V/C adjustment) to each intersection to reflect the benefits of ATSAC and ATCS control. (Id.)

The Institute of Transportation Engineers's [ITE] *Trip Generation, 9th Edition* (2012) was used in the Traffic Study (Draft EIR Appendix L) to project the Project-generated trips. The published rates for apartment, retail, office, restaurant, and supermarket developments were used. Appropriate trip generation reductions to account for public transit usage, walk-ins, internal capture, and pass-by trips were made in consultation with LADOT (see Appendix A of the Traffic Study, provided in Appendix L-1 of the Draft EIR, for a copy of the LADOT Memorandum of Understanding for further discussion of trip reductions). For all of the uses, a 15-percent adjustment was made in accordance with LADOT's *Transportation Impact Study Guidelines* (2016) to account for transit usage and walking arrivals, as well as arrivals via taxi, tour bus, and carpool services. Similarly, a 20-percent internal capture/walk-in adjustment was applied to the live-work apartments and ground-floor commercial uses generation estimates to account for person trips made between distinct land uses between a mixed-use development (e.g., residents and employees visiting the commercial uses). Again, in accordance with LADOT's *Transportation Impact Study Guidelines*, 50-percent, 20-percent, and 40-percent pass-by reductions were also applied to the retail, restaurant, and supermarket uses, respectively, to account for Project trips made as an intermediate stop on the way from an origin to a primary trip destination without route diversion. (Draft EIR page 4.12-20.)

The Draft EIR also analyzed the geographic distribution of Project-generated trips which is dependent on a number of factors including the location of employment and residential centers from which residents and patrons of the Project would be drawn, characteristics of the street system serving the Project Site, the level of accessibility of routes to and from the Project Site, existing intersection traffic volumes, the Project ingress/egress availability based on the proposed access and circulation, the location of the proposed driveways, and input from LADOT staff. (Draft EIR page 4.12-20.)

a) Construction Impacts: The Project is anticipated to be constructed over a period of approximately 36 months, with completion anticipated in the year 2022. Peak haul truck activity will occur during excavation and grading, and peak worker activity will occur during building construction. Haul trucks will travel on approved truck routes designated within the City. Given the Project Site's proximity to US 101, I-5, and I-10, haul truck traffic will take the most direct route to the appropriate freeway ramps. Up to 428 daily haul truck trips (214 inbound, 214 outbound) are forecast to occur during the excavation and grading period, with approximately 54 truck trips per hour (27 inbound, 27 outbound) uniformly over a typical eight-hour workday. (Draft EIR page 4.12-30.) Assuming a passenger car equivalency (PCE) of 2.0 for trucks, the 428 truck trips would be equivalent to 856 daily PCE trips. The Draft EIR, utilizing recognized guidelines (see footnote 7, page 4.12-31, of the Draft EIR), determined that 54 hourly truck trips would be equivalent to 108 PCE trips (54 inbound, 54 outbound) per hour. (Draft EIR page 4.12-31.)

The estimated number of construction workers each day will depend on the stage of construction. According to construction projections prepared for the Project, the building sub-phase of construction will employ the most construction workers, with a maximum of approximately 350 workers per day. However, because the different building components will not be constructed or installed simultaneously, this cumulative estimate likely overstates the number of workers that would be expected on the peak construction day. Furthermore, on most of the estimated workdays to complete the Project, there will be far fewer workers than on the peak day. (Id.) Therefore, the estimate of 350 workers per day used for the purposes of the Draft EIR analysis represents a very conservative estimate.

The estimated number of daily trips associated with the construction workers is approximately 616 (308 inbound, 308 outbound trips). (Draft EIR page 4.12-31.) With the implementation of Project Design Feature PDF-TRAF-1, the Construction Management Plan, haul truck activity to and from the Project Site will occur outside of the morning and afternoon peak hours. In addition, the hours of construction typically require workers to be onsite before the weekday commuter AM peak period and allow them to leave before or after the commuter PM peak period (i.e., arrive prior to 7:00 a.m. and depart before 4:00 p.m. or after 6:00 p.m.). (Id.) Therefore, most, if not all, construction worker trips will occur outside of the typical weekday commuter peak periods.

The Construction Management Plan will outline measures to manage construction-related traffic (e.g., pedestrian and vehicular traffic controls) throughout the day to maintain traffic flows on public roadways and reduce the effects on the surrounding community. (Id.) Accordingly, no significant peak hour construction traffic impacts are expected to occur. During construction, adequate parking for construction workers will be secured in the vicinity of the Project Site. Restrictions against workers parking in the public right-of-way in the vicinity of (or adjacent to) the Project Site will be identified as part of the Construction Management Plan. Construction parking may require the temporary use of offsite parking areas for materials storage and truck staging. (Id.) Construction activities are expected to be primarily contained within the Project Site boundaries. However, it is expected that construction fences may encroach into the public right-of-way (e.g., sidewalk and roadways) adjacent to the Project Site. Temporary traffic controls will be provided to direct traffic around any closures as required in the Construction Management Plan. (Id.)

The use of the public right-of-way along Industrial Street and Alameda Street will require temporary rerouting of pedestrian traffic as the sidewalks fronting the Project Site will be closed. The Construction Management Plan will include measures to ensure pedestrian safety along the affected sidewalks and temporary walkways (e.g., use of directional signage, maintaining continuous and unobstructed pedestrian paths, and/or providing overhead covering). There are no bus stops adjacent to the Project Site and, therefore, no temporary impacts to transit are expected. (Draft EIR page 4.12-31.)

Parking is allowed adjacent to the Project Site on Industrial Street, so the construction fences could result in the temporary loss of up to 18 unmetered parking spaces. Project construction is not expected to create hazards for roadway travelers, bus riders, or parkers, so long as commonly practiced safety procedures for construction are followed. Such procedures and other measures (e.g., to address temporary traffic control, lane closures, sidewalk closures, etc.) have been incorporated into the Construction Management Plan. (Id.)

For all the foregoing reasons, the Project's construction activities will not result in (i) causing substantial delays and disruption of existing traffic flow; (ii) requiring temporary relocation of existing bus stops; (iii) exceeding operational thresholds at intersections during peak periods; or (iv) substantially reducing on-street parking such that the parking needs of the Project area would not be met. Thus, the construction-related impacts associated with construction relative to transportation and traffic will be less than significant, and the implementation of the Construction Management Plan will further reduce those less than significant impacts. Accordingly, no mitigation measure is required.

b) Operations Impacts (Existing with Project): LADOT guidelines and the L.A. CEQA Thresholds Guide state threshold standards that would normally result in significant impacts on intersection capacity. A project would have a significant traffic impact on a signalized intersection if the increase in the V/C ratio attributable to the project exceeds a specific

threshold depending on the final intersection LOS. As shown on Draft EIR Table 4.12-4, *Intersection Capacity Significance Thresholds*, LADOT has developed a sliding scale methodology in which the minimum allowable increase in the V/C ratio attributable to a project decreases as the V/C ratio of the intersection increases. Based on those thresholds, the Project would cause a significant impact at a signalized intersection operating at LOS C, D, E, or F if the incremental change in V/C ratio due to the Project exceeds the thresholds described in Table 4.12-4. An intersection operating at LOS A or B after the addition of Project traffic would not cause a significant impact, regardless of the volume of traffic added to that intersection by the Project or the incremental change to V/C ratio. (Draft EIR page 4.12-32.)

As shown on Draft EIR Table 4.12-6, *Existing With Project Conditions (Year 2016) – Level of Service Impact Analysis*, all 18 signalized study intersections would operate at LOS D or better during the peaks hours, with 17 of 18 intersections operating at LOS C or better, after addition of Project-generated traffic. (See also Draft EIR Appendix L for the calculations used to determine the information summarized in the Table.) As shown in Table 4.12-6, the Project's incremental increase in the V/C ratios at the 18 signalized study intersections, under Existing With Project Conditions, results in a less than significant impact during the peak hours. Thus, the Project will not result in a significant impact at any of the 18 signalized study intersections and, therefore, no mitigation measure is required.

Further, as stated in the Draft EIR, two of the three unsignalized study intersections already meet the peak hour volume threshold which results in a determination of whether a signal at either of those two intersections is required regardless of Project traffic. However, this does not correlate to a threshold of significance, it merely means that the City or Caltrans must determine, based on several factors including spacing with adjacent intersections and interruption of traffic flow on major streets, if a new traffic signal is appropriate. (Draft EIR page 4.12-34.)

c) Operation (Project with Future Conditions, Except for the Six Intersections): Except for the Six Intersections, the Project-generated trips combined with related projects and ambient growth, will not result in increasing the travel volumes above the thresholds of significance as shown on Draft EIR Table 4.12-7, *Future With Project Conditions (Year 2022) – Level of Service Impact Analysis*. Of the 18 signalized study intersections, the Project is expected to result in significant impacts at six intersections, prior to Project mitigation. (The Six Intersections are discussed in Sections IX and X of these Findings.) As to the remaining 12 intersections, the addition of Project traffic will not result in a significant impact under Future with Project Conditions because the incremental change in the V/C ratio will not exceed the thresholds described in Draft EIR Table 4.12-4. (Draft EIR page 4.12-34.)

All three unsignalized study intersections would operate at LOS F during at least one of the analyzed peak hours under both Future and Future with Project Conditions, and were therefore subject to a signal warrant analysis to determine whether the projected volumes at the intersections warrant the installation of a traffic signal control. Consistent with the signal warrant analysis presented above for Existing with Project Conditions, the unsignalized intersections of I-10 Westbound Ramps and 8th Street and I-10 Eastbound Ramps and Porter Street meet the minimum peak hour traffic volume threshold of Warrant 3 under Future with Project Conditions. However, these two unsignalized intersections already meet Warrant 3 under Existing Conditions prior to any Project-traffic additions. The unsignalized intersection of I-5 Southbound On-Ramp/US 101 Southbound Off-Ramp and 7th Street does not meet the minimum peak hour traffic volume threshold of Warrant 3 under Future with Project Conditions. Further detail on the Signal Warrant Analysis can be found in Chapter 9 of the Traffic Study, which is included as Appendix L-1 of the Draft EIR. (Draft EIR page 4.12-36.) However, as previously discussed, the satisfaction

of the warrant threshold does not indicate a significant impact, only that an analysis is required to determine whether to install a signal.

d) Regional Transportation System Impacts:

CMP Arterial Monitoring Stations. Impacts at all CMP arterial monitoring stations to which the Project would add 50 or more trips during either the AM or PM weekday peak hours, or 150 or more trips to a mainline freeway monitoring location during either the AM or PM weekday peak hours, are required to be examined. The CMP analysis identified one arterial monitoring intersection at Alameda Street & Washington Boulevard, approximately one-mile south of the Project Site. AM and PM peak hour traffic for this intersection, which is located outside the transportation analysis Study Area, was calculated based on the number of trips entering and leaving the transportation analysis Study Area in the direction of the outlying CMP arterial monitoring intersection, conservatively assuming there would be no diverging trips. Based on this methodology, the number of peak hour Project trips expected at the arterial monitoring intersection is as follows: 15 AM peak hour trips and 19 PM peak hour trips. Accordingly, the Project will add fewer than 50 peak hour trips at the arterial monitoring intersection nearest the Project Study Area. (Draft EIR page 4.12- 37.) Thus, the Project's CMP arterial intersection impacts will be less than significant and, therefore, no mitigation measure is required.

CMP Freeway Segment Analysis. The CMP identifies one mainline freeway monitoring location along US 101 north of Vignes Street, approximately 1.25 miles north of the Project Site. The Project is projected to add the following trips to the freeway monitoring location during the morning and afternoon peak hours: 15 AM peak hour trips (nine northbound, six southbound) and 19 PM peak hour trips (eight northbound, 11 southbound). The Project would add fewer than 150 peak hour trips in each direction during both the morning and afternoon peak hours at the mainline freeway monitoring location. (Draft EIR page 4.12-37) Thus, the Project's CMP mainline freeway impacts are considered to be less than significant and, therefore, no mitigation measure is required.

Caltrans. In addition to the CMP threshold stated above, Caltrans facilities were evaluated in the Traffic Study according to the requirements of the *First Amendment to the Agreement between LADOT and Caltrans District 7 on Freeway Impact Analysis Procedures* (State of California and City of Los Angeles, December 15, 2015), which identifies a series of screening criteria that, if any are met by the Project, require a more detailed analysis of Caltrans facilities. As detailed in the approved Memorandum of Understanding provided in Appendix A of the Traffic Study, the Project-related traffic increases on the freeway segments and off-ramps do not meet the screening criteria and thus, no further analysis was required. Nonetheless, a supplemental analysis was conducted for informational purposes based on the methodology detailed in Caltrans' 2002 *Guide for the Preparation of Traffic Impact Studies* (Caltrans TIS Guide) as requested in the Caltrans NOP response letter and is provided in Appendix F of the Traffic Study (Draft EIR pages 4.12-37 and 4.12-38 and Draft EIR Appendix L).

Based on the above, the Project will not meet the minimum peak-hour trip numbers at the CMP arterial monitoring station or the CMP freeway monitoring station and, therefore, will not result in a 0.02 or greater increase of the V/C ratios. Thus, impacts to regional transportation systems will be less than significant and, therefore, no mitigation measure is required.

e) Public Transit Impacts: The Study Area is served by bus lines operated by Los Angeles County Metropolitan Transportation Authority (Metro) and Montebello Bus Lines. Draft EIR Figure 4.12-2, *Existing Transit Service*, illustrates the existing transit service

in the Study Area, which is summarized in Draft EIR pages 4.12-8 through 4.12-11, which summary is incorporated by reference as though fully set forth herein. Draft EIR Table 4.12-3, *Existing Transit Service Patronage – Lines Serving the Project Site*, summarizes the total residual capacity of the four Metro bus lines that directly serve the Project Site during the AM and PM peak hours based on the frequency of service of each line and the maximum seated and standing capacity of each bus. As shown in that table, the total residual capacity of the bus lines directly serving the Project Site during the AM and PM peak hours is approximately 1,036 and 979 transit trips, respectively.

The Draft EIR's estimate of increase in the number of transit person trips generated by the Project are based on Section B.8.4 of the CMP, which provides a methodology based on the projected number of vehicle trips. The methodology assumes an average vehicle occupancy factor (AVO) of 1.4 in order to estimate the number of transit person trips to and from the Project. Although the CMP provides guidance regarding the percentage of person trips that may use public transit, the Traffic Study conservatively estimated that up to 15 percent of total Project person trips may use public transit to travel to and from the Project Site. (Draft EIR page 4.12-23.)

As shown in Draft EIR Table 4.10-5, *Project Trip Generation*, prior to the implementation of mitigation measures and trip reduction adjustments, the Project will generate approximately 363 AM peak hour trips and 446 PM peak hour trips. Assuming an AVO of 1.4, the Project vehicle trips will result in an estimated increase of 509 person trips during the AM peak hour and 625 person trips during the PM peak hour. Using the conservative assumption that 15 percent of Project occupants will use public transit, the Project will generate approximately 77 net new transit trips during the AM peak hour and 94 net new transit trips in the PM peak hour. The Study Area is served by numerous established transit routes whose total residual capacity of the bus lines within the Study Area during the morning and afternoon peak hours is approximately 1,036 and 979 transit trips, respectively. (Draft EIR page 4.12-38.) The Project's AM and PM peak hour person trips by transit of 77 and 94 trips, respectively, represent less than ten percent of the total residual capacity of the bus lines within the Study Area during morning and afternoon peak. (Id.) Thus, the Project will not exceed regional transit capacity, and impacts with respect to transit will be less than significant and, therefore, no mitigation measure is required.

Additionally, the Project will be consistent with policies, plans, and programs that support alternative transportation, including the Mobility Plan 2035 (although it is being litigated), the 2010 Bicycle Plan, General Plan Transportation Element, and the Central City North Community Plan. As further described in Draft EIR Section 4.8, *Land Use and Planning*, the Project will support alternative transportation by: enhancing the pedestrian experience by removing some existing on-street parking spaces along Industrial Street to provide sidewalk bump-outs and additional pedestrian amenities, and enhancing pedestrian safety. The Project will also include The Mews, providing a publicly-accessible pedestrian connection between Industrial Street and Mill Street, and including shaded, landscaped walkways that would incorporate art of different mediums, seating areas, and kiosks. Further, the Project will concentrate mixed-use development within the Downtown Center near public transit, would implement a comprehensive Transportation Demand Management Program, as described in Mitigation Measure MM-TRAF-1 (which is discussed in Section IX of these Findings in relation to traffic operation's cumulative impacts), and participate in the Arts District TMO, as described in Project Design Feature PDF-TRAF-2, to encourage the use of alternative transportation, and the Project will provide bicycle parking in compliance with LAMC requirements. (Draft EIR pages 4.12-38 and 4.12-39.) Therefore, the Project will not conflict with policies, plans, and programs that support alternative transportation. As a result, Project impacts to public transit will be less than significant and, therefore, no mitigation measure is required.

f) Access and Circulation Impacts: With development of the Project, primary vehicular access to the multi-level parking garage will be provided via one full-access driveway located along Industrial Street. A loading dock to serve the Project will be located within the parking garage at ground level. Large service and emergency vehicles will access the loading dock primarily via the driveway along Mill Street, with ancillary access via Industrial Street, and exit to S. Alameda Street. Service vehicle arrival and departures will generally occur outside of typical commuter peak hours. The driveways will be designed based on LADOT standards. The driveways will not require the removal or relocation of existing transit stops, and will be designed and configured to avoid potential conflicts with transit services and pedestrian traffic. (Draft EIR page 4.12-39.) Also, assuming a vehicle length of 25 feet, approximately 18 spaces of on-street parking is currently available. With the Project, two on-street parking spaces will be removed along Industrial Street to provide for pedestrian amenities in the “bump-outs”. (Draft EIR pages 4.12-39 and 4.12-40.) However, as discussed in Section VI of these Findings, the Project will meet the LAMC parking requirements for vehicle parking.

Pedestrian access to the Project Site will be provided along Industrial Street, at the corner of S. Alameda Street and Industrial Street, and mid-block on Mill Street. The Project’s access locations will be designed to City standards and will provide adequate sight distance, sidewalks, crosswalks, and pedestrian movement controls that meet the City’s requirements to protect pedestrian safety. All roadways and driveways intersect at right angles and street trees, and other potential impediments to adequate driver and pedestrian visibility will be minimal. Separate pedestrian entrances will provide access from the adjacent streets, parking facilities, and transit stops. Also, the Industrial Street bump-outs will enhance pedestrian safety. (Draft EIR page 4.12-40.)

The Project is located in a neighborhood with a high amount of pedestrian activity that also rates highly for general walkability. Consistent with this rating, pedestrian patronage is anticipated at the Project. Also, S. Alameda Street along the Project Site’s western frontage is designated as a future Pedestrian Segment in the Mobility Plan 2035. Should the Mobility Plan, or some iteration of it exist in the future that includes this designation, the Project Site design will be compatible with a pedestrian designation since it facilitates external connections and internal movement within the Project. The Project is also designed to include pedestrian improvements such as wayfinding signage and other amenities along the street frontages to further promote walkability. The retail and restaurant uses will be accessed through storefronts on Industrial Street and Alameda Street, and each retail store and restaurant will have an individual street-level entryway. Although various criteria are used to gauge walkability, the guiding principle is based on maintaining a direct and safe path of travel with minimal obstructions for all pedestrians. The sidewalk widths adjacent to the Project Site will be wide: approximately 18-feet wide along Alameda Street, 13- to 21-feet wide along Industrial Street, and 13-feet along Mill Street. Furthermore, the Project will also provide a 15-foot by 15-foot corner cut limited dedication at the corner of S. Alameda Street and Industrial Street to increase line of sight for the safety of vehicles, pedestrians and bicyclists. (Draft EIR page 4.12-40.)

Visitors, patrons and employees arriving by bicycle will have the same access opportunities as pedestrian visitors. In the Project area, E. 6th Street, between Central Avenue to the west of the Project Site and the Los Angeles River to the east of the Project Site, and 7th Street, between Rampart Boulevard to the west of the Project Site and Soto Street to the east of the Project Site, are identified as components of the City’s Backbone Network. The 6th Street Backbone provides approximately 0.71 mile of bike lane and the 7th Street Backbone provides approximately 4.35 miles of bike lane. The Bicycle Plan’s matrix of existing and future Backbone, Neighborhood, and Green Networks does not list either S. Alameda Street or Industrial Street as existing or future

bicycle facilities. However, local streets in the Project vicinity, including Industrial Street and Mill Street, are suitable for bicycle use and provide direct access to the designated Backbone Network in E. 6th Street and E. 7th Street and, ultimately, to the City's Backbone Network. The Backbone Network concentrates on providing an interconnected system of streets to facilitate bicyclist mobility on key arterials. (Draft EIR pages 4.12-40 and 4.12-41.) Additionally, in order to facilitate bicycle use, bicycle parking spaces will be provided on-site, consistent with the Bicycle Parking Ordinance, LAMC Section 12.21 A16(a)(2), and a bicycle workspace of approximately 100 square feet will be provided for bicycle maintenance (Draft EIR page 2-22).

Thus, since (i) vehicular access to the Project Site will be provided from Industrial Street, Mill Street, and S. Alameda Street and will be designed based on LADOT standards that do not impede traffic movements on City streets; (ii) the existing network of traffic lanes, public sidewalks and pedestrian crosswalks will be maintained; (iii) the Project will provide separated access for pedestrian and vehicular traffic; and (iv) no safety or operational impacts relative to bicycle traffic is anticipated, Project impacts regarding access and circulation will be less than significant and, therefore, no mitigation is required.

g) Cumulative Impacts (Except the Six Intersections):

(1) Construction: Impacts on traffic associated with construction are typically considered short-term adverse impacts, but not significant. (Draft EIR page 4.12-41.) The Project will result in a less-than-significant traffic impact during construction with the implementation of Project Design Feature PDF-TRAF-1, Construction Management Plan, which will incorporate scheduling, notification, and safety procedures. Each related project will be required to comply with City requirements regarding haul routes and will implement mitigation measures and/or include project characteristics, such as traffic controls and scheduling, notification, and safety procedures, to reduce potential traffic impacts during construction. Pursuant to Project Design Feature PDF-TRAF-1, construction management meetings with City Staff and other surrounding construction related project representatives (i.e., construction contractors) whose projects will potentially be under construction at around the same time as the Project shall be conducted bimonthly, or as otherwise determined appropriate by City Staff. This coordination will ensure construction activities of the concurrent related projects and associated hauling activities are managed in collaboration with one another and the Project. Furthermore, like for the Project, construction worker traffic typically avoids the peak hours, and it is anticipated that many of the related projects, like the Project, would restrict construction truck traffic and deliveries to off-peak hours to the extent feasible. The Construction Management Plan will outline measures to manage construction-related traffic (e.g., pedestrian and vehicular traffic controls) throughout the day to maintain traffic flows on public roadways and reduce the effects on the surrounding community. (Draft EIR pages 4.12-41 and 4.12-42.) Accordingly, Project-related contributions to cumulatively significant construction traffic impacts, considered together with the impacts of related projects, will be less than cumulatively considerable and, therefore, no mitigation measure is required.

(2) Operation (Except for the Six Intersections): The analysis of the Future with Project Conditions is an analysis of the cumulative operational traffic impact. The future traffic scenarios include two factors, ambient growth and the related projects. Ambient growth relates to increases in existing traffic resulting from regional growth and development outside the Study Area. Based on discussions with LADOT, the Draft EIR Traffic Study utilized an ambient growth factor of one percent per year, compounded annually, to adjust the existing traffic volumes to reflect the effects of the regional growth and development by Year 2022. The total adjustment applied over the six-year period was 6.15 percent. This growth factor accounts for

increases in traffic due to potential projects not yet proposed or in the early stages of development, as well as projects outside the Downtown Los Angeles area. (Draft EIR page 4.12-21.)

In addition, the Traffic Study included the anticipated traffic from the 163 related project. Though the buildout years of many of these related projects are uncertain and may be well beyond the buildout year of the Project, and notwithstanding that some may never be approved or developed, they were all considered as part of this traffic analysis and conservatively assumed to be completed by the Project buildout year 2022. The traffic growth due to the development of related projects considered in the traffic analysis is, therefore, highly conservative and, by itself, substantially overestimates the actual traffic volume growth in downtown Los Angeles that would likely occur prior to the Project buildout year. Trip generation estimates for the related projects were provided by LADOT or were calculated using a combination of previous study findings and the relevant trip generation rates contained in ITE's *Trip Generation Manual, 9th Edition* for the proposed land uses. The related projects trip generation estimates are also very conservative in that they do not in every case account for either the trips generated by the existing uses to be removed or the likely use of other travel modes (e.g., transit, bicycling, walking, carpool, etc.). Further, they do not account for the internal capture trips within a multi-use development or for the interaction of trips between multiple related projects within downtown Los Angeles, in which one related project serves as the origin for a trip destined for another related project. (Draft EIR pages 4.12-21 and 4.12-22.) Nonetheless, except for the Six Intersections at the above cited peak hours, even with these conservative assumptions about traffic in 2022, the traffic study showed that the Future with Project Conditions will not generate an increase in traffic that exceeds the thresholds of significance; all as shown in Draft EIR Table 4.12-7, *Future with Project Conditions (Year 2022)*. Therefore, as to 12 of the 18 intersections, the Project will not contribute to a cumulative traffic impact. As a result, except for the Six Intersections, the Project's impacts on the cumulative future traffic will be less than significant and, therefore, no mitigation measure is required.

(3) Regional Transportation System, Public Transit and Access and Circulation: With regard to the Regional Transportation System, the Project will result in a less-than-significant impact at CMP arterial monitoring stations and CMP freeway segments. The analysis of these impacts incorporates cumulative development. (Draft EIR page 4.12-42.) Therefore, cumulative impacts at CMP facilities will also be less than significant. Furthermore, as previously explained, in addition to the CMP analysis, Caltrans facilities were evaluated in the Traffic Study according to the requirements of the Caltrans Agreement, which identifies a series of screening criteria that, if any are met by the Project, require a more detailed analysis of Caltrans facilities. As detailed in the approved MOU provided in Appendix A of the Traffic Study (Draft EIR Appendix L), the Project-related traffic increases on the freeway segments and off-ramps do not meet the screening criteria and thus, no further analysis is required. Nonetheless, although the Project-related traffic does not meet the criteria for additional focused analysis of the Caltrans facilities, a supplemental analysis was conducted for informational purposes based on the methodology detailed in Caltrans TIS Guide as requested in the Caltrans NOP response letter and is provided in Appendix F of the Traffic Study (Draft EIR Appendix L). This analysis provides supplemental information on cumulative traffic conditions pertaining to freeway mainline segments, intersections and off-ramp queues.

The regional transportation analysis, including public transit, is based on CMP procedures that have been developed to address countywide cumulative growth impacts on regional transportation facilities. The CMP Guidelines contain procedures for monitoring land use development levels and transit system performance by local jurisdictions and Metro and are used to inform planning of infrastructure improvements to meet future needs, including

development of the CMP Capital Improvement Program, Metro's Long Range Transportation Plan, and SCAG's RTP/SCS. (Draft EIR pages 4.12-42 and 4.12-43.) For all the foregoing reasons, the Project's contribution to cumulative impacts on the regional transportation system will be less than significant and, therefore, no mitigation measure is required.

Also, transit ridership generated by the Project will not exceed the residual capacity of the area's transit lines. Given the available residual capacity, and that the calculations show that Project peak hour ridership will be less than 10 percent of the total residual capacity (Draft EIR at page 4.12-38), the Project will not result in a cumulatively considerable contribution to cumulative impacts on public transit. Furthermore, it is assumed that public transit providers will add additional service when required, in order to accommodate cumulative demand in the region. Thus, the Project's contribution to cumulative impacts on public transit will be less than significant and, therefore, no mitigation measure is required.

With regard to vehicular, pedestrian, and bicycle access and circulation, the Project will not result in a significant impact. Each related project will be reviewed by the City to ensure compliance with the City's requirements relative to the provision of safe access for vehicles, pedestrian and cyclists. Thus, the Project will not contribute to a significant cumulative impact with regard to access and circulation and, therefore, no mitigation measure is required.

5. References: For a complete discussion of impacts associated with Transportation and Traffic, please see Draft EIR Section 4.12 and Appendices L-1, L-2 and L-3.

P. Wastewater

1. Description of Effects:

a) Construction: In regards to Project impacts on wastewater collection capacity, the Project will generate a negligible amount of wastewater during construction associated with construction workers. Even this small amount of wastewater generation will be temporary, only lasting as long as the estimated 36 months of construction. Moreover, the amount of wastewater generated during construction will be less than the amount generated with the current use. Additionally, construction workers typically utilize portable restrooms which will not contribute to wastewater flows to the local wastewater collection system. Construction impacts associated with wastewater infrastructure will primarily be confined to trenching for miscellaneous utility lines and connections to public infrastructure. All wastewater infrastructure improvements will occur in accordance with the requirements of the City's Department of Water and Power while minor off-site work to connect the sewer line will be reduced through implementation of the Construction Management Plan, Project Design Feature PDF-TRAF-1.

Additionally, since Project construction activities will generate a small amount of wastewater associated with construction workers, an amount that is potentially less than the amount currently generated by the existing use, and any such generation will be temporary, only lasting as long as the construction of the Project, wastewater generation from Project construction activities will not cause measureable increase in wastewater flows requiring treatment at a wastewater treatment facility. Therefore, the amount of wastewater generated during construction will not exceed the future scheduled capacity of any one treatment plant by generating flows greater than those anticipated in the City's Wastewater Facilities Plan or its General Plan and General Plan Elements.

b) Operation: With implementation of water savings requirements and conservation measures, and accounting for the current wastewater generation from the existing use, the Project will generate approximately 109,113 gpd. The Project has been approved to discharge up to 144,747 gpd of wastewater to the 8-inch sewer main on Industrial Street. Accordingly, the sewer line has adequate capacity to handle the wastewater discharge will be less than the maximum approved discharge amount. Also, the Project will comply with the LAMC imposed fees which are required to pay for the sewer connection and to help off-set the Project's contribution to the City's wastewater collection infrastructure needs.

The wastewater from the Project will be conveyed to the Hyperion Treatment Plant (HTP) for treatment. The existing treatment capacity of the HTP is 450 mgd and a current average dry weather flow (ADWF) of approximately 362 mgd. In 2020, the ADWF of the HTP is estimated to increase to 435 mgd. The wastewater generated by the Project will represent only about 0.6 percent of the HTP's projected remaining available treatment capacity in 2020. Therefore, the HTP will have adequate capacity to treat the Project's wastewater discharge. Lastly, Project wastewater conveyed to HTP will not have a significant effect on the water quality of the Santa Monica Bay, where the HTP discharges a portion of the treated wastewater, because the Project will not generate industrial flows with pollutant constituents that could potentially interfere with the HTP meeting the water quality requirements of its discharge permit.

c) Cumulative Impacts: The Project will result in the additional generation of sewer flow. However, the existing infrastructure has sufficient capacity to serve the Project. Like the Project, related projects will be required to obtain a sewer connection permit. If system upgrades are required as part of a related projects additional flow, the LAMC-required sewer connection fees paid by the cumulative projects will help pay for any required improvements. In this way, no related project will be built without the required sewer capacity to serve the project.

With respect to wastewater treatment, all of the 163 related projects will be served by the HTP. For 2020, the cumulative plus Project wastewater flows would increase the projected ADWF to approximately 446 mgd. This is below the 450 mgd ADWF treatment capacity of the HTP. Additionally, the HTP currently meets applicable water quality standards set forth by the National Pollution Discharge Elimination System (NPDES). As such, the related projects' wastewater effluent discharge into the Santa Monica Bay will be within acceptable limits.

2. Project Design Features: The City finds that Project Design Features PDF-PDF-TRAF-1 and PDF-WS-1, which are incorporated into the Project and incorporated into these Findings as though full set forth herein, will reduce the already less than significant waste water impacts of the Project. These Project Design Features were taken into account in the analysis of potential impacts.

3. Findings: Changes or alternations have been required in, or incorporated into, the Project that avoid or substantially lessen potential significant environmental effects of wastewater impacts of the Project to less than significant levels.

a) Construction Impacts: With implementation of Project Design Feature PDF-TRAF-1, Project construction impacts on wastewater will be less than significant. No mitigation measure is required.

b) Operation Impacts: With implementation of Project Design Feature PDF-WS-1, Project operational impacts on wastewater will be less than significant. No mitigation measure is required.

c) Cumulative Impacts: With implementation of Project Design Feature PDF-WS-1, the Projects contribution to cumulative wastewater impacts will be less than significant. No mitigation is required.

4. Rationale for Findings: Wastewater in the City is collected and conveyed via one of three sewer systems owned and operated by the Los Angeles Department of Public Works (LADWP), Bureau of Sanitation (BOS). The Project Site is located within the service area of the HTP Conveyance System. Within the Project area, sanitary sewer service is provided to the Project Site by an 8-inch vitrified clay pipe (VCP) sewer line in Industrial Street, which flows west into a 22-inch VCP sewer line in S. Alameda Street and then south into a 40-inch sewer main in 8th Street. (Draft EIR page 4.13.1-1.)

As indicated in Draft EIR Table 4.13.1-1, *Existing Estimated Wastewater Generation*, the Showa Marine & Cold Storage facility currently on the Project Site generates an estimated 11,322 gallons per day (gpd) of wastewater, all of which is discharged to the 8-inch VCP sewer line in Industrial Street. The wastewater generation estimate is based on LADWP billing data (average of 4 years from 2013 to 2016) per the Water Supply Assessment (WSA) dated April 25, 2017 (included in Appendix M-1 of the Draft EIR). The 8-inch VCP sewer line in Industrial Street has a capacity of 0.809 cubic feet per second (cfs) or 522,768 gpd. (Draft EIR page 4.13.1-1.)

The HTP Conveyance System includes treatment plants, outfalls, and numerous sewer connections and major interceptors. The current treatment capacity of the HTP is 450 million gallons per day (mgd) with a system-wide capacity of 550 mgd. The HTP has a current ADWF of approximately 362 mgd, leaving approximately 88 mgd of available treatment capacity. (Draft EIR page 4.13.1-2.)

Following the secondary treatment of wastewater, the majority of effluent from HTP is discharged into Santa Monica Bay, while the remaining flows are conveyed to the West Basin Water Reclamation Plant for tertiary treatment and reuse as reclaimed water. Effluent to Santa Monica Bay from HTP has historically had effects on water quality. However, since HTP's full secondary effluent discharge began in 1999 with a reduction in biosolids to Santa Monica Bay, water quality has improved with an increase in the number of species and the biodiversity in the Bay. (Draft EIR page 4.13.1-3.) HTP effluent is required to meet the Regional Water Quality Control Board's (RWQCB) requirements for a recreational beneficial use, which imposes performance standards on water quality that are more stringent than the standards required under the Clean Water Act (CWA) permit administered under the system's NPDES permit. Accordingly, HTP effluent to Santa Monica Bay is continually monitored by the City's Environmental Monitoring Division to ensure that it meets or exceeds prescribed standards. The Los Angeles County Department of Health Services also monitors flows into the Santa Monica Bay. (Id.)

The City's Integrated Resources Plan (IRP) was developed to incorporate greater efficiency for future, water, wastewater, and runoff management in the City and surrounding service areas. It accounts for projected needs and sets forth improvements and upgrades to wastewater systems, recycled water systems, and runoff management programs in the City through the year 2020. The IRP includes wastewater flow projections based on population projections from the Southern California Association of Governments (SCAG). As shown in Draft EIR Table 4.13.1-2, *Population and Flow Projections for the HTP Conveyance System Service Area*, the forecasted population

for the HTP Conveyance Systems service area in 2010 was approximately 4,485,054 residents, approximately 4,641,928 residents in 2015, and approximately 4,854,483 residents in 2020. The wastewater flow projections account for planned levels of water conservation and assumed levels of collection system maintenance and rehabilitation. The ADWF in 2010 was estimated to be approximately 477.3 mgd, in 2015 approximately 492.3 mgd, and in 2020 approximately 511.5 mgd, with each amount falling within the current system-wide treatment capacity of 550 mgd. (Draft EIR page 4.13.1-5.)

Despite the current and projected availability of system-wide treatment capacity, the IRP includes several proposals for improvements, additions, and expansions within the HTP Conveyance System to maintain adequate service over time. As HTP is connected with the HTP Conveyance System and its components including other treatment plants, connecting outfalls, and numerous sewer connections and major interceptors, current and future implementation of the IRP and its corresponding expansion projects will support continued availability of capacity at HTP. (Draft EIR page 4.13.1-4.)

Adoption of the IRP also includes the Adaptive Capital Improvement Program (CIP) which includes the anticipated capital, operation and maintenance, project timing, and implementation strategy for tracking and monitoring triggers. Capital improvements have been completed at the treatment plants and sewer lines, and additional on-going improvements have been proposed, to meet the wastewater treatment needs of the City. With implementation of the IRP, LADWP expects to provide ample wastewater treatment services to the City and contracting cities through 2020, and projections show that adequate wastewater treatment services are expected to be available through 2025. (Draft EIR page 4.13.1-5.)

The LAMC includes regulations that allow the City to assure available sewer capacity for new projects and fees for improvements to the infrastructure system. LAMC Section 64.15 requires that the City perform a Sewer Capacity Availability Request (SCAR) when an applicant seeks a sewer permit to connect a property to the City's sewer collection system, proposes additional discharge through their existing public sewer connection, or proposes a future sewer connection or future development that is anticipated to generate 10,000 gallons or more of sewage per day. A SCAR provides an analysis of the existing sewer collection system to determine if there is adequate capacity existing in the system to safely convey the newly generated sewage to the appropriate sewage treatment plant. LAMC Sections 64.11 and 64.12 require the payment of fees for new connections to the sewer system to assure the sufficiency of sewer infrastructure. New connections to the sewer system are assessed a Sewerage Facilities Charge. The rate structure for the Sewerage Facilities Charge is based upon wastewater flow strength and volume. The determination of wastewater strength for each applicable project is based on City guidelines for the average wastewater concentrations of two parameters, biological oxygen demand and suspended solids, for each type of land use. Sewerage Facilities Charge fees are deposited in the City's Sewer Construction and Maintenance Fund for sewer and sewage-related purposes, including, but not limited to, industrial waste control and water reclamation purposes. In addition, the City establishes design criteria for sewer systems to assure that new infrastructure provides sewer capacity and operating characteristics to meet City Standards (Bureau of Engineering Special Order No. SO06-0691). (Draft EIR pages 4.13.1-5 and 4.13.1-6.)

a) Construction Impacts: Project construction activities will generate a small amount of wastewater associated with Project construction workers. However, any such wastewater generation will be temporary, only lasting as long as Project construction activities occur. Furthermore, when wastewater generation from the existing on-site cold storage use is taken into account, there is the potential that wastewater generation at the Project Site will actually

decrease during the construction period. (Draft EIR Appendix M-1.) Additionally, construction workers typically utilize portable restrooms, which do not contribute to wastewater flows to the local wastewater collection system. Therefore, wastewater generation from Project construction activities will not cause a measurable increase in wastewater flows requiring treatment at the HTP nor will it cause a measurable increase in wastewater flows requiring improvement to the HTP. (Draft EIR page 4.13.1-9.) As a result, Project construction impacts on wastewater collection capacity and treatment facilities will be less than significant and no mitigation measure is required.

The Project will construct new on-site infrastructure to serve the new building. Construction impacts associated with wastewater infrastructure will primarily be confined to trenching for miscellaneous utility lines and connections to public infrastructure. Installation of wastewater infrastructure will be limited to on-site wastewater distribution, and minor off-site work associated with connections to the existing 8-inch VCP sewer line in Industrial Street. All wastewater infrastructure improvements will occur in accordance with LADWP requirements. Furthermore, no upgrades to the existing 8-inch sewer line are anticipated, and while minor off-site work will be required in order to connect to this sewer line, the Project will implement Project Design Feature PDF-TRAF-1, the Construction Traffic Management Plan designed to reduce any temporary pedestrian and traffic impacts during construction. (Draft EIR page 4.13.1-9.) Thus, Project impacts associated with the development of required wastewater collection system improvements will be less than significant and, therefore, no mitigation measures are required.

b) Operation Impacts: The analysis in the Wastewater Infrastructure Report (Draft EIR Appendix M-1) and the SCAR prepared for the Project by the BOS is the basis of the wastewater conveyance capacity analysis in the Draft EIR. In order to evaluate wastewater collection capacity, and pursuant to LAMC Section 64.15, the BOS Wastewater Engineering Division made a preliminary analysis of the local and regional sewer conditions to determine if available wastewater conveyance and treatment capacity exists for future development of the Project. BOS's approach consisted of estimating the wastewater generation associated with the Project, and adding this to a worst-case scenario envisioning peak wastewater generation from other development discharging to the existing 8-inch VCP sewer line in Industrial Street. A combination of flow gauging data and computed results from the City's hydrodynamic model were used to assess the potential for impacts on wastewater conveyance capacity due to additional sewer discharge. The SCAR is included as Exhibit 1 of the Wastewater Infrastructure Report, which in turn is included as Appendix M-1 of the Draft EIR. (Draft EIR page 4.13.1-7.) In order to evaluate wastewater treatment capacity, the wastewater generation estimate for the Project (from the SCAR) was added to the ADWF within the HTP Conveyance System in 2015 and 2020 as projected in the IRP. This ADWF was then compared to the existing capacity of the HTP. (Draft EIR page 4.13-8.)

The Project Site will continue to be served by the existing 8-inch VCP sewer line in Industrial Street. As indicated in Draft EIR Table 4.13.1-3, *Project Wastewater Generation During Operation*, which uses the sewage generation rates and sewage generation estimate identified by the Bureau of Engineering in its SCAR approval, the Project will generate approximately 144,747 gpd of wastewater prior to water savings requirements and conservation measures and a total of 109,113 gdp with the water savings measures and accounting for existing conditions. According to the SCAR approval, the Project has been approved to discharge up to 144,747 gpd of wastewater to the 8-inch sewer main in Industrial Street. Thus, since the Project will only discharge 109,113 gdp, the existing sewer main has adequate remaining available capacity to accommodate the wastewater flows from the Project. (Draft EIR page 4.13-10.) Furthermore, in accordance with LAMC Sections 64.11 and 64.12, the Project will pay the required sewer connection fees to help offset the Project's contribution to the City's wastewater collection

infrastructure needs. (Id.) Thus, Project operational impacts on wastewater collection capacity will be less than significant and, therefore, no mitigation measure is required.

As to wastewater treatment, the Project's 109,113 gpd of discharged wastewater will be conveyed to, and treated at, the HTP which has an existing treatment capacity of 450 mgd. The ADWF projected by the IRP to be treated by the HTP in 2020 is 435 mgd, with 15 mgd remaining available treatment capacity projected by the IRP at the HTP in 2020. Because the wastewater generated by the Project will represent only about 0.6 percent of the HTP's projected remaining available treatment capacity in 2020, the HTP will have adequate treatment capacity to serve the Project. (Draft EIR page 4.13.1-12.) The analysis in the Draft EIR is a conservative analysis because: (i) it does not take into account the reductions in wastewater generation that would occur through compliance with the City's recommended water conservation measures presented in Section 4.13.2, *Water Supply*, of the Draft EIR; and (ii) based on a comparison of the estimates of the City's 2020 population in the IRP and SCAG's RTP/SCS, the population estimates in the IRP have over-estimated the City's 2020 population and thus the City's projected 2020 wastewater treatment demand. (Id.) Furthermore, in accordance with LAMC Sections 64.11 and 64.12, the Project will pay the required sewer connection fees to help offset the Project's contribution to City wastewater treatment infrastructure needs. Additionally, Project wastewater conveyed to HTP will not have a significant effect on the water quality of Santa Monica Bay because the Project will not generate industrial flows with pollutant constituents that could potentially interfere with the HTP meeting the water quality requirements of its discharge permit. (Id.) Based on all of the above, Project operation will result in a less than significant impact on wastewater treatment capacity and treatment facilities and, therefore, no mitigation measure is required.

Additionally, the City has been pursuing a number of green development initiatives intended to promote energy conservation and reductions in the amount of greenhouse gas emissions generated within the City. While these ordinances do not focus on the provision of sewer services they do require the use of water conservation features in new developments. By using less water for the performance of population activities, residual after-use wastewater is reduced thus lowering the requirements for sewage conveyance and treatment. The Green Building Code, Ordinance No. 181480, is implemented during site plan review and provides standards and a mechanism for evaluating projects for their water conservation features. The Water Efficiency Requirements Ordinance, City Ordinance No. 180822, effective Dec. 1, 2009, requires the use of efficient water fixtures, appliances and cooling towers. (Draft EIR page 4.13.1-7.)

c) Cumulative Impacts: The Project will result in the additional generation of sewer flow. However, as discussed above, the BOS has conducted an analysis of existing capacity (e.g., the SCAR), and determined that adequate capacity exists to serve the Project. (Draft EIR page 4.13.1-12.) Related projects will similarly be required to obtain a sewer connection permit and submit a SCAR request to the BOS as part of the related project's development review. If system upgrades are required as a result of a given related project's additional flow as determined by the SCAR, the LAMC-required sewer connection fees paid by the cumulative projects will help pay for the required improvements. In this way, no related projects will be developed without the required wastewater collection capacity to serve them. Furthermore, similar to the Project, each related project will be required to comply with applicable water conservation programs, including the City's Green Building Code. (Draft EIR page 4.13.1-13.) Therefore, Project impacts on the City's wastewater infrastructure will not be cumulatively considerable. As a result, the Project's contribution to wastewater capacity impacts will be less than significant and, therefore, no mitigation is required.

As to wastewater treatment, all of the 163 related projects lie within the area served by the HTP Conveyance System and the HTP. These related projects will cumulatively contribute, in conjunction with the Project, to wastewater generation in the Project area. As shown in Draft EIR Table 4.13.1-4, *Estimated Cumulative Wastewater Generation*, the estimated ADWF associated with the related projects is 10,956,345 gpd. The Project will contribute a net additional ADWF of 109,113 gpd for a combined total of approximately 11,065,458 gpd. The HTP has a current treatment capacity of 450 mgd and a current ADWF of approximately 362 mgd. In 2020, the ADWF of the HTP is projected to increase to 435 mgd. For 2020, the cumulative plus Project wastewater flows would increase the projected ADWF to approximately 446 mgd which is below the 450 mgd ADWF treatment capacity of the HTP. (Draft EIR page 4.13.1-13.) Moreover, these estimates are conservative as the 2020 HTP ADWF projections already take into account future population growth, including growth from related projects resulting in some double counting of growth in this analysis. Furthermore, as with the Project, these estimates do not account for reductions in wastewater generation that would occur with implementation of conservation measures. (Id.) Thus, cumulative impacts associated with wastewater treatment will be less than significant and, therefore, no mitigation is required.

The HTP currently meets applicable water quality standards as set forth by the NPDES. As such, the related projects' wastewater effluent discharged to the Santa Monica Bay would have a less than significant impact on water quality. Implementation of the IRP, upgrades in the advanced treatment processes at HTP, and continual monitoring by the EMD will ensure that cumulative effluent discharged into Santa Monica Bay are within applicable limits. Thus, cumulative impacts on Santa Monica Bay water quality will be less than significant, and the Project's contribution to the impact will not be cumulatively considerable. Additionally, as with the Project, all related projects will be subject to the provisions of the LAMC requiring provision of on-site infrastructure, improvements to address local capacity issues and payment of fees for future sewerage replacement and/or relief improvements. In particular, related projects would be subject to LAMC Section 64.15 requiring a determination by LADWP. (Id.) Thus, the Project contribution to cumulative wastewater impacts will be less than significant and, therefore, no mitigation measure is required.

5. References: For a complete discussion of impacts associated with Wastewater, please see Draft EIR Section 4.13.1 and Appendix M-1.

Q. Water Supply

1. Description of Effects:

a) Construction: The Project will require construction of new, on-site water distribution lines to serve the development. Construction impacts associated with construction of the water lines will primarily involve on-site trenching to place the lines below the surface and minor off-site work associated with connecting to the public main. Neither activity will impact the City's water infrastructure as no upgrades to the City's facilities are anticipated. Any construction related impacts during the connection of the water lines will be minimized through implementation of Project Design Feature PDF-TRAF-1 which requires a construction management plan to reduce any temporary pedestrian and traffic impacts during construction.

Construction impacts on water demand for such activities as soil watering, clean up, excavation/export, removal and re-compaction, will occur intermittently, with demand for water consumption varied and generally short term and temporary. Temporary water usage of approximately 2,000 gallons per day (gpd) will be substantially less than the existing water

consumption of 11,322 gpd, as well as a fraction of the LADWP approved water supply assessment (WSA) for operation of the Project which concludes that there is adequate supply for approximately 109,113 gpd.

b) Operation: The Project's operational impacts on water infrastructure is based on the available infrastructure and a determination of whether the infrastructure system has sufficient capacity to serve the Project's needs. Within the vicinity of the Project Site, there is currently a 12-inch water main in S. Alameda Street and an 8-inch water main in Industrial Street. LADWP has determined that the existing water mains have sufficient capacity to meet the Project's domestic water and fire suppression needs. Thus, the Project does not require or result in the construction or expansion of water facilities, the construction of which would cause significant impacts. The Applicant will be responsible for providing the necessary water distribution system on the Project Site.

Water demand from the existing uses on the Project Site is approximately 11,332 gpd or 12.68 acre feet per year (AFY). The Project's water needs will increase the demand for water by a net amount of 109,113 gpd or 122.24 AFY with implementation of Project Design Feature PDF-WS-1 and other conservation measures. LADWP has determined that there are adequate water supplies to meet the total water demand of the Project annually during normal, single-dry, and multiple-dry water years, in addition to the existing and planned future demands on LADWP.

c) Cumulative Impacts: Development of the Project in conjunction with the related projects will cumulatively increase service capacity needs on the existing water infrastructure system. However, each related project will be subject to City review to ensure that the existing public facilities will be adequate to meet the domestic water and fire suppression needs of that project. All projects are required to improve facilities where appropriate and development cannot proceed without appropriate verification and approval.

The 163 related projects will contribute, in conjunction with the Project, to overall water demand in the City. Estimated cumulative water demand is 13,256,727 gpd or 14,849.44 AFY. LADWP expects to have a reliable supply of up to 675,700 AFY of water in 2040 to service the estimated cumulative demand. Compliance with regulatory requirements of the LAMC that promote water conservation will also assist in assuring that adequate water supply is available for all the related projects. There is therefore an adequate water supply for the Project plus the related projects.

2. Project Design Features: The City finds that Project Design Features PDF-TRAF-1 and PDF-WS-1, which are incorporated into the Project and incorporated into these Findings as though full set forth herein, will reduce the already less than significant water supply impact of the Project. These Project Design Features were taken into account in the analysis of potential impacts.

3. Findings: Changes or alternations have been required in, or incorporated into, the Project that avoid or substantially lessen potential significant environmental effects of water supply impacts of the Project to less than significant levels.

a) Construction Impacts: With implementation of Project Design Feature PDF-TRAF-1, Project construction impacts water supply will be less than significant. No mitigation measure is required.

b) Operations Impacts: With implementation of Project Design Feature PDF-WS-1, Project operational impacts on water supply will be less than significant. No mitigation measure is required.

c) Cumulative Impacts: With implementation of Project Design Feature PDF-WS-1, The Project's contribution to cumulative water supply impacts will be less than significant. No mitigation measure is required.

4. Rationale for Findings: Information regarding local water conveyance infrastructure is based on the Utility Infrastructure Technical Report prepared by KPFF Consulting Engineers for the Project Site, provided in Appendices M-2 and M-3 of the Draft EIR. The data and conclusions regarding the availability of water resources are based on a WSA approved by the LADWP, which is also provided in Appendix M of this Draft EIR. According to the WSA prepared for the Project, the estimated existing water demand for the Project Site is approximately 11,322 gpd or approximately 12.68 AFY (Draft EIR Table 4.13.2-3, *Estimated Water Consumption*).

In accordance with the California Urban Water Management Planning Act, LADWP adopted the 2015 Urban Water Management Plan (UWMP), which serves as the City's master plan for reliable water supply and resource management. The UWMP considered City's growth in water use for the entire service area to develop a long-term water projections for the City to the year 2040. The driving factors for this growth are demographics, weather, and conservation. LADWP used anticipated growth in the various customer class sectors based on projected demographic data from the Southern California Association of Governments (SCAG). 2015 UWMP also defines an evolving water supply portfolio that includes significant increases in both water conservation and local water supplies. It addresses confidence in the water supply by analyzing the uncertainties associated with climate change and integrating this analysis into water supply plans. Finally, it reinforces the need to address the water/energy nexus and continuing efforts to reduce carbon footprint. Increases in water conservation and a reduction in water demand would lead to a reduction in greenhouse gas emissions due to the energy needed to supply, distribute, and treat water. (Draft EIR page 4.13.2-19). With its current water supplies, planned future water conservation, and planned future water supplies, LADWP has available supplies to meet all demands through the 25-year planning period covered by the UWMP. (Draft EIR page 4.13.2-20.)

a) Construction Impacts: In regard to the water infrastructure, the Project will require construction of new, on-site water distribution lines to serve the development. Construction impacts associated with the installation of water distribution lines will primarily involve trenching in order to place the lines below surface. Installation of new water infrastructure will be limited to on-site water distribution and minor off-site work associated with connections to the public main. No upgrades to public water mains are anticipated. Prior to ground disturbance, Project contractors are required to coordinate with LADWP to identify the locations and depth of all lines. Further, LADWP will be notified in advance of proposed ground disturbance activities to avoid water lines and disruption of water service. Also, the Project will implement a Construction Traffic Management Plan, Project Design Feature PDF-TRAF-1, as required by the City to reduce any temporary pedestrian and traffic impacts during construction, including construction of the water distribution lines and connections to the public main. (Draft EIR pages 4.13.2-22 and 4.13.2-23.) None of these construction activities impact the City's water supply infrastructure's capacity to service the Project. Thus, impacts on water infrastructure facilities due to construction activity will be less than significant and, therefore, no mitigation measure is required.

Construction impacts on water supply will be minimal because Project construction will require only temporary and intermittent use of an amount of water that is within the available water supply. Water will be required for Project construction activities, such as soil watering (i.e., for fugitive dust control), clean up, excavation/export, removal and re-compaction, and other related activities. Construction activities will occur intermittently, with demand for water consumption varied, and generally short-term and temporary in nature. Thus, the activities requiring water will not create substantial water demand. According to the Utility Infrastructure Technical Report, (Draft EIR Appendix M), based on a review of construction projects of similar size and duration, a conservative estimate of construction water demand would be approximately 1,000 to 2,000 gpd. Temporary construction water use at the high end of that estimate, approximately 2,000 gpd, will be substantially less than the existing water consumption of 11,322 gpd. (Draft EIR page 4.13-23.)

Furthermore, the approved WSA from LADWP demonstrates that there is adequate water supply for approximately 109,113 gpd or 122.24 AFY for operation of the Project. The water supply needed for construction is merely a fraction of the operational water demand and is well within the water supply available for the Project from LADWP. Overall, construction activities will require substantially less water than the existing uses on the Project Site and the approved WSA confirmed sufficient water supply is available for the Project. (Id.) Thus, water supply impacts during Project construction will be less than significant and, therefore, no mitigation is required.

b) Operation Impacts: The Project will incorporate water conservation features that will substantially reduce its demand. The Project's water conservation features, as detailed in Project Design Feature PDF-WS-1 and incorporated into the WSA determination of net water demand, will meet and/or exceed standards established in the City's Water Efficiency Requirements Ordinance, the LID Ordinance, the Los Angeles Green Building Code Ordinance, and the 2013 California Green Building Standard Code. (Draft EIR page 4.13.2-21.) The Project will be designed to comply with the State and City green building standards, which are generally aligned with the United States Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) Silver level. Accordingly, the Project will incorporate various sustainability features, including but not limited to: a cool roof; electric vehicle spaces; energy efficient appliances and programmable thermostats; motion sensors in common areas; reduced indoor water use by at least 20 percent; water efficient plumbing fixtures and fittings; and water-efficient landscaping. The Project will also comply with the Standard Urban Stormwater Mitigation Plan (SUSMP), including Best Management Practices (BMPs) that provide stormwater recharge or reuse benefits for the Project. (Draft EIR pages 4.13.2-21 and 4.13-22.)

Within the vicinity of the Project Site, there is currently a 12-inch water main in S. Alameda Street and an 8-inch water main in Industrial Street. The Project Site has an existing 1-inch domestic water connection off S. Alameda Street and two connections off Industrial Street, which are 3-inch and 2-inches in size. The Applicant is responsible for providing the necessary water distribution system on the Project Site and any extensions to connect the Project Site to existing water lines in the area. As shown in the 2015 UWMP and the WSA for the Project, sufficient capacity is available in the existing water mains to meet the Project's domestic water and fire suppression needs; therefore, no upgrades to public water mains are anticipated. (Draft EIR pages 4.13.2-20 and 4.13.2-24.) Thus, the Project will have a less than significant impact on existing water infrastructure and, therefore, no mitigation measure is required.

As to the Project's impact on water demand, the approved WSA has determined that the City has sufficient water supply to meet the demand of the Project using existing water entitlements. Water consumption from the existing uses is approximately 11,322 gpd or 12.68 AFY. The Project will

create new demand for the consumption of water resources that exceeds demand of the existing uses on the Project Site. As determined by LADWP in the approved WSA, the net increase in water demand for the Project will be approximately 109,113 gpd or 122.24 AFY. Project water consumption is shown in Draft EIR Table 4.13.2-3, *Estimated Water Consumption*. The estimate of water consumption includes the amount of water conservation required by the City's Water Efficiency Requirements Ordinance and Project Design Feature PDF-WS-1, resulting in a savings of 24,312 gpd or 27.23 AFY, or approximately 19 percent of the base demand. (Draft EIR page 4.13.2-24.) The net Project demand was calculated by the LADWP in the WSA based on the Project's gross water demand, taking into account the estimated volume of water saved as the result of required conservation measures identified in Project Design Feature PDF-WS-1 and less the water demand of existing uses on the Project Site. As stated in the WSA, the Project's water demand falls within the LADWP's 2015 UWMP's projected increases in Citywide water demands, while anticipating multi-dry year water conditions occurring at the same time. Based on the above, there would be sufficient water supplies available to service the Project from existing entitlements and resources, and new or expanded water facilities are not needed. (Draft EIR pages 4.13.2-24 and 4.13.2-26.) Thus, operational impacts on water supply will be less than significant and, therefore, no mitigation measure is required.

c) Cumulative Impacts: Development of the Project in conjunction with the related projects will cumulatively increase demand on the existing water infrastructure system. However, each related project will be subject to City review to assure that the existing public utility facilities are adequate to meet the domestic and fire water demands of each project. (Draft EIR page 4.13.2-26.) Additionally, all projects are required to attain Service Advisory Reports based on flow testing of facilities to verify that there is available service. Developers are required to improve facilities where needed and development cannot proceed without appropriate verification and approval. Furthermore, LADWP, together with the City's Department of Public Works, conducts ongoing evaluations to ensure facilities are adequate and requires infrastructure system improvements as needed. (Draft EIR page 4.13.2-26 and 4.13.2-27.) Thus, the Project's contribution to cumulatively significant impacts on the water infrastructure system will be less than cumulatively significant and, therefore, no mitigation measure is required.

As to water demand, the 163 related projects will contribute, in conjunction with the Project, to overall water demand in the City. As shown in Draft EIR Table 4.13.2-4, *Estimated Cumulative Water Demand*, the estimated cumulative water demand is 13,256,727 gpd or 14,849.44 AFY. LADWP expects to have a reliable supply of up to 675,700 AFY of water in 2040 to service an estimated demand of 675,685 AFY based on anticipated growth. (Draft EIR page 4.13.2-27.) LADWP is required to prepare and periodically update an UWMP to plan and provide for water supplies to serve existing and projected demands. The UWMP prepared by LADWP accounts for existing development within the City, as well as projected growth anticipated to occur through redevelopment of existing uses and development of new uses. Additionally, LADWP is required to prepare a comprehensive WSA for every new development project (as defined by Section 10912 of the CWC) within its service area. The WSA for such projects, in conformance with the UWMP, will evaluate the quality and reliability of existing and projected water supplies, as well as alternative sources of water supply and measures to secure alternative sources if needed, on a project-by-project basis. (Draft EIR page 4.13.2-27.)

LADWP expects to accommodate future demand in part by shifting the proportion of water supply being purchased from the Metropolitan Water District (MWD) to more secure, local sources. (Final EIR page 3-9.) Further, during times of severe water shortages, when MWD allocates its imported water, LADWP customers have shown that they can adapt and reduce consumption as per restrictions in the Emergency Water Conservation Plan Ordinance. (Id.) Moreover, the MWD's

2015 Regional UWMP shows that with its investments in storage, water transfers and improving the reliability of the Delta, water shortages are not expected to occur within the next 25 years. Compliance of the Project and the related projects with regulatory requirements that promote water conservation such as the LAMC, including the City's Green Building Code, will also assist in assuring that adequate water supply is available on a cumulative basis. (Id.)

The WSA for Project, included in Appendix M-2 of the Draft EIR, provides a more detailed accounting of the reliable water supply sources for the Project and cumulative growth in the future. In addition, the WSA identifies additional long-term strategies including conservation rebates and incentives to reduce indoor and outdoor water use, retrofitting City Department facilities with water-efficient hardware, promoting water efficiency in new developments, water recycling, enhanced stormwater capture, and accelerating clean-up of the San Fernando Basin to increase its contribution to the water supply. In addition, the WSA found that the Project is consistent with the demographic projections for the City from both the 2012 and 2016 Regional Transportation Plans. Also, the WSA found that the 2015 UWMP demonstrates that there are adequate water supplies to meet projected water demand through 2040. The WSA states that projected water supplies are available during normal, single- dry and multi-year dry water conditions to meet the projected water demand associated with the Project, in addition to the existing and planned future demand on LADWP. (Draft EIR page 4.13.2-29.) Therefore, the Project will not have a cumulatively considerable impact on water supply. As such the Project's cumulative impacts on water supply will be less than significant and, therefore, no mitigation measure is required.

5. References: For a complete discussion of impacts associated with Water Supply impacts, please see Draft EIR Section 4.14 and Appendices M-2 and M-3 and Final EIR Chapter 3.0, Revisions, Clarifications, and Corrections.

VIII. ENVIRONMENTAL IMPACTS FOUND LESS THAN SIGNIFICANT PRIOR TO MITIGATION, WHERE MITIGATION NONETHELESS PROVIDED TO FURTHER REDUCE IMPACTS

The following impact area was concluded by the Draft EIR to be less than significant prior to mitigation, however mitigation measures nonetheless are provided to further reduce impacts. Based on that analysis and other evidence in the administrative record relating to the Project, the City finds and determines that mitigation measures described in the Final EIR will reduce the less than significant impacts identified for the following environmental impact category.

A. Police Protection

1. Description of Effects

a) Construction: Construction activities including temporary housing of equipment, building materials, vehicles and temporary offices could be subject to theft or vandalism potentially requiring the involvement of the Los Angeles Police Department (LAPD). Additionally, construction could potentially effect traffic and thereby effect police access. Project construction activities will be carried out pursuant to a Construction Management Plan, Project Design Feature PDF-TRAF-1 that will address construction-related traffic and emergency access. Security features will be incorporated during construction including controlled access to the Project Site, private security, construction fencing, and security lighting through Project Design Feature PDF-POL-1.

b) Operation: Project operation will add an on-site population and activities that could require additional police response over the existing use of the Project Site. Project security features including, without limitation, private security services and a site design intended to enhance on-site safety, will reduce the need for additional police services or the provision of new police facilities.

c) Cumulative Impacts: Of the 163 related projects, all but 16 are in the same service area as the Project. Should Project construction overlap with construction on the four related projects that are in close proximity to the Project Site, the Project's Construction Management Plan, Project Design Feature PDF-TRAF-1, will ensure emergency access and traffic flow are maintained on adjacent rights-of-way, and that the Project and these related projects do not significantly impact LAPD response time within the Project vicinity. Additionally, the Project itself will not have a significant impact to police services during construction and, with implementation of PDF-TRAF-1 will not contribute to a significant impact during construction.

Development of all the related projects, plus the Project, will result in a cumulative residential population increase of 79,583 residents which could generated an additional 12,017 crimes which would be a 199 percent increase over existing conditions within the LAPD Central Area and would necessitate approximately 737 new offices to maintain the existing officer to population ratio. This estimate is conservative as it does not count net new residents nor account for security features that would be incorporated into the related projects. Assuming all the related project's residential components are constructed, the Project's residential population will be approximately 2 percent of the overall related project population. Accordingly, the Project's contribution to the cumulative impacts on police protection would be 2 percent, representing a small contribution to the overall impacts. Additionally, like the Project, the related projects will generate property tax and sales tax revenues for the City's general fund that could be used to fund LAPD expenditures as necessary to off-set the cumulative incremental impact from each related project. The LAPD has no current plans to expand their Central City Area police facilities. Any development associated with future expansion would likely be in an in-fill area due to the highly urbanized nature of the area and subject to environmental review.

With regard to emergency response, the Project and related projects will introduce new uses which will generate additional traffic in the vicinity of the Project Site. Traffic from the Project and related projects has the potential to affect emergency vehicle response to the Project Site and surrounding properties due to travel time delays caused by the additional traffic. However, emergency vehicles have a variety of options for avoiding traffic such as using their sirens to clear a path.

2. Project Design Features: The City finds that Project Design Features PDF-POL-1, PDF-POL-2 and PDF-TRAF-1, which are incorporated into the Project and incorporated into these Findings as though fully set forth herein, will reduce the less than significant Project impacts related to police protection. These Project Design Features were taken into account in the analysis of potential impacts.

3. Mitigation Measures: The City finds that Mitigation Measure MM-POL-1, which is incorporated into the Project and incorporated into these Findings as through fully set forth herein, will lessen the less than significant impacts related to police protection impacts. This Mitigation Measure, together with the Project Design Measures, were taken into account in the analysis of potential impacts.

4. Findings: Changes or alterations and mitigation measures have been required in, or incorporated into, the Project that avoid or lessen the less than significant police protection impacts of the Project to less than significant levels.

a) Construction: With implementation of Project Design Features PDF-TRAF-1 and PDF-POL-1, Project construction impacts on police protection will be less than significant. No mitigation measure is required.

b) Operation Impacts: With implementation of Project Design Feature PDF-POL-2, Project operational impacts on police protection will be less than significant. No mitigation measure is required.

c) Cumulative Impacts: With implementation of Project Design Features, PDF-TRAF-1, PDF-POL-1 and PDF-POL-2, the Projects contribution to cumulative impacts on police protection will be less than significant. No mitigation is required.

5. Rationale for Findings: The Project Site is in the LAPD's Central Bureau. The Central Bureau covers a 65 square mile area with roughly 900,000 people. (Draft EIR page 4.11.2-1.) The Project Site is served by the Central Community Police Station, located at 251 East 6th Street, approximately 0.80 mile northwest of the Project Site, as shown in Draft EIR Figure 4.11.2-1, *Location of Central Community Police Station*. The Central Community Police Station serves an area of approximately 4.5 square miles, which includes the Arts District, and has approximately 370 sworn personnel and 30 civilian support staff assigned providing service to a residential population of approximately 40,000 residents. Furthermore, as with all municipal police departments in Los Angeles County, the LAPD participates in the Mutual Aid Operations Plan for Los Angeles County, a reciprocal agreement between signatory agencies including local police departments to provide police personnel and resources to assist other member agencies during emergency and/or conditions of extreme peril. According to the LAPD, there are no current plans to expand the Central Community Police Station or increase the number of personnel assigned to the LAPD Central Area. (Draft EIR page 4.11.2-2.)

As shown in Draft EIR Table 4.11.2-1, *Population, Officer, Crime, and Response Time Comparison*, the officer to resident population ratio within the LAPD Central Area and Citywide is 1:108 and 1:395, respectively; the number of crimes per 1,000 residents within the LAPD Central Area and Citywide is 151 and 30, respectively; and the average response times by LAPD to emergency calls within the LAPD Central Area and Citywide are 2.7 minutes and 5.7 minutes, respectively (compared to LAPD's response time standard of seven minutes). (Draft EIR page 4.11.2-2.)

The City has established an initiative called "Design Out Crime," to encourage project design that incorporates strategies from Crime Prevention through Environmental Design (CPTED.) CPTED is intended to look beyond traditional policing methods to address public safety, thus reducing the amount of police officers that would otherwise be required. CPTED recommended design practices use location of activities within a project site, as well as other site features including, for example, the use of paths, lighting, entryways, and security features (locks/gates/signs) to enhance site safety. These features improve safety and reduce crime by providing visual connection/natural surveillance and discouraging criminal activity. (Draft EIR page 4.11.2-8.)

a) Construction: During construction, equipment, building materials, vehicles, and temporary offices will be temporarily located on the Project Site, which could be subject to theft or vandalism, potentially requiring LAPD involvement. As provided in Project

Design Feature PDF-POL-1, these potential construction impacts will be addressed through a number of security measures to limit access to construction areas, including private security, construction fencing, locked entry, and security lighting. Private security personnel will monitor vehicle and pedestrian access to the construction areas and patrol the Project Site. Construction fencing with gated and locked entry will be installed around the perimeter of the construction site. The majority of the construction staging will occur within the Project Site, limiting potential conflicts with traffic on local streets. Potential effects on adjacent accessibility will be reduced with flagging and traffic control personnel. Additionally, construction workers generally start and end their work days in advance of peak traffic hours, thus reducing their potential effect on traffic and emergency responses. A construction management plan subject to review and approval by the City's Department of Transportation (LADOT) is required as a Project Design Feature PDF-TRAF-1. The Construction Management Plan will include street closure information, detour plans, haul routes, and staging plans and will formalize how construction will be carried out. It will also identify specific actions that will be required to reduce effects on the surrounding community. Thus, the various safety features that will be implemented during Project construction will reduce the potential for incidents that would require police responses. (Draft EIR page 4.11.2-8.) Thus, since construction activities will be carried out pursuant to a Construction Management Plan that will address construction-related traffic and emergency access, and security features will be incorporated during construction including controlled access to the Project Site, private security, construction fencing, and security lighting, impacts on emergency access and police protection services during construction will be less than significant and, therefore, no mitigation is required.

b) Operation: The Project will increase the number of employees and introduce new resident, visitor, and customer populations at the Project Site, which could increase the demand for police protection from LAPD. The Project Site is served by the Central Community Police Station which has approximately 370 sworn officers. The Station currently serves a residential population of 40,000 people and reported 6,044 crimes in 2016. This represents an officer to population ratio of approximately one to 108. The service area containing the Project Site has a more favorable ratio of officers to residents than the Citywide average of one per 395 residents. (Draft EIR page 4.11.2-13.) The Project will generate approximately 1,520 new residents which, without accounting for Project characteristics and security and/or design features and personnel, which would have the potential for approximately 3.8 percent increase in crime reports in the LAPD Central Area. (Id.) The increase in population from 40,000 to 41,520 residents in the LAPD Central Area will reduce the officer to resident ratio from one officer per 108 residents, to one officer per 112 residents, assuming no additional officers were hired. This is still significantly below the Citywide average of one officer per 395 residents and does not account for benefits provided through Project security personnel and features. If it were determined that additional officers will be needed to maintain existing service ratios, the Project contribution will be approximately 14 additional officers, an increase of approximately 3.8 percent. (Id.)

Implementation of the Project will generate a net increase of 139 employees and 184 commercial use customers for a total non-residential population increase of 323 persons beyond existing conditions. LAPD does not provide crime rates for non-residential population; rather, crime associated with non-commercial activity is reflected within the overall community service ratio based on the residential population. However, the Project's non-residential components may contribute to the need for police services. Without accounting for the benefits of Project security features, if the 323 non-resident site employees and visitors were considered residents, they would contribute a potential need for approximately 3 additional officers. Therefore, the total number of new officers needed to serve the Project without affecting the existing service ratios,

when conservatively combining the residential and non-residential populations, would be 17 officers, an increase of approximately 4.6 percent. (Draft EIR page 4.11.2-13.)

However, the potential need for police services will be reduced and/or facilitated by the Project characteristics and security features. As provided in Project Design Feature PDF-POL-2, the Project will incorporate a security program to ensure the safety of Project residents and visitors. The buildings will include controlled access to the live/work units and common open space areas. Access to commercial and restaurant uses, publicly-accessible open space areas, and paseos will be unrestricted during business hours, with public access discontinued after businesses have closed. Facility operations will include staff training and building access/design to assist in crime prevention efforts and to reduce the demand for police protection services. Site security will include 24-hour video surveillance and security personnel. Duties of the security personnel will include, but would not be limited to, assisting residents and visitors with site access; monitoring entrances and exits of buildings; managing and monitoring fire/life/safety systems; and patrolling the property. The Project design will also include lighting of entryways, publicly-accessible areas, and common building and open space areas associated with the live/work units for security purposes. The Project's numerous security features are consistent with the LAPD "Design Out Crime" Program/CPTED and will be reviewed for further suggestions by the LAPD. These security features would help reduce the potential for on-site crimes, including loitering, theft, and burglaries, and would reduce demand for LAPD services. (Draft EIR page 4.11.2-14.)

As shown on Table 4.11.2-1, the average emergency response time within the Central Community Police Station, at 2.7 minutes, is less than the Citywide average of 5.7 minutes and the LAPD standard response time of seven minutes. Although Project-related increase in traffic on surrounding roadways could potentially affect emergency response times in the area, due to the Project Site's very close proximity to the Central Community Police Station, approximately 0.80 miles northwest, emergency response times are not expected to substantially increase and are expected to remain below the Citywide average and the LAPD standard response time of seven minutes. (Id.) Further, emergency response to a site is routinely facilitated, particularly for high priority calls, through use of sirens to clear a path of travel, driving in the lanes of opposing traffic, use of alternative routes, and multiple station response. Emergency access to the Project Site and surrounding uses will be maintained at all times and emergency vehicles will have priority and the ability to bypass signals and stopped traffic. Thus, Project-related traffic is not anticipated to impair the LAPD from responding to emergencies at the Project Site. Finally, the Project will provide adequate access for emergency vehicles to the Project Site subject to the approval of the LAPD. (Draft EIR page 4.11.2-14.) Accordingly, impacts associated with emergency response times and emergency access, are less than significant.

In consideration of all of the above, and given that LAPD has no known or proposed plans to expand their LAPD Central Area police facilities, the Project is not expected to result in a substantial increase in demand for additional police protection services that would exceed the capability of the LAPD to serve the Project such that it would require construction of new police facilities. Even if the expansion of the Central Community Police Station (approximately 3 acres in size currently) was determined warranted by LAPD, and was foreseeable, the Station site is already developed, and the expansion of the Station on an infill lot would be anticipated to include development at a scale that is unlikely to result in significant unavoidable impacts. Projects involving the expansion of a police station are anticipated to be addressed pursuant to CEQA through categorical exemptions or (mitigated) negative declarations since they are likely relatively small additions on infill parcels. Further, the protection of public safety is the first responsibility of local government and local officials have an obligation to give priority to the provision of adequate public safety services, which are typically financed through the City general funds. (Draft EIR page

4.11.2-15.) Accordingly, the need for additional police protection services as part of an unplanned police station at this time is not an environmental impact that the Project is required to mitigate. Based on the above, the addition of a new police facility, or the expansion, consolidation, or relocation of an existing facility, is not foreseeably needed to maintain service and the potential for physical impacts associated with construction of police facilities are less than significant and, therefore, no mitigation is required.

Nonetheless, in order to further reduce the less than significant operational impacts to police protection, the Final EIR includes Mitigation Measure MM-POL-1 which requires that prior to occupancy of the Project, the Applicant will provide the Central Area Commanding Officer with a diagram of each portion of the property, including access routes, and additional information to facilitate potential LAPD responses.

c) Cumulative Impacts: Of the 163 related projects, all but 16 related projects are located within the LAPD Central Area. Draft EIR Table 4.11.2-3, *Cumulative Population for Police Services*, shows the estimated cumulative residential and non-residential populations. The location of these related projects in relation to the LAPD Central Area are shown in Draft EIR Figure 4.11.2-2, *Central Community Police Station Service Boundaries and Related Projects*. Impacts to LAPD services and facilities during the construction of each related project will be addressed as part of each related project's development review process conducted by the City. Should Project construction occur concurrently with the construction of Related Project Nos. 36, 139, 84 and/or 122, which occur in close proximity to the Project Site, then specific coordination among these multiple construction sites is required and implemented through the Project's Construction Management Plan, Project Design Feature PDF-TRAF-1, which will ensure emergency access and traffic flow are maintained on adjacent right-of-ways. In addition, construction-related traffic generated by the Project and the related projects will not significantly impact LAPD response within the Project vicinity as emergency vehicles normally have a variety of options for avoiding traffic, such as using sirens to clear a path of travel or driving in the lanes of opposing traffic. Finally, the Project in and of itself will not cause a significant impact to police services during construction. (Draft EIR page 4.11.2-16.) Therefore, the Project's contribution to cumulative impacts during construction on LAPD's emergency response will not be cumulatively considerable.

As indicated in Table 4.11.2-3, the Project (1,520 residents plus 323 non-residents) plus the related projects (78,063 residents plus 99,424 non-residents) would together generate an increase of an estimated 79,583 residents and 99,747 non-residents within LAPD's Central Area. These are conservative estimates because they are not net new residents and non-residents; that is, they do not take into account existing development, and the associated existing resident and non-resident populations to be removed, due to the development of the related projects. Plus the projection assumes that all the related projects will be approved and constructed.

The number of annual crimes anticipated to be generated by the Project plus related projects was estimated in the Draft EIR based on the cumulative residential population increase; assuming, in part, an estimated average household size of 3.2 persons per household for those projects located within the Central City North Community Plan area and 1.7 persons per household for those projects located within the City outside the Central City North Community Plan area. The cumulative residential population of 79,583 residents, if no new officers were hired, would result in one officer per 323 residents (still below the Citywide average of 1:395). In order to maintain the existing officer to population ratio (1:108), approximately 737 new officers would be required upon buildout of all cumulative development. (Draft EIR page 4.11.2-17.) Overall, the Project's residential population will be approximately 2 percent of the overall related projects residential

population (assuming all the related projects are built). (Id.) Accordingly, the Project's contribution to additional crime generated by the related projects and need for additional officers would also be approximately 2 percent, representing a significantly small contribution to the overall need for police protection services.

As shown in Table 4.11.2-3, the non-residential population associated with cumulative development would be 99,747. However, LAPD does not separately consider non-residential population increases when calculating increased demand for police services, and as was the case for the Project, the service ratio for the non-residential is subsumed within the residential ratios. Moreover, as previously stated, the estimated potential increased need for police officers in association with the related projects in the Draft EIR is conservative since it does not represent net new residents and non-residents, and does not account for reduced demand for police services due to the security personnel and multiple security features that would be incorporated into the related projects, including CPTED. (Draft EIR page 4.11.2-17.) It is expected that the related projects (particularly those of a larger nature) will be subject to discretionary review by LAPD on a project-by-project basis to ensure that sufficient security measures are implemented to reduce potential impacts to police protection services. Many of the related projects will also be expected to provide on-site security, personnel and/or design features for their residents and patrons per standard development practices for the given uses. (Id.)

LAPD has no current plans to expand their LAPD Central Area police facilities. Even in if there is a future determination that expansion is necessary, development associated with expanded police facilities is unlikely to result in significant unavoidable impacts to the environment since the additions would be relatively small on infill parcels. Moreover, such projects would be addressed pursuant to CEQA through categorical exemptions or (mitigated) negative declarations. Further, the protection of public safety is the first responsibility of local government and local officials have an obligation to give priority to the provision of adequate public safety services, which are typically financed through the City general funds. Similar to the Project, related projects will generate revenue (e.g., property and sales tax revenue) for the City's general fund that would be used to fund LAPD expenditures as necessary to offset the cumulative incremental impact from each related project on police services. Accordingly, the need for additional police protection services as part of an unplanned or expanded police station at this time is neither foreseeable nor an environmental impact that the Project is required to mitigate. (Draft EIR page 4.11.2-19.)

With regard to emergency response, the Project and related projects will introduce new uses which will generate additional traffic in the vicinity of the Project Site. Traffic from the Project and related projects could have the potential to affect emergency vehicle response to the Project Site and surrounding properties due to travel time delays caused by the additional traffic. As discussed above, the Project is not anticipated to substantially affect existing emergency response in the service area of the Central Community Police Station and the Project will not significantly contribute to a cumulative impact regarding emergency response. As is the case under existing conditions, emergency vehicles will access the Project Site and each of the related projects directly from the surrounding roadways. The drivers of emergency vehicles have a variety of options for avoiding traffic, such as using sirens to clear a path of travel or driving in the lanes of opposing traffic. As such, emergency access to the Project vicinity would be maintained at all times, and the increase in cumulative traffic generated by the Project and related projects would not significantly impact emergency vehicle response to the Project vicinity, including along designated disaster routes. (Id.)

Based on the above considerations, the Project will not make a cumulatively considerable contribution to cumulative impacts associated with the construction of police facilities and

operational police service impacts and, as such, cumulative impacts on police protection services will be less than significant.

6. References: For a complete discussion of impacts associated with Police Protection, please see Draft EIR Section 4.11.2 and Appendix K-2.

IX. ENVIRONMENTAL IMPACTS FOUND TO BE LESS THAN SIGNIFICANT AFTER MITIGATION

The following impact areas were concluded by the Draft EIR to be less than significant with the implementation of mitigation measures described in the Final EIR. Based on that analysis and other evidence in the administrative record relating to the Project, the City finds and determines that mitigation measures described in the Final EIR will reduce potentially significant impacts identified for the following environmental impact categories to below the level of significance.

A. Cultural Resources

1. Description of Effects:

a) Archeological Resources and Human Remains: No prehistoric or historic archaeological resources have been recorded within the Project Site. Nonetheless, the Project Site has a history of intensive historic period use and it is possible that physical remnants of these former uses still exist at depth within the Project Site. As a result, construction may cause a substantial adverse change in the significance of an archaeological resource. The Project Site has been previously disturbed by the construction of the former and existing uses and, although unlikely, Project grading and excavation may encounter and disturb human remains, including those interred outside of dedicated cemeteries. However, with implementation of mitigation measures, impacts to archeological resources and human remains will be reduced to a less than significant level.

b) Paleontological Resources: The Project Site has been disturbed by the previous construction of former and existing uses. However, Project grading and excavation may encounter native soil/sediment associated with older Quaternary Alluvium which has high potential for containing buried paleontological resources. As a result, construction may result in the permanent loss of, or loss of access to, a unique paleontological resource or site of regional or Statewide significance, or a unique geologic feature. However, with implementation of mitigation measures, impacts to paleontological resources will be reduced to a less than significant level.

c) Cumulative Impacts:

(1) Archeological Resources and Human Remains: Related projects may include construction excavation at parcels that have been developed historically. Therefore, there is a potential to impact significant archeological resources that qualify as archaeological resources or human remains. However, like the Project, in association with CEQA review, and depending on the depth of excavation and sensitivity of the respective sites, mitigation measure would be required for related projects that have the potential to cause significant impacts. Therefore, with implementation of mitigation measures, the Project will not contribute to a cumulative impact on archeological resources and human remains.

(2) Paleontological Resources: The related projects could have the potential to disturb geological units that are conducive to retaining paleontological resources such as older Quaternary Alluvium. If the potential for impacts were identified on the related project sites, like the Project, mitigation measures would be imposed to reduce the impact to a less than significant level. Therefore, with implementation of mitigation measures, the Project will not contribute to a cumulative impact on paleontological resources.

2. Project Design Features: None.

3. Mitigation Measures: The City finds that Mitigation Measures MM-ARCH-1, MM-ARCH-2, MM-ARCH-3, MM-ARCH-4, MM-PALEO-1, MM-PALEO-2, and MM-PALEO-3, which are incorporated into the Project and incorporated into these Findings as though fully set forth herein, will reduce the cultural resources impacts of the Project to a less than significant level. These Mitigation Measures were taken into account in the analysis of Project impacts.

4. Findings: Changes or alterations and Mitigation Measures have been required in, or incorporated into, the Project that avoid or substantially lessen the Project's potential significant environmental cultural resources impacts related to archeological resources and human remains and paleontological resources, to less than significant levels.

a) Archeological Resources and Human Remains Impacts: With implementation of Mitigation Measures MM-ARCH-1, MM-ARCH-2, MM-ARCH-3, and MM-ARCH-4, Project impacts to archeological resources and human remains will be less than significant. No additional mitigation measure is required.

b) Paleontological Resources Impacts: With implementation of Mitigation Measures MM-PALEO-1, MM-PALEO-2, and MM-PALEO-3, Project impacts to paleontological resources will be less than significant. No additional mitigation measure is required.

c) Cumulative Impacts: With implementation of Mitigation Measures MM-ARCH-1, MM-ARCH-2, MM-ARCH-3, MM-ARCH-4, MM-PALEO-1, MM-PALEO-2, and MM-PALEO-3, the Project's contribution to a cumulative impact on cultural resources will be less than significant. No additional mitigation measure is required.

5. Rationale for Findings: Prior to the construction of the Showa Marine & Cold Storage building constructed on the Project Site between 1984 and 2001, there were other improvements dating back to at least 1906 as well as an Atchison, Topeka, and Santa Fe rail spur located along the southern boundary Project Site. Only one of the prior buildings appears to have had a basement. The current facility, which does not contain a basement, was designed by Takase Associates and engineered by Arevelo & Safino in 1984 and has approximately fifteen buildings permits for alterations and additions. (Draft EIR page 4.3.1-8.)

The Project Site is located on the west ancestral bank of the Los Angeles River and surface sediments at the Project Site consist of Quaternary-aged deposits made up of silty to sandy gravel, sand and silt soil types. These sediments are underlain by the Miocene-aged Puente Formation, which are mainly composed of marine-deposited siltstone, sandstone and shale. (Id.) Three cone penetration tests (CPTs) were conducted within the Project Site in three areas (two along Industrial Street and one along Mill Street) where buildings do not currently exist. The explorations for the CPTs were conducted to depths of 35 to 37.5 feet below the surface. The results of the investigation indicated that the subsurface profile at the Project Site consists of

natural soils with the exception of minor fill soils between 1 to 3 feet below the surface. (Draft EIR page 4.3.1-9.)

a) Archeological Resources and Human Remains: No prehistoric or historic archaeological resources have been recorded within the Project Site; however, three historic period archaeological resources have been encountered within a half-mile radius. One of these resources is described as an historic period refuse deposits (dating from 1880 to 1923) and two structure features (foundation walls and railroad track segments) that were uncovered during archaeological construction monitoring services of the Los Angeles Department of Water and Power La Kretz Innovation Project in the Arts District. These features were identified just below modern asphalt surfaces and below the footprint of a large warehouse that was demolished, between one to three feet below the ground surface. Given the age and location of many of the features and artifacts, they appear to be associated with the former residential uses of that particular parcel as shown on early Sanborn Maps. A branch of the zanja water system (Zanja No. 2) once followed a north-south trend along South Alameda Street, in the public ROW, and outside the western boundary to the Project Site. Two other branches (Zanja No. 1 and No. 3) were also located in the general vicinity of the Project Site. (Draft EIR pages 4.3.1-21 and 4.3.1-22.) Although the zanja water system does not cross through the Project Site, MM-ARCH-2 is incorporated into the Project to ensure that any inadvertent discovery of the zanja water system shall be treated appropriately.

The records search from the South Central Coastal Information Center (SCCIC) indicates that a total of 30 cultural resources studies have been previously conducted within a half-mile of the Project Site. None of these studies included a survey of the Project Site. Of the 30 studies, two are located immediately adjacent to the western boundary of the Project Site, along the Alameda Street right-of-way. Neither of these studies yielded the identification of built environment or archaeological resources in areas adjacent to the Project Site. (Draft EIR page 4.3.1-9.)

The results of the SCCIC records search also indicate that no archaeological resources have been previously recorded within the Project Site. However, 47 resources (including three historic period archaeological resources) have been previously recorded within a half-mile radius of the Project Site. These resources are described in Table 2 in the Cultural Resources Assessment report provided in Appendix D of the Draft EIR. The Sacred Lands File (SLF) search conducted through the California Native American Heritage Commission (NAHC) yielded negative results for Native American cultural resources within the Project Site or in the immediate vicinity. The SLF search results letter from the NAHC is provided in Appendix D of the Draft EIR. (Id.)

Since the existing building does not have a basement, there is potential that remnants of the former uses have been preserved below the foundations of the warehouse and below the surface parking lot within the Project Site. Moreover, the Project Site is located in the vicinity of several historical-period thoroughfares and transportation corridors, including the Atchison, Topeka, and Santa Fe railroad and the Le Grand Railroad Station (in use 1893-1933), as well as activity associated with the Los Angeles River. Lastly, the archaeological resources identified within the vicinity indicate that this area preserves traces of occupation and use from early in the development history of this portion of Los Angeles. (Draft EIR page 4.3.1-22.) The depth of excavations for the subterranean parking is expected to reach down to approximately 40 feet below surface and project-related improvements would occur within the immediately adjacent public right-of-way above- and below-grade, such as streetscape and utility improvements. (Draft EIR page 4.3.1-20.) Therefore, Project excavations have a high potential for encountering buried historic period archaeological resources. Accordingly, Mitigation Measures MM-ARCH-1 through MM-ARCH-3 are incorporated into the Project to ensure that potentially significant impacts to

archaeological resources are reduced to a less than significant level. Thus, with implementation of these Mitigation Measures, Project impacts to archeological resources will be less than significant and, therefore, no additional mitigation measure is required.

As to human remains, California Health and Safety Code sections 7050.5, 7051, and 7054 address the illegality of interference with human burial remains (except as allowed under applicable sections of the Public Resource Code), and the disposition of Native American burials in archaeological sites. These regulations protect such remains from disturbance, vandalism, or inadvertent destruction, and establish procedures to be implemented if Native American skeletal remains are discovered during construction of a project, including treatment of the remains prior to, during, and after evaluation, and reburial procedures. (Draft EIR page 4.3.1-13.) The results of the record searches indicated that no human remains have been recorded within the Project Site or within a half-mile radius. Moreover, it is possible that the original construction of the former and existing uses at the Project Site has displaced human remains or other types of cultural resources. However, the negative results of the records search and the developed nature of the Project Site does not preclude the existence of buried human remains that may be encountered during construction. (Draft EIR page 4.3.1-22.) As a result, in the unlikely event that previously unknown human remains are encountered during construction excavations, Mitigation Measure MM-ARCH-4 is incorporated into the Project to ensure that potentially significant impacts to human remains are reduced to a less than significant level. Thus, with implementation of this Mitigation Measure, Project impacts to human remains will be less than significant and, therefore, no additional mitigation measure is required.

b) Paleontological Resources: The results of the paleontological resources records search from the Natural History Museum of Los Angeles County (NHMLAC) indicate that the Project Site is composed of surface deposits of younger Quaternary Alluvium resulting from the floodplain of the Los Angeles River which is located within close proximity to the Project Site. These deposits are not known to be fossiliferous in the uppermost layers; however, excavations into older Quaternary deposits at depth, have the potential to yield fossil vertebrate remains. Three fossil localities have been encountered in older Quaternary deposits within approximately 1.25 to 2.25 miles of the Project Site at various depths. Specifically, the closest paleontological locality from older Quaternary deposits is located at the intersection of Hill Street and 12th Street (approximately 1.30 miles east of the Project Site), which yielded a fossil specimen of a horse at 43 feet below surface. Another site, located near the intersection of Mission Road and Daly Street (approximately 2.10 miles northeast of the Project Site), produced fossil specimens of pond turtle, ground sloth, mastodon, mammoth, horse and camel at depths between 20 and 35 feet below surface. While a site located near the intersection of Workman Street and Alhambra Avenue (approximately 2.30 miles northeast of the Project Site), yielded fossil specimens of turkey, sabre-toothed cat, horse, and deer at an unknown depth. (Draft EIR page 4.3.1-10 and 4.3.1-23.) Since excavations for the Project would reach down to approximately 40 feet below the surface for subterranean parking, the potential to encounter buried paleontological resources is considered moderate to high. (Draft EIR page 4.3.1-23.) Accordingly, Mitigation Measures MM-PALEO-1 through MM-PALEO-3 are incorporated into the Project to ensure that potentially significant impacts to paleontological resources are reduced to a less than significant level. With implementation of these Mitigation Measures, Project impacts to paleontological resources will be less than significant and, therefore, no additional mitigation measure is required.

c) Cumulative Impacts:

(1) Archeological Resources and Human Remains: The related projects within the vicinity of the Project Site will include construction excavations at parcels that have been developed historically. Therefore, there is potential to impact significant archaeological resources that qualify as archaeological resources or human remains. Moreover, other related projects performing similar construction excavations on parcels with a similar land use history could constitute a cumulatively considerable impact. However, in association with CEQA review, and depending on the depth of excavation and sensitivity of respective sites, mitigation measures would be required for projects that have the potential to cause significant impacts to undiscovered resources; (Draft EIR page 4.3.1-23). As a result, the cumulative effects from other development projects will be less than significant.

The Project is required to comply with the Mitigation Measures ARCH-1 through ARCH-4 and State and local regulations in the event resources are found, thus ensuring proper identification, treatment and preservation of any resources, and reducing significant impacts on archaeological resources and human remains to less than significant levels. These regulations require excavation monitoring, and treatment and curation of discoveries. (Draft EIR page 4.3.1-24.) Related projects will be subject to the same regulations and similar mitigation measures. Therefore, to the extent impacts on archaeological resources and human remains from related projects may occur, further contribution from the Project will not be cumulatively considerable, and the cumulative impacts will be less than significant; accordingly, no additional mitigation measure is required.

(2) Paleontological Resources: The related projects occurring in the Project vicinity could have the potential to disturb geological units that are conducive to retaining paleontological resources such as older Quaternary Alluvium. Generally, projects with the potential for substantial excavation will be subject to environmental review. If the potential for significant impacts on paleontological resources were identified given the site characteristics and development program of the related project, mitigation measures would be implemented. These measures would include a monitoring program and treatment/curation of discovered fossils. Implementation of these measures would reduce the potential for adverse effects on fossil resources individually and cumulatively; and would preserve and maximize the potential of these resources to contribute to the body of scientific knowledge. (Draft EIR page 4.3.1-24.) Therefore, the cumulative effects from related projects will be less than significant after mitigation.

The Project is required to comply with the Mitigation Measures PALEO-1 through PALEO-3, thus ensuring proper identification, treatment and preservation of any resources, and reducing significant impacts on paleontological resources to less than significant levels. These measures require construction monitoring of excavation activities, and treatment and curation of discoveries, if encountered. (Id.) Thus, to the extent impacts on paleontological resources from related projects may occur, further contribution from the Project will not be cumulatively considerable and, therefore, no additional mitigation measure is required.

6. References: For a complete discussion of impacts associated with Cultural Resources please see Draft EIR Section 4.3.1 and Appendix D.

B. Hazards and Hazardous Materials

1. Description of Effects:

a) Residual Soil Contamination: Project construction and operation could potentially expose Project construction workers, building occupants and/or the public to

residual soil and soil gas pollutant concentrations at certain locations within the Project Site above federal and state remediation levels. This potentially significant impact will be reduced to a less than significant level with implementation of the prescribed mitigation measures.

b) Vapor Encroachment: The Project is not located within an area subject to methane or radon vapor encroachment hazards. However, tetrachlorethene (PCE) vapor encroachment hazards from former on-site uses could potentially expose construction workers and Project building occupants to potentially significant health hazards. This potentially significant impact will be reduced to a less than significant level with implementation of the prescribed mitigation measures.

c) Cumulative Impacts: The Project will not result in a cumulatively considerable impact related to residual soil or soil gas contamination that could expose persons to substantial risk resulting from the release of hazardous materials or from exposure to a health hazard in excess of regulatory standards after implementation of the prescribed mitigation measures.

2. Project Design Features: The City finds that Project Design Feature PDF-TRAF-1, which is incorporated into the Project and incorporated into these Findings as though full set forth herein, will reduce the potentially significant hazards and hazardous materials impacts of the Project. This Project Design Feature was taken into account in the analysis of potential impacts.

3. Mitigation Measures: The City finds that Mitigation Measures MM-HAZ-1, MM-HAZ-2, and MM-HAZ-3, which are incorporated into the Project and incorporated into these Findings as though fully set forth herein, will reduce the hazards and hazardous material impacts of the Project to a less than significant level. These Mitigation Measures were taken into account in the analysis of Project impacts.

4. Findings: Changes or alterations, Project Design Features and Mitigation Measures have been required in, or incorporated into, the Project that avoid or substantially lessen the Project's potential significant hazards and hazardous materials impacts to less than significant levels.

a) Residual Soils Contamination Impacts: With implementation of Mitigation Measures MM-HAZ-1, MM-HAZ-2 and MM-HAZ-3 and Project Design Feature PDF-TRAF-1, Project impacts related to residual soil contamination will be less than significant. No additional mitigation measure is required.

b) Vapor Encroachment Impacts: With implementation of Mitigation Measures MM-HAZ-1, MM-HAZ-2 and MM-HAZ-3, Project impacts related to vapor encroachment will be less than significant. No additional mitigation measure is required.

c) Cumulative Impacts: With implementation of Mitigation Measures MM-HAZ-1, MM-HAZ-2 and MM-HAZ-3 and Project Design Feature PDF-TRAF-1, Project impacts related to residual soil contamination and vapor encroachment will be less than significant. No additional mitigation measure is required.

5. Rationale for Findings:

a) Residual Soils Contamination Impacts:

Recognized Environmental Conditions (RECs): Three previous Phase II assessments of subsurface soil and soil gas testing assessment reports covering some or all of the Project Site were reviewed as part of the current Phase I/II Environmental Site Assessment (ESA) (Draft EIR as Appendix G). These include Phase II assessments conducted in 1996 and 2000 to test for petroleum hydrocarbons (e.g., TPA, BTEX and MTBE) in soil samples from the former underground storage tank (UST) sites on the Project Site, and a Phase II assessment conducted by in 2015 to test for petroleum hydrocarbons and volatile organic compounds (VOCs) in soil and soil gas samples from across the Project Site. The earlier assessments found petroleum hydrocarbons in the soils samples below the laboratory reporting limits or not at all, and recommended no further investigation. The 2015 assessment found petroleum hydrocarbons in the soil samples below the laboratory reporting limit, and VOCs in the soil gas samples below the residential and industrial California Human Health Screening Levels (CHHSLs), and recommended no further investigation. Therefore, the previous Phase II environmental site assessments did not identify a potential for encountering soil or soil gas contamination above applicable standards at the Project Site. (Draft EIR pages 4.6-5, 4.6-6 and 4.6-18.)

Also, soil and soil gas testing at the Project Site was done in late 2015 for the sites of the former USTs, the vacated railroad right-of-way, and the former on-site industrial operations. (Draft EIR Appendix G.) The soil gas testing, which tested for VOCs, total petroleum hydrocarbons (TPH), PCBs, PCE, and Title 22 Metals, detected only PCE, and this PCE was detected at levels below the CHHSLs for residential (0.47 ug/L) and commercial (1.6 ug/L) uses, with the exception of samples taken in the areas around the former on-site metal fabrication facility and former service station where PCE was detected at levels (0.60 and 0.57 ug/L, respectively) slightly above the residential CHHSL. (Draft EIR page 4.6-19.) The soil testing, which tested for VOCs, TPH, PCBs and Title 22 Metals, detected only TPH diesel/oil and Title 22 Metals, with TPH diesel/oil detected in the samples taken in the area of the former service station at levels below the US EPA standards, and Title 22 Metals detected in the samples taken from the area around the easternmost portion of the vacated railroad right of way. The tests for Title 22 metals indicated primarily background concentrations except for elevated concentrations of lead (92 mg/kg) in sample CEB1 at 1ft which is located in the eastern portion of the Project Site near Mill Street. Lead levels at this location were above the 80 mg/kg CHHSL threshold for residential uses, but well below the 320 mg/kg CHHSL threshold for commercial uses. Therefore, these levels do not require mitigation given that metal levels at this location are only slightly elevated, will decrease with the addition/mixture of fill soils, and the fact that this area of the Project Site will not be developed with residential uses. Further, soils samples west of CEB1, where the proposed building and residential uses will be located, did not have any metal concentrations above the CHHSL thresholds for residential uses. (Draft EIR page 4.6-19.) In addition, standard dust control practices consistent with applicable SCAQMD Rule 403 during construction would ensure Title 22 metals do not present a hazard to the public or the environment.

Based on the current Phase II testing results, there is a potential to encounter PCE in soil gas above the residential CHHSL in the area of the former on-site fabrication facility, which could present a hazard to the public or the environment. Furthermore, the Phase I/II ESA indicates that the presence of refrigeration piping beneath the cold storage facility limited the soil and soil gas testing beneath the footprint of the cold storage building, which equates to uncertainty regarding possible historical releases of hazardous materials, thereby warranting additional assessment and the potential need for remediation and UST removal. Therefore, within the above-specified locations on the Project Site, construction workers could potentially be exposed to hazardous materials during Project construction, and building occupants could potentially be exposed to hazardous materials during Project operation. (Draft EIR page 4.6-19.) This represents a potentially significant impact.

The absence of data for the USTs at the location of the former on-site service station (668 S. Alameda), including the lack of evidence that the USTs have been removed, and the associated potential that any USTs that may be present at this location could pose a potential future soil or soil gas contamination hazard, is considered as a REC in the Phase I/II ESA. (Id.) Therefore, in the area of the former service station, construction workers could potentially be exposed to hazardous materials during Project construction and building occupants could potentially be exposed to hazardous materials during Project operation. (Draft EIR pages 4.6-19 and 4.6-20.) This represents a potentially significant impact.

Worker safety and health are generally regulated by OSHA and Cal-OSHA. OSHA and Cal-OSHA standards establish exposure limits for certain air contaminants. Exposure limits define the maximum amount of hazardous airborne chemicals to which an employee may be exposed over specific periods. When administrative or engineering controls cannot achieve compliance with exposure limits, protective equipment or other protective measures must be used. Employers are also required to provide a written health and safety program, worker training, emergency response training, and medical surveillance. (Draft EIR page 4.6-20.)

The Cal-OSHA program regulates worker exposure to airborne contaminants (such as those identified in the subsurface soils) during construction under Title 8, Section 5155, Airborne Contaminants, which establishes which compounds are considered a health risk, the exposure limits associated with such compounds, protective equipment, workplace monitoring, and medical surveillance required for compliance. Even with the implementation of applicable worker safety regulations, the potential for construction workers and future building occupants to be exposed to hazardous materials in exceedence of applicable thresholds is considered a potentially significant impact because applicable regulations do not provide site-specific procedures and mechanisms to ensure regulatory compliance, or to protect and train workers for the presence of these materials. (Id.) The Project incorporates Mitigation Measures MM- HAZ-1 through MM-HAZ-3 to address the above described potentially significant impacts related to residual soil contamination.

MM-HAZ-1 requires additional testing of those locations recommended by the Phase I/II ESA. MM-HAZ-2 requires the development of a soil management plan should the assessment required under MM-HAZ-1 reveal the presence of hazardous materials or a UST. Among other conditions, MM-HAZ-2 requires that the soil management plan be prepared and executed in compliance with applicable State and local regulations. MM-HAZ-3 requires the development of a health and safety plan, to be prepared in compliance with OSHA requirements, should the assessment required under MM-HAZ-1 reveal chemicals of concern above applicable clean-up goals. (Draft EIR pages 4.6-26 through 4.6-28.) With implementation of these Mitigation Measures, the Project's residual soils contamination impacts will be less than significant.

Historical Recognized Environmental Conditions (HRECs): The Phase I/II ESA indicates that the removal of the former 1,000-, 4,000-, and 10,000-gallon USTs is considered an HREC. An HREC refers to a past release that has been remediated below residential standards and given regulatory closure with no restrictions on use. Therefore, there is no potential for the former USTs to result in additional soil or soil gas contamination or an associated exposure hazard at the Project Site, and no residual soil contaminant impact will occur. (Draft EIR page 4.6-20 and Appendix G pages 31 and 32.)

Controlled Recognized Environmental Conditions (CRECs): In general, CRECs are controlled recognized environmental conditions resulting from a past release of hazardous substances or petroleum products that have been addressed to the satisfaction of the applicable regulatory authority. The Phase I/II ESA indicates that there is no evidence of CRECs in connection with

the Project Site. Therefore, there is no potential for CRECs to cause soil or soil gas contamination or an associated exposure hazard at the Project Site, and no impact will occur. (Id.)

b) Vapor Encroachment Impacts: The Project is not located within a City-designated Methane Hazard Zone. Therefore, the Project Site is not subject to methane vapor encroachment and no methane hazard impact will occur. The Phase I/II ESA indicates that a research report (included as Appendix V of the Phase I/II ESA, Draft EIR Appendix G) shows that the levels of radon in two sites located within the 90021 zip code were below 4.0 pCi/L (the EPA Action Level). In addition, the Project Site is located within designated US EPA Radon Zone 2 where the predicted average radon concentration is between 2.0 and 4.0 pCi/L (again, below the EPA Action Level). Therefore, the exposure hazard from radon vapor encroachment at the Project Site is considered low, and the impact would be less than significant. (Draft EIR page 4.6-22.)

As discussed above for soil gas conditions, the soil gas sampling found PCE levels slightly above the residential CHHSL of 0.47 ug/L at the on-site metal fabrication facility and former service station site. Therefore, within the above-specified locations of the Project Site, construction workers could potentially be exposed to PCE vapor encroachment during Project construction, and building occupants could potentially be exposed to PCE vapor encroachment during Project operation. This represents a potentially significant impact. Mitigation Measures HAZ-1 through HAZ-3 are incorporated into the Project to address the potentially significant impacts related to PCE vapor encroachment. As summarized above, those Mitigation Measures require further site assessment and, if hazardous substances are found, the preparation of a soils management plan and a health and safety plan. (Draft EIR pages 4.6-22 and 4.6-26 through 4.6-28.) Accordingly, with implementation of the Mitigation Measures, Project impacts related to vapor encroachment will be less than significant and, therefore, no additional mitigation measure is required.

c) Cumulative Impacts: With implementation of Mitigation Measures MM-HAZ-1 through MM-HAZ-3, the Project will not result in a cumulatively considerable impact related to residual soil or soil gas contamination or vapor encroachment that could expose persons to substantial risk resulting from the release of hazardous materials or from exposure to a health hazard in excess of regulatory standards. As described, the Phase I/II ESA identified all potentially hazardous materials conditions within a one-mile radius of the Project Site through the performance of a hazardous materials regulatory database search which identified 96 database listings within the search radius. This database search was inclusive of, among other sites, the sites of the four nearest related projects to the Project Site (Cumulative Projects 36, 84, 122, and 139). The Phase I/II ESA concludes that none of the database listings on the Project Site represent RECs, and thus do not represent hazards at the Project Site or to adjacent properties. Furthermore, the Phase I/II ESA concludes that, based on distance, topography, assumed groundwater gradient, current regulatory status, and/or the absence of reported releases, none of the sites listed in the database search, including the sites of the four related projects closest to the Project Site, result in a cumulatively considerable impact and none of the off-site database listings represent RECs at the Project Site. (Draft EIR page 4.6-24 and Appendix G.)

Similarly, the Project will not result in a cumulatively considerable impact related to residual soil or soil gas contamination at adjacent properties. As indicated in the impact analysis above, while PCE was detected in soil gas at slightly above the residential CHHSL in the area of the former on-site fabrication facility, while some Title 22 metals were detected at slightly elevated levels in soil gas in a single sample taken from the on-site vacated railroad right-of-way, and while some additional soil gas sampling is required below the existing on-site building, this soil gas is highly

localized and will not represent a hazard to adjacent properties after implementation of the prescribed mitigation measures. (Draft EIR page 4.6-24.)

Furthermore, while historical USTs may be present below the on-site cold storage facility and/or the former on-site service station, the Mitigation Measures require further site testing to confirmation of the presence or absence of any USTs, removal of any existing USTs, and remediation of any potential soil contamination that may be present around the UST, such that any historical on-site USTs and/or residual soil or soil gas contamination will not represent a hazard to adjacent properties. (Draft EIR page 4.6-24.) Through the CEQA process, and through compliance with applicable regulatory requirements, existing soil or soil gas contamination at the sites of the related projects would be remediated and, therefore, would not present a hazard at the Project Site. Thus, with implementation of the Mitigation Measures, the Project's contribution to cumulative hazardous materials impacts will not be significant and, therefore, no additional mitigation measure is required.

6. References: For a complete discussion of impacts associated with Hazards and Hazardous Materials please see Draft EIR Section 4.6 and Appendix G.

C. Noise (Construction On-Site Noise and Construction Vibration Only)

1. Description of Effects:

a) Construction On-Site Noise: Construction activities are expected to last for approximately 36 months commencing in 2018. Although such noise is temporary, noise resulting from the use of heavy equipment during construction activities such as demolition, grading and excavation can potentially increase the noise levels at off-site existing and future noise-sensitive receptors in excess of the thresholds of significance. However, Project Design Measures and Mitigation Measures imposed on the Project will lessen the potential construction noise impacts to below the thresholds of significance.

b) Construction Vibration: Construction activities at the Project Site have the potential to generate low levels of ground-borne vibrations as the operation of such heavy equipment as bulldozers, excavators, graders, loaders and haul trucks, generate vibrations that propagate through the ground and diminish in intensity with distance from the source. No high-impact activities, such as pile driving or blasting, will be used during Project construction. However, without mitigation measures, construction ground-borne vibrations have the potential to exceed the threshold of significance. The required mitigation measures will lessen the potential impacts to below the thresholds of significance.

c) Cumulative Impacts: Noise and ground-borne vibrations are a localized phenomenon and significantly reduces in magnitude as the distance from the source increases. As such, only related projects within the immediate vicinity of the Project Site can contribute to a cumulatively significant noise or vibration impact. The implementation of project design features and mitigation measures will less the potentially significant cumulative impacts to below the thresholds of significance.

2. Project Design Features: The City finds that Project Design Features PDF-NOISE-1 and PDF-NOISE-2, which are incorporated into the Project and incorporated into these Findings as though full set forth herein, will reduce the construction noise and vibration impacts of the Project. These Project Design Features were taken into account in the analysis of potential impacts.

3. Mitigation Measures: The City finds that Mitigation Measures MM-NOISE-1, MM-NOISE-2, and MM-NOISE-3, which are incorporated into the Project and incorporated into these Findings as though fully set forth herein, in conjunction with Project Design Features, PDF-NOISE-1 and PDF-NOISE-2, will reduce the construction noise and vibration impacts of the Project to a less than significant level. These Mitigation Measures were taken into account in the analysis of Project impacts.

4. Findings: Changes or alterations, Project Design Features and Mitigation Measures have been required in, or incorporated into, the Project that avoid or substantially lessen the Project's potential significant construction noise and construction vibration impacts to less than significant levels.

a) Construction Noise Impacts: With implementation of Mitigation Measures MM-NOISE-1, MM-NOISE-2 and MM-NOISE-3, and Project Design Features PDF-NOISE-1 and PDF-NOISE-2, construction noise impacts will be less than significant. No additional mitigation measure is required.

b) Construction Vibration Impacts: With implementation of Mitigation Measures MM-NOISE-2 and MM-NOISE-3, construction vibration impacts will be less than significant. No additional mitigation measure is required.

c) Cumulative Impacts: (Construction On-site Noise and Vibrations): With implementation of Mitigation Measures MM-NOISE-1, MM-NOISE-2 and MM-NOISE-3, and Project Design Features PDF-NOISE-1 and PDF-NOISE-2, cumulative construction noise impacts will be less than significant. No additional mitigation measure is required.

5. Rationale for Findings:

a) Construction Noise Impacts: Project construction will take place in a single phase anticipated to begin in 2018 and occurring for approximately 36 months with Project buildout projected for 2022. Construction of the Project will require the use of heavy equipment during the demolition, grading, and excavation activities at the Project Site. During each stage of development, there will be a different mix of equipment. As such, construction activity noise levels at and near the Project Site will fluctuate depending on the particular type, number, and duration of use of the various pieces of construction equipment. (Draft EIR page 4.9-20.)

Project construction will require the use of mobile heavy equipment with high noise-level characteristics. Individual pieces of construction equipment anticipated during Project construction could produce maximum noise levels of 74 dBA to 90 dBA at a reference distance of 50 feet from the noise source, as shown in Draft EIR Table 4.9-8, *Construction Equipment Noise Levels*. These maximum noise levels will occur when equipment is operating under full power conditions. The estimated usage factor for the equipment is also shown in Table 4.9-8. The usage factors are based on FHWA's Roadway Construction Noise Model User's Guide. To more accurately characterize construction-period noise levels, the average (Hourly Leq) noise level associated with each construction stage was calculated in the Draft EIR based on the quantity, type, and usage factors for each type of equipment used during each construction stage and are typically attributable to multiple pieces of equipment operating simultaneously. Construction noise levels were estimated based on an industry standard sound attenuation rate of 6 dB per doubling of distance (from the 50-foot reference distance) for point sources (e.g., construction equipment). Within the analysis, all construction equipment was assumed to operate

simultaneously with an estimated usage factor at the construction area nearest to potentially affected noise sensitive receptors (at the fence line). (Id.) Because equipment used on construction sites usually operates intermittently over the course of a construction day, these assumptions represent a worst-case noise scenario as all construction equipment used in a given phase will not typically operate concurrently and at full power, and the location of activities is routinely spread across the construction site, rather than concentrated close to the nearest noise-sensitive receptors. In addition, noise from different construction stages that could occur simultaneously were added together to provide a conservative composite construction noise level. (Draft EIR page 4.9-21.)

A summary of the construction noise impacts at the existing nearby noise sensitive receptors is provided in Draft EIR Table 4.9-9, *Estimate of Construction Noise Levels (Leq) at Existing Off-Site Sensitive Receiver Locations*. Detailed noise calculations for construction activities are provided in Appendix I of the Draft EIR. As shown in Table 4.9-9, construction noise levels are estimated to reach a maximum of 102 dBA at the Para Los Niños Charter School (R2) adjacent south of the Project Site and 60 dBA at the Metropolitan High School (R3) south of the Project Site along 7th Street. Construction related activity noise levels would exceed the significance thresholds of 73 dBA at R2 (average daytime noise level of 68 dBA plus 5 dBA). As such, without implementation of Mitigation Measures MM-NOISE-1 (noise barrier), MM-NOISE-2 (construction equipment), and MM-NOISE-3 (coordination with the Para Los Niños Charter School administration) and Project Design Features PDF-NOISE-1 (equipment noise control) and PDF-NOISE-2 (prohibiting idling), the Project would have a potentially significant construction noise impact on the Para Los Niños Charter School located to the south of the Project Site.

Mitigation Measure MM-NOISE-1 provides for sound barriers that achieve a noise reduction of up to 20 dBA between Project construction and the nearest off-site receptor location south of the Project Site. Mitigation Measure MM-NOISE-2 will provide at least 10 dBA noise reduction at the Para Los Niños Charter School. In addition, Project Design Feature PDF-NOISE-1 will provide at least 2 dBA noise reduction at the Para Los Niños Charter School. Therefore, implementation of Mitigation Measure MM-NOISE-1, Mitigation Measure MM-NOISE-2, and Project Design Feature PDF-NOISE-1 will reduce the construction noise levels of 102 dBA Leq to 70 dBA Leq., which will be below the significance threshold of 73 dBA Leq at the Para Los Niños Charter School. Project Design Feature PDF-NOISE-2 will reduce the noise level impact associated with construction activities to the extent practicable. Accordingly, less than significant impacts will occur at Metropolitan High School (R3), which is located further from the Project Site than the Para Los Niños Charter School. (Draft EIR pages 4.9-36 and 4.9-37.) Mitigation Measure MM-NOISE-3, which requires coordination with the Para Los Niños Charter School will help to ensure compliance with Mitigation Measures MM-NOISE-1 and MM-NOISE-2. Thus, with implementation of the prescribed Mitigation Measures and Project Design Features and compliance with all applicable regulatory requirements related to construction noise and vibration, potentially significant construction noise impacts will be reduced to a less than significant level and, therefore, no additional mitigation measure is required.

b) Construction Vibrations Impacts: Construction activities at the Project Site have the potential to generate low levels of ground-borne vibration as the operation of heavy equipment, such as dozers, excavators and haul trucks, generates vibrations that propagate through the ground and diminish in intensity with distance from the source. No high-impact activities, such as pile driving or blasting, will be used during Project construction. The nearest off-site receptor to the Project Site that could be exposed to vibration levels generated from Project construction is the Para Los Niños Charter School located adjacent to the south. Ground-borne vibrations from construction activities very rarely reach the levels that can damage

structures, but they may be perceived in buildings very close to a construction site. (Draft EIR page 4.9-29.) The vibration velocities for several types of construction equipment that can generate perceptible vibration levels are identified in Draft EIR Table 4.9-12, *Vibration Source Levels for Construction Equipment*. As shown in Table 4.9-13, a 107 VdB vibration velocity could occur at the Para Los Niños Charter School. All other sensitive receptors are located further away and as such, vibration velocities would be substantially lower at these locations. (Draft EIR page 4.9-30.)

In terms of ground-borne vibration impacts associated with structural damage, the Draft EIR analysis uses the FTA's vibration impact thresholds of 98 VdB (0.3 inches per second) for engineered concrete and masonry (no plaster) building, which is the building composition of the Para Los Niños Charter School. Based on the information shown in Table 4.9-13, which shows an estimated 107 VdB, the Para Los Niños Charter School would be exposed to VdB ground-borne vibration levels exceeding the FTA's 98 VdB threshold for vibration damage. However, with implementation of Mitigation Measure MM-NOISE-2 (prohibiting use of heavy equipment) and MM-NOISE-3 (coordination with the Para Los Niños Charter School administration), the vibration impacts at the Para Los Niños Charter School and more distant buildings will be below the damage threshold. (Draft EIR page 4.9-30.) Thus, the vibration impacts of the Project will be reduced to less than significant and, therefore, no additional mitigation measure is required.

With implementation of Mitigation Measure MM-NOISE-2, construction vibration impacts on human perception at the nearest vibration sensitive receptor, the Para Los Niños Charter School, will result in vibration levels of 65 VdB at Para Los Niños Charter School, which will not exceed the 83 VdB significance threshold for human perception or the 98 VdB for structural damage. (Draft EIR page 4.9-37.) Mitigation Measure MM-NOISE-3, which requires coordination with the Para Los Niños Charter School, will help to ensure compliance with Mitigation Measures MM-NOISE-2. Thus, with implementation of the Mitigation Measures and compliance with all applicable regulatory requirements, construction vibration impacts will be reduced to less than significant level and, therefore, no additional mitigation measure is required.

c) Cumulative Impacts (Construction On-Site Noise and Vibrations):

Noise: Noise is by definition a localized phenomenon, and significantly reduces in magnitude as the distance from the source increases. As such, only projects and growth due to occur in the immediate Project area would be likely to contribute to cumulative noise impacts. Only four of the 163 related projects are situated approximately 50 feet to 230 feet from the Project Site. All other related projects are a minimum of 700 feet away from the Project Site. (Draft EIR pages 4.9-31 and 4.9-32.) Since these four related projects are located within the immediate vicinity of the Project Site, they have a potential to cumulatively contribute to ambient noise levels from the construction activities associated with each related project sites in conjunction with the Project.

The cumulative construction noise levels would be intermittent, temporary and would cease at the end of the respective construction periods. It is not likely that maximum construction noise impacts from the related projects would occur simultaneously, as sound levels vary from day to day depending on the construction activity performed that day and its location on the development site. Noise from on-site construction activities are localized and would normally affect the areas within 500 feet from the individual construction sites. (Draft EIR page 4.9-32.) The two nearest existing sensitive uses to the Project Site that could be subject to cumulative noise impacts are the Para Los Niños Charter School and Metropolitan High School located along E. 7th Street. The related projects closest to these schools are Related Project Nos. 36, 84, and 139. Construction of these related projects could overlap with construction of the Project. (Id.)

Related Project No. 84 and Related Project No. 139 would generate construction noise levels at the Para Los Niños Charter School and Metropolitan High School along E. 7th Street. Related Project No. 84 is located adjacent to the Metropolitan High School and Related Project No. 139 is located approximately 80 feet from the Metropolitan High School. The Para Los Niños Charter School is located within 500 feet from Related Project No. 36, Related Project No. 84, and Related Project No. 139. Therefore, short-term cumulative impacts could occur at the two schools. (Draft EIR page 4.9-33.)

According to the Draft Mitigated Negative Declaration (Draft MND) for the Related Project No. 36, construction noise levels are estimated to reach up to 72.0 dBA Leq at the Para Los Niños Charter School. The Draft MND provides mitigation measures to reduce construction noise levels at nearby sensitive receptor locations such as the Para Los Niños Charter School, including requiring construction barriers and use of exhaust mufflers. With implementation of the mitigation measures, construction noise from Related Project No. 36 would be reduced from 72.0 dBA to 62.0 dBA at the Para Los Niños Charter School since exhaust mufflers can reduce noise levels at least 5 dBA and barriers can reduce construction noise levels at least 5 dBA. If Related Project No. 36 were to be constructed concurrently with the Project, the Para Los Niños Charter School would be exposed to construction noise levels of 70 dBA by the Project and 62 dBA by Related Project No. 36, with the prescribed mitigation measures for each project. However, the cumulative construction noise levels would be 71 dBA which is below the significance threshold of 73 dBA. (Draft EIR pages 4.9-33 and 4.9-34.)

The Metropolitan High School is located approximately 800 feet from Related Project No. 36. Additionally, there are existing structures located between the Metropolitan High School and Related Project No. 36. With a distance more than 500 feet and intervening structures between the Metropolitan High School and Related Project No. 36, with implementation of mitigation measures and compliance with applicable regulatory requirements, construction noise levels from Related Project No. 36 would be reduced to well below the ambient noise level of 74 dBA at the Metropolitan High School. (Id.)

Related Project No. 84 and Related Project No. 139 are located approximately 400 feet and 350 feet from the Project Site, respectively, and existing buildings are located between these related projects and the Project Site. As shown in Draft EIR Table 4.9-9, construction noise levels from the Project will be up to 60 dBA at Metropolitan High School, which is well below the significance threshold of 79 dBA. (Id.) Therefore, if Related Project No. 84 and Related Project No. 139 were to be constructed concurrently with the Project, cumulative construction noise impacts in excess of thresholds of significance would not occur at Metropolitan High School due to the distance between the related projects and the Project Site and the attenuation from intervening buildings. Thus, cumulative construction noise impacts will be less than significant and, therefore, no additional mitigation measure is required.

Vibrations: The closest related project to the Project Site is Related Project No. 36 which is located over 230 feet from the Para Los Niños Charter School. All other related projects are even further from the school. Since vibration is measured as energy transmitted in waves through the ground or man-made structures, which generally dissipate with distance from the vibration source, and energy is lost during the transfer of energy from one particle to another, vibration becomes less perceptible with increasing distance from the source. (Draft EIR page 4.9-6.) Thus, due to the rapid attenuation of ground-borne vibrations from the source, all the related projects' vibrations, were they to occur concurrently with the Project's construction, do not have the potential to exceed the thresholds of significance at the sensitive receptors. (Draft EIR pages 4.9-34 and 4.9-35.) Thus, with implementation of the Mitigation Measures and Project Design

Features, construction vibration noise levels at the Project will be reduced to less than significant and, therefore, no additional mitigation measure is required.

6. References: For a complete discussion of impacts associated with Construction Noise and Construction Vibration Impacts please see Draft EIR Section 4.9 and Appendix I.

D. Transportation and Traffic

1. Description of Effects:

a) Cumulative Operation Traffic Impacts (Intersections of Central Avenue and 7th Street, Santa Fe Avenue and 7th Street and Alameda Street and Olympic Boulevard Only): While the Project's traffic combined with existing traffic will result in less than significant impacts, the Project's traffic when combined with ambient growth and related project trips will exceed thresholds of significance at six intersections. Of those six intersections, implementation of Project Design Measure PDF-TRAF-2, regarding a Transportation Management Organization (TMO), and Mitigation Measure MM-TRAF-1, regarding a transportation demand management program (TDM), will reduce the traffic impacts at three intersections (Central Avenue and 7th Street, PM peak hours; Santa Fe and 7th Street, AM and PM peak hours, and Alameda Street and Olympic Boulevard, AM and PM peak hours) to a less than significant level. (The other three impacted intersections, Alameda Street and 6th Street, Alameda Street and 7th Street and Mateo Street and 7th Street, are discussed in Section X of these Findings.)

2. Project Design Features: The City finds that Project Design Feature PDF-TRAF-2, which is incorporated into the Project and incorporated into these Findings as though full set forth herein, will reduce the traffic impacts of the Project. This Project Design Feature was taken into account in the analysis of potential impacts.

3. Mitigation Measures: The City finds that Mitigation Measures MM-TRAF-1 and MM-TRAF-2, which are incorporated into the Project and incorporated into these Findings as though fully set forth herein, will reduce the cumulative traffic impacts of the Project at the intersections of Central Avenue and 7th Street, Santa Fe Avenue and 7th Street, and Alameda Street and Olympic Boulevard, to a less than significant level. These Mitigation Measures were taken into account in the analysis of Project impacts.

4. Findings: Changes or alterations, Project Design Features, and Mitigation Measures have been required in, or incorporated into, the Project that avoid or substantially lessen the Project's potential significant environmental cultural resources impacts related to traffic impacts at the intersections of Central Avenue and 7th Street, Santa Fe Avenue and 7th Street, and Alameda Street and Olympic Boulevard to less than significant levels.

a) Cumulative Operations Traffic Impacts (Intersections of Central Avenue and 7th Street, Santa Fe Avenue and 7th Street and Alameda Street and Olympic Boulevard Only): With implementation of Project Design Feature PDF-TRAF-2 and Mitigation Measures MM-TRAF-1 and MM-TRAF-2, the cumulative traffic impacts of the Project at the intersections of Central Avenue and 7th Street (PM peak hours), Santa Fe and 7th Street (AM and PM peak hours) and Alameda Street and Olympic Boulevard (AM and PM peak hours), will be reduced to a less than significant level. No additional mitigation measure is required.

5. Rationale for Findings:

a) Cumulative Operation Traffic Impacts (Intersections of Central Avenue and 7th Street, Santa Fe Avenue and 7th Street and Alameda Street and Olympic Boulevard Only): The Traffic Study (Appendix L of the Draft EIR) was developed to address Project impacts in the context of existing baseline conditions (Year 2016) and future (Year 2022) conditions. Future conditions take into account traffic caused by the related projects as well as a growth factor to account for other ambient growth occurring in the region. This analysis is conservative since it does not account for displaced traffic, that is net traffic growth, nor for the possibility that not all the related projects may be built, nor for the fact that some of this related traffic potential is already contained within the ambient growth projections.

A project would cause a significant impact at a signalized intersection operating at LOS C, D, E or F if the increment change in V/C ratio due to the project exceeds the thresholds described in Draft EIR Table 4.12-4, *Intersection Capacity Significance Thresholds*. As shown on Draft Table 4.12-7, *Future With Project Conditions (Year 2022) – Level of Service Impact Analysis*, the Project has the potential to cause a significant impact at six signalized intersections where the Project's incremental contribution to the cumulative impact results in exceeding the thresholds of significance. At three of these intersections, Alameda Street and 6th Street, Alameda and 7th Street and Mateo Street and 7th Street, the mitigation measures will not reduce the impacts to a less than significant level and are discussed in Section X of these Findings. The remaining three potentially impacted intersections, Central Avenue and 7th Street, Santa Fe and 7th Street, and Alameda Street and Olympic Boulevard, will have Project impacts reduced to a less than significant level with implementation of the Project's Project Design Features and Mitigation Measures.

The mitigation program for the Project includes implementation of a TDM program for the Project Site to promote peak period trip reduction, which is consistent with *Transportation Impact Study Guidelines* and the City's goals to reduce greenhouse gas emissions by reducing the use of single-occupant vehicle trips, encourage developers to construct transit and pedestrian-friendly projects with safe and walkable sidewalks, and promote other modes of travel. (Draft EIR pages 4.12-43 and 4.12-44.)

The combined effect of the TDM strategies of Mitigation Measure MM-TRAF-1 and Project Design Feature PDF-TRAF-2, will result in a reduction in peak hour trip generation by offering services, actions, specific facilities, incentives, and contributions, aimed at encouraging use of alternative transportation modes (e.g., transit, bus, walking, bicycling, carpool, etc.). *Trip Generation Handbook, 3rd Edition* provides a summary of research of TDM programs at many different sites. At places that had the most comprehensive programs, including both economic incentives (e.g., transit passes, etc.) and support services, the programs resulting in an average 24 percent reduction in commuter vehicles. Thus, as an achievable but conservative estimate, an overall TDM trip reduction credit of ten percent was assumed in the Draft EIR. Draft EIR Table 4.12-8, *Project Trip Generation with TDM Reduction Program*, summarizes the estimated trip reduction during the peak hours. As shown therein, the TDM program is estimated to result in a reduction of 477 daily trips, including 33 morning peak hour trips and 40 afternoon peak hour trips. The Project, when fully built and occupied and with implementation of the TDM program, will generate a total of 3,555 net new daily trips, including 256 morning peak hour trips (93 inbound, 163 outbound) and 321 afternoon peak hour trips (193 inbound, 128 outbound). (Draft EIR page 4.9-46.) The impact of this reduction is shown in Table 13, *Future with Project Conditions (2022) Signalized Intersection Peak Hour Level of Service*, page 95 of Appendix L-1 of the Draft EIR, which shows that implementation of the TDM will reduce the significant impacts at Central Avenue

& 7th Street; Santa Fe Avenue & 7th Street, and Alameda Street & Olympic Boulevard to a less than significant level. Therefore, no additional mitigation measure is required for these three intersections.

6. References: For a complete discussion of impacts associated with Transportation and Traffic, please see Draft EIR Section 4.44 and Appendix L.

X. ENVIRONMENTAL IMPACTS FOUND TO BE SIGNIFICANT AND UNAVOIDABLE

The Project would result in the following impacts, which are found to be significant and unavoidable.

A. Transportation and Traffic

1. Description of Effects (Cumulative Traffic Impact at Alameda and 6th Street, PM peak hours; Alameda at 7th Street, AM and PM peak hours; and, Mateo and 7th Street, AM and PM peak hours Only): The cumulative total of trips generated by the Project and by the related projects plus ambient growth will result in exceeding threshold levels at three intersections in the study area: Alameda and 6th Street; Alameda at 7th Street, and Mateo and 7th Street. Project Design Feature PDF-TRAF-2 and Mitigation Measures MM-TRAF-1 and MM-TRAF-2, will reduce the Project's cumulative contribution to significant traffic impact at these intersections but not below the level of significance. Potential street improvements to reduce the impacts were rejected by the City due to policy or engineering problems with the improvements.

2. Project Design Features: The City finds that Project Design Features PDF-TRAF-2, which is incorporated into the Project and incorporated into these Findings as though fully set forth herein, would reduce the Project's cumulative traffic impacts at three significantly impacted intersections and reflect good planning practices currently promoted by the City and, therefore, is required. This Project Design Feature was taken into account in the analysis of potential impacts.

3. Mitigation Measures: The City finds that Mitigation Measures MM-TRAF-1 and MM-TRAF-2, which are incorporated into the Project and incorporated into these Findings as though fully set forth herein, will reduce the cumulative traffic impact at three significantly impacted intersection and reflect good planning practices currently promoted by the City and, therefore, are required. These Mitigation Measures were taken into account in the analysis of Project impacts.

4. Findings: Changes and alterations, Project Design Features and Mitigation Measures, where available, have been required for or incorporated into the Project to reduce unavoidable cumulative traffic impacts at three significantly impacted intersections to the greatest extent possible. There are no additional measures which the City can impose that would reduce the traffic impacts at these intersections to less than significant levels.

a) Cumulative Operations Traffic Impacts: Even with implementation of Project Design Feature PDF-TRAF-1 and Mitigation Measures MM-TRAF-1 and MM-TRAF-2, the Project will make a cumulatively considerable contribution to a significant impact with respect traffic at the intersections of Alameda and 6th Street (PM peak hours); Alameda at 7th Street (AM and PM peak hours); and, Mateo and 7th Street (AM and PM peak hours) and these impacts will be significant and unavoidable.

5. Rationale for Findings:

a) Cumulative Impact: The combined effect of the TDM strategies in Mitigation Measure TRAF-1 and Project Design Feature TRAF-2 will result in a reduction in peak hour trip generation by offering services, actions, specific facilities, incentives, and contributions, aimed at encouraging use of alternative transportation modes (e.g., transit, bus, walking, bicycling, carpool, etc.). *Trip Generation Handbook, 3rd Edition* provides a summary of research of TDM programs at many different sites. At places that had the most comprehensive programs, including both economic incentives (e.g., transit passes, etc.) and support services, the programs resulting in an average 24 percent reduction in commuter vehicles. Thus, as an achievable but conservative estimate, an overall TDM trip reduction credit of ten percent was assumed. Draft Table 4.12-8, *Project Trip Generation with TDM Reduction Program*, summarizes the estimated trip reduction during the peak hours. As shown therein, the TDM program is estimated to result in a reduction of 477 daily trips, including 33 morning peak hour trips and 40 afternoon peak hour trips. The Project, when fully built and occupied and with implementation of the TDM program, would generate a total of 3,555 net new daily trips, including 256 morning peak hour trips (93 inbound, 163 outbound) and 321 afternoon peak hour trips (193 inbound, 128 outbound).

Draft EIR Table 4.12-9, *Existing and Future With Project With Mitigation Conditions at Significantly Impacted Intersections*, summarizes the results of the Existing and Future with Project with Mitigation Conditions at the six significantly impacted intersections under Future With Project conditions. (Refer to Tables 12 and 13 in Traffic Study, Appendix L-1 for the mitigated conditions at the remaining intersections that were not significantly impacted by future traffic conditions.) As shown in Table 4.12-9, and discussed above in Section IX of these Findings, after mitigation the incremental increases in V/C ratios at the six signalized study intersections will remain at less-than-significant levels under Existing with Project with Mitigation Conditions. However, under the Future with Project with Mitigation Conditions, the following three signalized study intersections would remain significantly impacted by Project traffic after mitigation: (i) Alameda Street and 6th Street (AM peak hour); (ii) Alameda Street and 7th Street (AM and PM peak hours); and (iii) Mateo Street and 7th Street (AM and PM peak hours).

Intersection improvements were considered for these study intersections in attempt to reduce the impact to a less than significant level; however, these improvements were not recommended by LADOT and, therefore, would not be implemented as part of the mitigation program. (Draft EIR page 4.9-46.) At each of the impacted intersections, restriping to provide exclusive turn lanes as well as through lanes was considered. However, at two intersections, this improvement would require substantial acquisition of private property. Due to the lack of available roadway width, and given the physical constraints of the existing intersection geometry, this improvement is not practicable or desirable. Moreover, while restriping of Mateo Street could be accomplished within the existing roadway, this improvement would require the removal of up to five on-street unmetered parking spaces and result in narrow lanes. Mateo Street currently experiences heavy truck traffic and therefore the lane widths need to accommodate that traffic, for these reasons these potential mitigation measures would be infeasible. (Draft EIR page 4.9-44 and 4.9-45.) The Draft EIR also considered Transportation Systems Management (TSM) such as signal control upgrades, CCTV cameras and System Loops. However, a review of the Study area by the LADOT ATSAC Division showed that no TSM strategies were needed in the Study Area and, therefore, this potential mitigation measure is not available for Project mitigation. (Draft EIR page 4.9-45.) Thus, the impacts at these three intersections would remain significant and unavoidable even with the imposition of all feasible project design features mitigation measures.

6. References: For a complete discussion of impacts associated with Transportation and Traffic, please see Draft EIR Section 4.12 and Appendix L.

XI. ALTERNATIVES TO THE PROJECT

In addition to the Project, the Draft EIR evaluated a reasonable range of four alternatives to the Project. These alternatives are: (1) No Project/No Build Alternative; (2) 40 Percent Reduced Density Alternative; (3) 75 Percent Reduced Live/Work Component Alternative; and (4) Existing Zoning Alternative. In accordance with CEQA requirements, the alternatives to the Project include a “No Project” alternative and alternatives capable of eliminating the significant adverse impacts of the Project. These alternatives and their impacts, which are summarized below, are more fully described in Chapter 5.0 of the Draft EIR.

A. Summary of Findings

Based upon the following analysis, the City finds, pursuant to CEQA Guidelines section 15096(g)(2), that none of the alternatives or feasible mitigation measures within its powers would substantially lessen or avoid any significant effect the Project would have on the environment.

B. Project Objectives

An important consideration in the analysis of alternatives to the Project is the degree to which such alternatives would achieve the objectives of the Project. As more thoroughly described in Chapter 2.0, Project Description, of the Draft EIR, both the City and the Applicant have established specific objectives concerning the Project, which are incorporated by reference herein.

C. Project Alternatives Analyzed

1. Alternative 1 – No Project/No Build Alternative

a) Description of Alternative 1: Under Alternative 1, the No Project/No Build Alternative, the existing cold storage facility would remain in operation; the proposed approvals, including a General Plan Amendment from Heavy Manufacturing/Industrial to Regional Center Commercial, Zone Change from M3 to C-2, and Height District Change from Height District No. 1 to Height District No. 2 would not be required and no new development would be constructed on the Project Site. The existing Showa Marine & Cold Storage facility with its operations of shipping/receiving, storage of frozen food products, as well as associate office and administrative activities, parking and railroad right-of-way easement.

b) Impact Summary of Alternative 1: Under this alternative, nothing would change on the Development Site. The existing Showa Marine & Cold Storage facility and the abandoned railroad easement area would continue in their current condition. No changes in the sidewalks would be implemented, no public open space would be provided, and street trees would not be installed. The existing chain link/razor wire fencing, above-ground power lines, and large, visible transformers on the building’s Industrial Street frontage would remain in their current location.

c) Findings: The No Project/No Build Alternative would reduce adverse environmental impacts when compared to the Project. Therefore, the No Project Alternative would be environmentally superior to the Project. However, the No Project Alternative would not satisfy any of the Project Objectives nor contain any of the Project’s beneficial

components. Accordingly, it is found pursuant to Public Resources Code section 21081, subsection (a)(3), that specific economic, legal, social, technological, or other considerations, including considerations identified in Section XIII of these Findings (Statement of Overriding Considerations), make infeasible the No Project Alternative described in the Draft EIR.

d) Rationale for Findings: The No Project/No Build Alternative would maintain the Project Site in its current condition. Because there would be no changes on the Project with this Alternative, it is considered to have no impact on the environment. (See Draft EIR Section 5.6.1.) However, since there would be no changes, the No Project/No Build Alternative would not include any of the beneficial improvements of the Projects. For example, it would not provide any of the aesthetic improvements of the Project. It would not provide for new street trees, sidewalk improvements, removal of visible transformer boxes, and removal of the existing chain-link/barbed wire fencing. In addition, it would not provide for the removal of utility poles and the undergrounding of utilities along S. Alameda Street and Industrial Street. As discussed in Section 4.1, *Aesthetics*, of the Draft EIR, the existing visual character of the Project Site is dominated by large blank walls along S. Alameda Street and does not promote a visually attractive or pedestrian friendly environment. As such, the existing storage buildings do not contribute any visual character benefit to the Project Site. Under Alternative 1, the beneficial aesthetic components of the Project would not be constructed and visual character would remain unchanged.

Although the No Project/No Build Alternative would not involve any changes in the existing land use, it would not meet the objectives of SCAG's 2016-2040 RTP/SCS to concentrate housing and affordable units within walking distance of transit. Thus, Alternative 1 would not advance the goal of creating housing near transit corridors and employment centers nor would it provide amenities for the existing residents and workers in and around the Arts District.

As to the potential soil contamination, testing of the Project Site indicated levels of tetrachlorethene (PCE) in soil gas in the area of the former on-site metal fabrication facility that are slightly above the California Human Health Screening Levels (CHHSLs) for residential occupancies. Under the Project, impacts to human health would be reduced to less than significant levels through the implementation of Mitigation Measures HAZ-1 through HAZ-3, including additional assessment/remediation and potential implementation of a soil management plan (SMP) and health and safety plan (HASP). With implementation of mitigation measures, impacts related to residual soil contamination will be less than significant. However, the No Project/No Build Alternative would not change the existing industrial use or require remediation of soils to meet residential standards. Thus, although Alternative 1 would not result in the potential remediation of on-site soils, it would not require additional construction that would expose residents or workers to PCE's above industrial CHHSLs. As such, the No Project/No Build Alternative is considered to have no impact with respect to residual soil contamination.

With respect to drainage and surface water quality, under existing conditions, the Project Site is currently almost entirely covered with impervious surfaces and drainage occurs to two catch basins near Mill Street and surface flow to S. Alameda Street. The Project would install storm drains to capture the entire Project Site runoff and to convey the runoff toward infiltration systems supplemented by underground storage pipes. The pipes would temporarily store the captured stormwater until the stored volume is entirely infiltrated. The temporary increase in permeable surfaces during Project construction would reduce rather than increase offsite runoff. With the proposed storage and infiltration of stormwater during operation, the Project would eliminate stormwater discharge to S. Alameda Street without increasing the volume discharged to Mill Street. The No Project/No Build Alternative would continue operation as under existing conditions,

including non-infiltration of surface water runoff and, as such, would not result in the same water quality and LID benefits as under the Project. Although the No Project/No Build Alternative would not result in the same hydrological and water quality benefits as under the Project, because it would not change existing conditions, it is considered to have no hydrology impact.

The No Project/No Build Alternative would not allow for any new development on the Project Site and, therefore, would not meet any of the Project Objectives, including the abiding purpose of the Project to provide a unique and creative Project that fits in well with existing industrial and manufacturing uses, and the growing residential population in the Arts District. The No Project/No Build Alternative would not implement the objective of the Project to develop an economically viable infill mixed-use development that combines live/work housing, commercial/retail, arts and production space, a grocery store, and restaurant uses, within a TPA proximate to public transportation. It would not provide housing, including affordable housing, to serve a range of potential renters and help meet the market demand for new housing in the City.

The No Project/No Build Alternative would not contribute to the unique character of the Arts District through a Project that attracts a wide spectrum of creative users and artists; provides arts/production/gallery space; and, contributes to a lively pedestrian environment through public art and façade treatments, ground-level retail space, and publicly accessible streetscapes and paseos with landscaping, seating, kiosks and art of different mediums. It would not meet the Project objective to provide joint live/work spaces and creative commercial uses that expand the local economy, support the business environment, and aid in the retention and attraction of new businesses to the community. In addition, the No Project/No Build Alternative would not meet the Project objective to provide improvements that support and encourage the use of nearby public transit lines and the use of bicycles, walking, and other modes of alternative transportation in an infill urban location with extensive infrastructure.

Thus, the No Project/No Build Alternative would reduce or avoid significant, less than significant, and significant but mitigated environmental impacts that would occur under the Project, but it would not have any of its beneficial components and would not meet any Project Objectives.

e) Reference: For a complete discussion of impacts associated with Alternative 1, please see Draft EIR Section 5.6.1 and Appendix L-3.

2. Alternative 2 – Reduced Intensity Alternative – 40% Reduction :

a) Description of Alternative 2: Alternative 2, the 40 Percent Reduced Intensity Alternative, was evaluated in response to the Project's significant and unavoidable traffic impacts which would occur at three nearby intersections during Future with Project Conditions even after implementation of all feasible mitigation measures. Alternative 2 would include a mix of uses similar to that of the Project, except that live/work units and commercial floor area would be reduced by 40 percent. Alternative 2 would provide 285 live/work units, compared to 475 live/work units under the Project, and 36,720 sf of commercial floor area, compared to 61,200 sf of commercial floor area under the Project. Arts and production floor area would be reduced from 15,815 sf under the Project to 9,489 sf under Alternative 2; grocery store floor area would be reduced from 15,102 sf under the Project to 9,061 sf under Alternative 2; restaurant floor area would be reduced from 16,140 sf under the Project to 9,684 sf under Alternative 2; and commercial/retail floor area would be reduced from 9,943 sf under the Project to 5,966 sf under Alternative 2. Total floor area, including live/work floor area, would be reduced from 577,301 sf under the Project to 346,381 under Alternative 2. (See Draft EIR Table 5-1, *Comparison of Alternative 2 to the Project*.) Alternative 2 would reduce the Project's FAR from 3.55:1 to 2.13:1.

Assuming that Alternative 2 would allow for 95 live/work units per floor, it is anticipated that building height would be reduced from the Project's 5 stories of live/work units over a 2-story podium to 3 stories of live/work units over a 2-story podium. Since podium level commercial floor area would be reduced, Alternative 2 would allow more parking in the podium than under the Project. Access to driveways would be the same as under the Project and vehicle and bicycle parking would be accommodated in two subterranean levels, rather than three subterranean levels as under the Project. It is assumed that the lot coverage and open space available to the public, such as the paseos, would be the same as under the Project.

b) Impact Summary of Alternative 2: Alternative 2 would generally reduce the less than significant, and less than significant after mitigation, environmental impacts of the Project because it is a smaller project. (See Draft EIR Section 5.6.3.) With implementation of Mitigation Measure MM-TRAF-1, (the TDM), Alternative 3 would also reduce the significant and avoidable cumulative traffic impacts of the Projects at the intersections of Alameda Street and 6th Street, Alameda Street and 7th Street, and Mateo Street and 7th Street. While Alternative 2 provides a mixed use project, it would result in 40 percent fewer housing units, including fewer affordable units, and less density available to utilize public transit and to provide the Project's commercial uses with a critical mass of customers to ensure their viability for area residents, employees and visitors. Therefore, Alternative 3 would have a greater impact on land use, population and housing, and public transit and it would not meet the Project Objectives to the same extent as the Project resulting in fewer housing units, including fewer affordable units, and less density available to utilize public transit and to provide the Project's commercial uses with a critical mass of customers to ensure their viability for area residents, employees, and visitors.

c) Findings: Alternative 2, would reduce and avoid the Project's contribution to cumulative significant and unavoidable intersection service impacts at Alameda Street and 6th Street, Alameda Street and 7th Street, and Mateo Street and 7th Street. Therefore, this Alternative would be environmentally superior to the Project. However, Alternative 2 would have a greater impact on land use, population and housing and public transit and not satisfy the Project Objectives to the same extent as the Project. This Alternative would not contribute as effectively in meeting the City's housing needs or fully utilizing the Project's accessibility to a large range of public transit facilities. Accordingly, it is found pursuant to Public Resources Code section 21081, subsection (a)(3), that specific economic, legal, social, technological, or other considerations, including considerations identified in Section XIII of these Findings (Statement of Overriding Considerations), make Alternative 2 infeasible.

d) Rationale for Findings: By reducing the size of the Project by 40 percent, Alternative 2 reduces both the impacts and the benefits of the Projects. Specifically, this Alternative reduces the number of trips generated by the development. As shown in Draft EIR, Table 5-3, *Alternative 2 Intersection Service Level Impacts*, (and Appendix L-3), after implementation of Mitigation Measure MM-TRAF-1, which requires a comprehensive TDM, Alternative 2 would not result in a change in the V/C ratio in excess of the threshold of significance for the three impacted intersections. Therefore, this Alternative would reduce and avoid the significant traffic impacts of the Project under Future with Project Conditions.

Both the Project and Alternative 2 consist of the same types of live/work and commercial land uses and would be substantially consistent with applicable land use plans and LAMC requirements, including the General Plan Framework, the Central City North Community Plan, the City's Do Real Planning Guidelines and Walkability Checklist, the intent of the Hybrid Industrial Live/Work Zone, and SCAG's 2016-2040 RTP/SCS, guiding the concentration of future development near transit. The Project and Alternative 2 would also be substantially consistent

with the Citywide Design Guidelines (evaluated in Section 4.1, *Aesthetics*, of the Draft EIR). The existing zoning allows an FAR of 1.5:1. Although Alternative 2 would result in an FAR of 2.13, reduced from the Project's estimated FAR of 3.55:1, as with the Project it would require a Height District Change pursuant to LAMC Section 12.32.F from Height District No. 1 to Height District No. 2. As with the Project, Alternative 2 would require a General Plan Amendment from Heavy Manufacturing/Industrial to Regional Center Commercial; and a zone change from M3 to C2. Although Alternative 2 would be closer to the Project Site's currently designated FAR, with the approval of proposed entitlements, both Alternative 2 and the Project would result in a less than significant land use impact related to consistency with adopted plans. (Draft EIR page 5-37.)

However, the Project would provide more live/work units and relatively more affordable units than under Alternative 2. As such, the Project would more closely meet the objectives of SCAG's 2016-2040 RTP/SCS to concentrate increase density and development in highly urban areas served by transit and the City's policies to concentrate housing and affordable units in a TPA within walking distance of transit. Also, by proposing more mixed-use development within a TPA, vehicle miles traveled under the Project may be reduced in the City over the long-run when considering long-term growth within the City when compared to Alternative 2. Because Alternative 2 would not meet applicable land use goals and policies to the same extent as the Project, it is considered to have a greater land use impact than under the Project.

As to consistency with growth projections, the Project is anticipated to generate 166 jobs associated with its 61,000 sf of commercial uses and a population gain of 1,520 associated with its 475 live/work units. The live/work units would also accommodate a creative work force assumed to be at least one tenant/artist per live/work unit. Alternative 2 would reduce commercial and live/work units by 40 percent and, as such, would only generate approximately 100 jobs associated with on-site commercial uses and a population increase of approximately 912. (Draft page 5-39.) As with the Project, Alternative 2's contributions to housing, population and employment would be consistent with SCAG's short-term and long-term growth projections for the Central City North Community Plan area and the City, and would help the City meet its housing objectives per the General Plan Housing Element, and housing allocation established in the SCAG RHNA. As with the Project, impacts regarding the relationship of the Project to SCAG growth projections would be less than significant. However, SCAG's 2016-2040 RTP/SCS encourages the concentration of population and employment in highly urban areas served by transit. Because Alternative 2 would not meet this objective to the same extent as the Project, it is considered to have a greater impact with respect to population and housing than under the Project.

Reduce population also results in less need for public transit use. Alternative 2 would reduce daily vehicle trips by 45.3 percent and, thus, generate approximately 42 net new transit trips during the AM peak hour and 52 net new transit trips in the PM peak hour. (Draft EIR page 5-47.) The Project and Alternative 2 would both support alternative transportation by enhancing the pedestrian experience with sidewalk amenities, active commercial street front and street trees, and encouraging the use of alternative transportation under a comprehensive Transportation Demand Management Program (Mitigation Measure MM-TRAF-1) and, as such, both the Project and Alternative 2 would be consistent with policies, plans, and programs that support alternative transportation. Impacts related to public transit would be less than significant for both. However, because Alternative 2 would not concentrate development in an urban area served by transit, as encouraged under SCAG's 2016-2040 RTP/SCS, to the same extent as the Project, it would be considered to have a greater impact than the Project with respect to public transit.

By reducing the size of the Project, this Alternative would place lesser demands on public services including fire, police, libraries, parks, and schools, and would be using less water and energy and creating less wastewater and GHG and other air quality emissions. In general, other than described above, because it is a considerably smaller project, Alternative 2 would create a similar or lesser impact than the already less than significant, or less than significant after mitigation, environmental impacts of the Project. (See Draft EIR Section 5.6.2) However, by reducing the number of housing units and commercial space, Alternative 2 would be meeting the Project Objectives to a much lesser extent than the Project.

As with the Project, Alternative 2 would allow for the development of a mix of live/work and commercial uses and, as such, would meet the Project objective to provide a mixed-use development. However, Alternative 2's 40 percent reduction in the number of live/work housing units within a TPA would not, to the same extent as the Project, implement the objective of the Project to meet regional mobility goals to concentrate increased density and development within urban areas served by transit. Under regional mobility goals, the concentration of development within a designated TPA is intended to avoid urban sprawl, reduce vehicle miles, and lower infrastructure costs. By reducing the scale of on-site occupancy, Alternative 2 would also not meet the Project objective to provide improvements that support and encourage the use of bicycles, walking, and other modes of alternative transportation in an infill urban location, to the same extent as the Project.

Another objective of the Project is to develop an economically viable infill mixed-use development that combines live/work housing, commercial/retail, arts and production space, a grocery store, and restaurant uses. However, the reduction in on-site live/work units under Alternative 2 would reduce the support base for the grocery store and other on-site commercial uses and, as such, Alternative 2 would potentially reduce the economic viability of the Project. In addition, a 40 percent reduction in the amount of commercial space would reduce the commercial activity and provide fewer number and options of amenities and resources to a growing neighborhood.

Another objective of the Project is to provide housing, including affordable housing, to serve a range of potential renters and help meet the market demand for new housing in the City. Alternative 2 would provide proportionately less housing and result in fewer affordable units than under the Project and, as such, would not fully meet the Project's housing objective with respect to the number of units or the range of potential renters.

As with the objective of the Project to contribute to the unique character of the Arts District by attracting a wide spectrum of creative users and artists by providing arts/production/gallery space, Alternative 2 would provide live/work opportunities for artists as well as production space. However, with the 40 percent reduction, Alternative 2 would limit the spectrum of creative users and reduce the amount of arts/production/gallery space as compared to the Project. Therefore, Alternative 2 would not meet this objective to the same extent as the Project.

Although Alternative 2 would meet the objective to contribute to a lively pedestrian environment through public art and façade treatments, ground-level retail space, and publicly accessible streetscapes and paseos with landscaping, seating, kiosks and art of different mediums, it would not provide as much ground-level retail or have as many on-site occupants to enliven the pedestrian environment. The reduction in occupants would incrementally reduce outdoor activity and the use of on-site commercial uses, such as restaurants, so that the street front would have fewer participants in the commercial bustle and open space amenities. As such, Alternative 2 would not meet the Project's objective to create an urban project that would be compatible with

and complimentary to currently ongoing growth and activity in the Arts District to the same extent as the Project.

Another objective of the Project is to provide for the development of an underutilized site with new housing and commercial uses to meet anticipated market demands. The list of related projects in the Arts District, as provided in Chapter 3, *Environmental Setting*, in the Draft EIR, indicates a strong market demand for arts-related housing and commercial uses to serve the area's visitors and artists wishing to live and work in the area. With the 40 percent reduction in housing and commercial uses, Alternative 2 would not meet market demands to the same extent as the Project.

Similarly, Alternative 2 would contribute to the Project objective to provide joint live/work spaces and creative commercial uses that expand the local economy, supports the business environment, and aids in the retention and attraction of new businesses to the community. Again, however, Alternative 2 would reduce the scale of live/work units, production and gallery space, grocery store floor area, and restaurant and retail uses and, thus, not support and expand the local economy to the same extent as the Project.

e) Reference: For a complete discussion of impacts associated with Alternative 2, please see Draft EIR Section 5.6.2 and Appendix L-3.

3. Alternative 3 – 75 Percent Reduced Live/Work Component Alternative:

a) Description of Alternative 3: Alternative 3, the 75 Percent Reduced Live/Work Component Alternative, would provide the same commercial floor area and commercial uses as under the Project, but would reduce live/work units by 75 percent for a total of 119 units, compared to 475 units under the Project. Alternative 3 assumes that clubroom, fitness, lobby and gallery space would be the same as under the Project. As shown in Draft EIR Table 5-4, *Comparison of Alternative 3 to the Project*, commercial floor area, including arts and production space grocery store space, restaurant space, and other commercial/retail space would also be the same as under the Project. Open space available for public use, including the two paseos, would be nearly the same as under the Project. Total floor area under Alternative 3 would be 195,457 sf, which would reduce the Project's FAR of 3.55:1 to 1.2:1. Assuming Alternative 3 would allow for 95 live/work units per floor, it is anticipated that building height would be reduced from the Project's 5 stories of live/work units over a 2-story podium to 2 stories of live/work units over a 1-story podium. Access to driveways would be the same as under the Project and vehicle and bicycle parking would be accommodated at Level 1 and in one subterranean level, rather than three subterranean levels as under the Project.

b) Impact Summary of Alternative 3: Alternative 3 would generally reduce the less than significant, and less than significant after mitigation, environmental impacts of the Project because it is a smaller project. (See Draft EIR Section 5.6.3.) With implementation of Mitigation Measure MM-TRAF-1, (the TDM), Alternative 3 would also reduce the significant and avoidable cumulative traffic impacts of the Projects at the intersections of Alameda Street and 6th Street, Alameda Street and 7th Street, and Mateo Street and 7th Street. While Alternative 3 provides a mixed use project, it would result in substantially fewer housing units, including 75 percent fewer affordable units, and less density available to utilize public transit and to provide the Project's commercial uses with a critical mass of customers to ensure their viability for area residents, employees and visitors. Therefore, Alternative 3 would have a greater impact on land use, population and housing and public transit and it would not meet the Project Objectives to the same extent as the Project resulting in fewer housing units, including fewer affordable units, and

less density available to utilize public transit and to provide the Project's commercial uses with a critical mass of customers to ensure their viability for area residents, employees, and visitors.

c) Findings: Alternative 3, the 75 Percent Reduced Live/Work Component Alternative, would reduce and avoid the Project's significant and unavoidable intersection service impacts at Alameda Street and 6th Street, Alameda Street and 7th Street, and Mateo Street and 7th Street. Therefore, this Alternative would be environmentally superior to the Project. However, Alternative 3 would have a greater impact on land use, population and housing, and public transit and would not satisfy the Project Objectives to the same extent as the Project. This Alternative would not contribute as effectively in meeting the City's housing needs or fully utilizing the Project's accessibility to a large range of public transit facilities. Accordingly, it is found pursuant to Public Resources Code section 21081, subsection (a)(3), that specific economic, legal, social, technological, or other considerations, including considerations identified in Section XIII of these Findings (Statement of Overriding Considerations), make Alternative 3 infeasible.

d) Rationale for Findings: By reducing the live/work component of the Project by 75 percent, Alternative 3 will result in less traffic and less residential population growth. As to traffic, Alternative 3 would generate a net increase of 1,945 daily trips (with 10% TDM reduction), including 123 AM peak hour trips and 163 PM peak hour trips. As shown in Draft EIR Table 5-6, *Alternative 3 Intersection Service Level Impacts*, prior to mitigation, Alternative 3 would exceed intersection service levels at four intersections. With implementation of Mitigation Measure MM-TRAF-1, impacts at these intersections would be reduced to less than significant levels. As such, Alternative 3 would reduce and avoid the Project's significant and unavoidable intersection service level impacts.

Both the Project and Alternative 3 consist of the same types of live/work and commercial land uses and would be substantially consistent with applicable land use plans and LAMC requirements, including the General Plan Framework, the Central City North Community Plan, the City's Do Real Planning Guidelines and Walkability Checklist, the intent of the Hybrid Industrial Live/Work Zone, and SCAG's 2016-2040 RTP/SCS, guiding the concentration of future development near transit. The Project and Alternative 3 would also be substantially consistent with the Citywide Design Guidelines (evaluated in Section 4.1, *Aesthetics*, of the Draft EIR). Alternative 3 would result in an FAR of 1.2:1, which is consistent with the Site's currently allowed FAR of 1.5:1. Unlike the Project, Alternative 3 would not require a Height District Change. As with the Project, Alternative 3 would require a General Plan Amendment from Heavy Manufacturing/Industrial to Regional Center Commercial; and a zone change from M3 to C2 to allow live/work units. Although Alternative 3 would meet the Project Site's current permitted FAR; with the approval of proposed entitlements, both Alternative 3 and the Project would result in a less than significant land use impact related to consistency with adopted plans. (Draft EIR page 5-61.)

However, the Project would provide more live/work units and relatively more affordable units than under Alternative 3. As such, the Project would more closely meet the objectives of SCAG's 2016-2040 RTP/SCS, which encourages increased concentration of population and employment in highly urban areas served by transit. Because Alternative 3 would not meet this objective to the same extent as the Project, it is considered to have a greater impact with respect to population and housing than under the Project due to its reduced concentration of density and development in highly urban areas served by transit. Similarly, Alternative 3 would not meet the City's policies to concentrate housing and affordable units within walking distance of transit within a TPA to the same extent as the Project. Also, by proposing more mixed-use development within a TPA, vehicle miles traveled under the Project may be reduced in the City over the long-run when

considering long-term growth within the City when compared to Alternative 3. Therefore, despite not requiring a Height District Change, since Alternative 3 would not meet a number of applicable land use goals and policies to the same extent as the Project, it is considered to have a greater land use impact than under the Project.

Moreover, Alternative 3's significantly reduced height would not allow for the same distinctive character as the Project nor contribute to the architectural interest of the Project Site to the same degree as the Project. As such, visual character impacts would be greater under Alternative 3 than under the Project despite the greater massing under the Project.

Alternative 3's in live/work units would generate less population of tenant/artists. The commercial uses under Alternative 3 would be the same as under the Project and generate an estimated 166 jobs. As with the Project, Alternative 3's Project's contributions to housing, population and employment would be consistent with SCAG's short-term and long-term growth projections for the Central City North Community Plan area and the City, and would help the City meet its housing objectives per the General Plan Housing Element, and housing allocation established in the SCAG RHNA. As with the Project, impacts regarding the relationship of the Project to SCAG growth projections would be less than significant. (Draft EIR page 5-63.) However, because Alternative 3 would not meet SCAG's 2016-2040 RTP/SCS, which encourages increased concentration of population and employment in highly urban areas served by transit, to the same extent as the Project, it is considered to have a greater impact with respect to population and housing than under the Project.

With regards to public transit, Alternative 3 would reduce daily vehicle trips by 45.3 percent and, thus, generate approximately 42 net new transit trips during the AM peak hour and 52 net new transit trips in the PM peak hour. The Project and Alternative 3 would both support alternative transportation by enhancing the pedestrian experience with sidewalk amenities, active commercial street front and street trees, and encouraging the use of alternative transportation under a comprehensive Transportation Demand Management Program (Mitigation Measure MM-TRAF-1) and, as such, both the Project and Alternative 3 would be consistent with policies, plans, and programs that support alternative transportation. Impacts related to public transit would be less than significant for both. (Draft EIR page 5-71.) However, because Alternative 3 would not concentrate development in an urban area served by transit, as encouraged under SCAG's 2016-2040 RTP/SCS, to the same extent as the Project, it would be considered to have a greater impact than the Project with respect to public transit.

By reducing the size of live/work component of the Project, Alternative 3 would place lesser demands on public services including fire, police, libraries, parks, and schools, and would be using less water and energy and creating less wastewater and GHG and other air quality emissions. In general, other than described above, because it is a considerably smaller project, Alternative 2 would create a similar or lesser impact than the already less than significant, or less than significant after mitigation, environmental impacts of the Project. (See Draft EIR Section 5.6.3) However, by reducing the number of housing units, Alternative 3 would be meeting the Project Objectives to a much lesser extent than the Project.

As with the Project, Alternative 3 would allow for the development of a mix of live/work and commercial uses and, as such, would meet the Project objective to provide a mixed-use development. However, Alternative 3's 75 percent reduction in live/work housing within TPA would not, to the same extent as the Project, implement the objective of the Project to meet regional mobility goals to concentrate development within urban areas served by transit. Under

regional mobility goals, the concentration of development within a designated TPA is intended to avoid urban sprawl, reduce vehicle miles, and lower infrastructure costs.

By substantially reducing the scale of on-site occupancy, Alternative 3 would not meet the Project objective to provide improvements that support and encourage the use of bicycles, walking, and other modes of alternative transportation in an infill urban location to the same extent as the Project.

Another objective of the Project is to develop an economically viable infill mixed-use development that combines live/work housing, commercial/retail, arts and production space, a grocery store, and restaurant uses. However, the 75 percent reduction in on-site live/work units under Alternative 3, would greatly reduce the support base for the grocery store and other on-site commercial uses and, as such, Alternative 3 would potentially reduce the economic viability of the Project.

Another objective of the Project is to provide housing, including affordable housing, to serve a range of potential renters and help meet the market demand for new housing in the City. Alternative 3 would provide significantly less housing and result in fewer affordable units than under the Project and, as such, would not meet the Project's housing objective with respect to the number of units or the range of potential renters.

As with the objective of the Project to contribute to the unique character of the Arts District through by attracting a wide spectrum of creative users and artists and providing arts/production/gallery space, Alternative 3 would significantly limit the spectrum of creative users and the amount of arts/production/gallery compared to the Project. Therefore, Alternative 3 would not meet this objective of the Project.

Another objective of the Project is to contribute to a lively pedestrian environment through public art and façade treatments, ground-level retail space, and publicly accessible streetscapes and paseos with landscaping, seating, kiosks and art of different mediums. However, Alternative 3 would greatly reduce the number of on-site occupants who would, otherwise, enliven the pedestrian environment. The reduction in occupants would incrementally reduce outdoor activity and the use of on-site commercial uses, such as restaurants, so that the street front would have greatly reduced participants in the commercial bustle and open space amenities. As such, Alternative 3 would not meet the Project's objective to create an urban project that would be compatible with and complimentary to currently ongoing growth and activity in the Arts District to the same extent as the Project.

An objective of the Project is to provide for the development of an underutilized site with new housing and commercial uses to meet anticipated market demands. The number of related projects in the Arts District indicates a strong market demand for arts-related housing to serve the City's artists wishing to live and work in the area. With the 75 percent reduction in live/work units, Alternative 3 would not meet market demand for live/work units to the same extent as the Project.

Alternative 3 would contribute to the Project objective to provide commercial uses that expand the local economy, supports the business environment, and aids in the retention and attraction of new businesses to the community; however, because it would substantially reduce the Project's live/work component, it would not meet the Project objective to provide such uses to also expand the local economy and attract new businesses to the area.

3) References: For a complete discussion of impacts associated with Alternative 3, please see Draft EIR, Section 5.6.3 and Appendix L-3.

4. Alternative 4 – Existing Zoning Alternative:

a) Description of Alternative 4: Alternative 4, the Existing Zoning Alternative, would be an industrial development constructed in accordance with the General Plan's existing Heavy Manufacturing/Industrial, existing M3-1 zone, and the existing Height District No. 1 Project Site designations. The existing zone M3-1 zone would allow for the development of 245,068 sf of industrial floor area. This would reduce the Project's total floor area from 577,301 sf to 245,068 sf, a reduction of approximately 57.5 percent. On the 162,457 sf property, this would reduce the Project's 3.55:1 FAR to 1.5:1, which is consistent with the existing Height District No. 1 designation. The existing M3 zone allows for a range of heavy industrial uses, as well as less intensive industrial uses, such as those in both the M2 and M3 zones. Alternative 4 assumes the discontinuation of the existing 131,350 square foot cold storage facility use, which is also permitted under the existing zoning. Alternative 4 assumes a greater jobs-generating industrial use, such as wholesale printing and publishing; headquarters for record-keeping and computer support facilities for the processing of retrievable information and systems control; office buildings for industrial firms, industrial engineering firms, or other professional, administrative, and clerical services needed by industries in the area; facilities for the development and/or production and manufacture of computer and media-related products and services, including hardware; and similar uses (see LAMC Sec. 12.17.5.B.3). Sidewalk improvements, landscaping, public open space such as paseos, and other proposed improvements under the Project would not be provided under Alternative 4. The chain-link/barbed wire fencing and visible transformers along Industrial Street would be removed.

b) Impact Summary of Alternative 4: Alternative 4 would have greater impacts to aesthetics because it would not include the same sidewalk improvements, paseos, street trees or architectural detail as the Project. It would also have greater impacts with regards to the handling of hazardous materials because light industry allows for the use and transport of hazardous materials. It will also have a greater impact on public transit because it would not concentrate development in an urban area served by transit. Because of the reduction in trips under this Alternative, Alternative 4 will reduce and avoid the significant cumulative traffic impacts on the three significantly impacted intersections with the exception of Mateo Street and 7th Street during the AM peak hour. In all other environmental areas, Alternative 4 would either have similar impacts or would reduce the less than significant, or less than significant after mitigation, impacts of the Project (See Draft EIR Section 5.6.4.)

c) Findings: Alternative 4, the Existing Zoning Alternative, would reduce and avoid the Project's significant and unavoidable intersection service impacts at Alameda Street and 6th Street, Alameda Street and 7th Street, and Mateo Street and 7th, but not the significant impact at Mateo Street and 7th Street during the morning peak hour. Alternative 4 would have a greater impact on aesthetics, the handling of hazardous materials, and public transit, and would not satisfy the Project Objectives to the same extent as the Project. This Alternative would not contribute as effectively in meeting the City's housing needs or fully utilizing the Project's accessibility to a large range of public transit facilities. Accordingly, it is found pursuant to Public Resources Code section 21081, subsection (a)(3), that specific economic, legal, social, technological, or other considerations, including considerations identified in Section XIII of these Findings (Statement of Overriding Considerations), make Alternative 4 infeasible.

d) Rationale for Findings: Alternative 4 consists of an industrial development constructed in accordance with the General Plan's existing Heavy

Manufacturing/Industrial, existing M3-1 zone, and the existing Height District No. 1 Project Site designations. The Project Site would be developed with a light industrial use. With total lot coverage (no surface parking), under the FAR of 1.5:1, building heights for 245,068 sf of floor area would be up to 45 feet. With surface parking, buildings would be taller. Alternative 4 would not include street trees, sidewalk improvements, paseos, public art. Utility poles would not be removed, nor would Alternative 4 provide for burial of utility lines along the S. Alameda and Industrial Street frontages. However, redevelopment under Alternative 4 would remove visible transformer boxes and existing chain-link/barbed-wire fencing. (Draft EIR page 5-76.) The existing visual character of the Project Site is currently dominated by large blank walls, power lines, and chain link/razor wire fencing along S. Alameda Street and does not promote a visually attractive or pedestrian friendly environment. As such, the existing storage buildings do not contribute any visual character benefit to the Project Site. As with the Project, Alternative 4 would be constructed in a contemporary architectural style, similar to industrial uses in the surrounding neighborhood that would upgrade the visual character of the street and, as such, would improve the visual character of the property. Visual character impacts would be less than significant. However, because Alternative 4 would not include the same sidewalk improvements, paseos, street trees, or architectural detail as the Project, Alternative 4 would have greater impact with respect to visual character than the Project.

Although Alternative 4 represents a reduction in construction duration and development scale, it may require more storage of paint, adhesives, or chemicals used for the manufacture of, or by-product of, production than under the Project. As with the Project, Alternative 4 would comply with all applicable regulations regarding the use, storage, disposal and transportation of hazardous materials. However, because light industry allows for manufacturing, Alternative 4 would have greater impact than the Project related to the use and transport of hazardous materials.

Alternative 4 would not include residential uses or generate any population gains. However, Alternative 4 would increase the existing industrial floor area from 131,350 sf to 245,068 sf and, thus, increase the estimated number of on-site employees. While the number of employees cannot be specifically determined, the number of employees could be within a range of 100-300 employees. As with the Project, Alternative 4's Project's contributions to employment would be consistent with SCAG's short-term and long-term growth projections for the Central City North Community Plan area and the City. Unlike the Project, Alternative 4 would not help the City meet or exceed its housing objectives per the General Plan Housing Element. In addition, Alternative 4 would not meet SCAG's 2016-2040 RTP/SCS applicable goals to encourage the concentration of population and employment in highly urban areas served by transit to the same extent as the Project. Overall, because Alternative 4 would provide more employees, but not provide needed housing, it is considered to have a similar impact with respect to population, housing and employment than under the Project.

Under the Project, even with implementation of mitigation measures and project design features, the Project contribute to significant and unavoidable cumulative impacts at three intersections, Alameda Street and 6th Street during the afternoon peak hour, Alameda Street and 7th Street during the morning and afternoon peak hours, and Mateo Street and 7th Street during the morning and afternoon hours. However, because Alternative 4 would reduce the scale of development by approximately 42 percent, it will reduce the project-related trips. New vehicle trips generated under Alternative 4 are illustrated in Draft Table 5-7, *Alternative 4 – Existing Zoning Alternative Trip Generation*. As shown in Table 5-7, Alternative 4 would generate a net increase of 1,240 daily trips (with 10% TDM reduction), including 186 AM peak hour trips and 196 PM peak hour trips. As shown in Draft EIR Table 5-8, *Alternative 4 Intersection Service Level Impacts*, with Mitigation Measure MM- TRAF-1, impacts at all intersections, with the exception of the

intersection at Mateo Street and 7th Street during the morning peak hour, would be reduced to less than significant levels. (See also, Draft EIR Appendix L-3.) As such, Alternative 4 would avoid most of the Project's significant and unavoidable intersection impacts but not the impact at Mateo Street and 7th Street during the AM peak hour which would remain significant and unavoidable. Therefore, Alternative 4 would lessen the Project's significant and avoidable impacts but would not eliminate all of those impacts.

Alternative 4, which would result in 64 percent fewer vehicle trips would substantially reduce net new transit trips compared to the Project. Based on vehicle trips, Alternative 4 would generate approximately 27 net new transit trips during the AM peak hour and 20 net new transit trips in the PM peak hour. (Draft EIR page 5-94.) The Project and Alternative 4 would both support alternative transportation by encouraging the use of alternative transportation under a comprehensive Transportation Demand Management Program (Mitigation Measure MM-TRAF-1) and, as such, neither the Project nor Alternative 4 would conflict with policies, plans, and programs that support alternative transportation. Impacts related to public transit would be less than significant for both. However, because Alternative 4 would not concentrate development in an urban area served by transit, as encouraged under SCAG's 2016-2040 RTP/SCS, to the same extent as the Project, it would be considered to have a greater impact than the Project with respect to public transit.

Additionally, Alternative 4 would not meet all of the Project Objectives while meeting some of the Project Objectives to a lesser extent than the Project. Alternative 4 would not allow for the development of a mix of live/work and commercial uses and, as such, would not meet the Project objective to provide a unique and creative Project that fits in well with existing industrial and manufacturing uses, and the growing residential population in the Arts District. Alternative 4 would not implement the objective of the Project to develop an economically viable infill mixed-use development that combines live/work housing, commercial/retail, arts and production space, a grocery store, and restaurant uses. Alternative 4 would increase the economic viability of the Project Site, although not to the same extent as the Project which has the potential to increase the economic viability of the surrounding Arts District. With no commercial space, this Alternative would not increase the commercial activity or provide options of commercial amenities and resources to a growing neighborhood. Alternative 4 would not meet the objective to maximize the occupation of the Project Site relative to nearby transit to the same extent as the Project. It would not provide housing, including affordable housing, to serve a range of potential renters and help meet the market demand for new housing in the City. Alternative 4 would not contribute to the unique character of the Arts District through a Project that attracts a wide spectrum of creative users and artists or provides arts/production/gallery space. Alternative 4 would also not meet the objective of the Project to contribute to a lively pedestrian environment through public art and façade treatments, ground-level retail space, and publicly accessible streetscapes and paseos with landscaping, seating, kiosks and art of different mediums. It would also not meet the Project objective to provide joint live/work spaces and creative commercial uses that expand the local economy, support the business environment, and aid in the retention and attraction of new businesses to the community.

Alternative 4 would partially meet the Project objective to provide improvements that support and encourage the use of nearby public transit lines. However, as an industrial use, Alternative 4 would not encourage the use of bicycles, walking, and other modes of alternative transportation in an infill urban location with extensive infrastructure to the same extent as the Project.

e) Reference: For a complete discussion of impacts associated with Alternative 4, please see Draft EIR Section 5.6.4 and Appendix L-3.

D. Alternatives Rejected as Being Infeasible

In addition to the four alternatives listed above, two other potential alternatives to the Project were considered but rejected from further consideration for the reasons discussed on pages 5-2 through 5-4 of the Draft EIR: (i) Alternative Off-Site Location and (ii) Alternative On-Site Uses. The following summarizes the conclusions of the Draft EIR.

Alternative Off-Site Location: The Project Site is located within the Arts District, which fulfills the Applicant's interest in building live/work units for the growing art community. Other locations within the Arts District that would have equivalent acreage (3.73 acres) and served by low-intensity industrial uses, such as storage, would be suitable as alternative off-site locations. However, the Project's significant and unavoidable traffic impacts would also occur under Future with Project Conditions during buildout year 2022 conditions at any other potential site within the Arts District. As discussed in Section 4.12, *Transportation and Traffic*, of the Draft EIR, Future without the Project, LOS F would occur at numerous intersections as a result of ambient growth and related projects that are anticipated throughout the study area. The Project's significant traffic impacts are projected to occur at future LOS F or LOS E intersections near or relatively near the Project Site. As discussed in Section 4.12 of the Draft EIR, because of the stringent threshold for LOS E or F intersections (applying to a small V/C ratio increase of 0.01), the Project's trips will exceed the applicable thresholds at future LOS E and F intersections. Depending on the location of the off-site alternative, the relocation of the Project within the Arts District could potentially relieve impacts at any of the Project's three impacted intersections, while increasing trips and generating significant traffic impacts at other future E or F intersections. If the off-site location were within a few-block radius of the Project Site, the off-site Alternative would likely impact the same intersections as under the Project. Because the relocation of the Project to any site within the Arts District would still likely result in significant traffic impacts at some of the future LOS E and F intersections, it would not achieve the purpose of reducing the Project's significant and unavoidable traffic impacts and, is thus, not considered a feasible alternative. Additionally, the relocation of the Project to an area outside the Arts District would defeat the primary purpose of the Project to provide a unique and creative mixed-use Project that fits in with existing industrial and manufacturing uses, and the growing residential population in the Arts District and, as such, is not considered a feasible alternative to the Project.

Alternative On-Site Uses: Alternative on-site uses considered but rejected would include an all-commercial development, an all-residential use, or a mixed-use development with a primarily residential, non-live/work focus. Although the Project largely comprises a residential component in its live/work units, the Project is intended to serve the purpose of the Community Plan in allowing live/work activities in its existing Arts District industrial neighborhood. An all-commercial, all-residential, or mixed-use development with primarily residential uses would not meet the purpose of the Community Plan for the Arts District or the ILUP to retain industrial land for jobs producing uses. The Arts District is suitable for an industrial mixed use in that live/work units allow for on-site creative production uses (jobs-producing uses), consistent with the objectives of the industrial zone. An all or predominantly residential use would defeat the industrial area's jobs-producing purpose. An all-commercial use would provide employment opportunities, but not those associated with the production or creation of goods associated with the Community Plan's existing industrial designation and would not facilitate the reduction in vehicle trips associated with live/work, in which a resident and employment opportunity share the same location. Therefore, these uses are not considered viable alternatives to the Project.

For these reasons as more fully set forth in the discussion of each of these alternatives in the Draft EIR, no further analysis of any of these alternatives is warranted under CEQA.

E. Environmentally Superior Alternative

Of the alternatives analyzed in this Draft EIR, the No Project/No Build Alternative would be considered the environmentally superior alternative because it would avoid the Project's significant and unavoidable intersection capacity impacts, as well as the Project's less than significant impacts in other issue areas; although it would not contain any of the Project's beneficial components. However, because it is the No Project/No Build Alternative, the selection of another alternative is required by CEQA.

Overall, Alternative 3, the 75 Percent Reduced Live/Work Component Alternative, would avoid the Project's significant and unavoidable traffic impacts and generate fewer or less intense environmental impacts than the Project and Alternative 2 as presented in Draft EIR Table 5-9, *Comparison of Impacts*, it would technically be considered the Environmentally Superior Alternative. This Alternative, however, would not meet the Project Objectives to the same extent as the Project and, although Alternative 3 is identified as the Environmentally Superior Alternative, this does not mean it must be selected as the Project by the City. The City considers the analysis included within the Draft EIR along with public input throughout the environmental review process in its decision-making process to approve the Project. In addition, decision-makers may contemplate long-range environmental benefits, such as overall reduced vehicle miles and potentially reduced GHG emissions, reduced energy demand, reduced infrastructure costs, and reduced urban sprawl, which would be derived from clustering development in a TPA, and which are not currently quantifiable in an EIR. Although an increase of density within a relatively small geographic area works against current CEQA thresholds with respect to construction, intersection level of service, and public services impacts, decision-makers may evaluate the long-range environmental benefits inherent in City policies to increase density within TPAs.

XII. OTHER CEQA CONSIDERATIONS

A. Significant Irreversible Environmental Changes

Pursuant to Section 15126.2(c) of the CEQA Guidelines, the Draft EIR addressed whether there would be any significant irreversible environmental changes that would occur should the proposed project be implemented. (See Draft EIR pages 6-2 through 6-4.) The Project will necessarily consume limited, slowly renewable and non-renewable resources. This consumption will occur during the construction phase of the Project and will continue throughout its operational lifetime. Project development will require a commitment of resources that will include: (1) building materials, (2) fuel and operational materials/resources, and (3) the transportation of goods and people to and from the Project Site. Project construction will require the consumption of resources that are non-replenishable or may renew so slowly as to be considered non-renewable. These resources include the following construction supplies: certain types of lumber and other forest products; aggregate materials used in concrete and asphalt such as sand, gravel and stone; metals such as steel, copper, and lead; petrochemical construction materials such as plastics; and water. Furthermore, non-renewable fossil fuels such as gasoline and oils will also be consumed for construction vehicles and equipment, as well as the transportation of goods and people to and from the Project Site.

Project operation will continue to expend non-renewable resources that are currently consumed within the City. These include energy resources such as electricity and natural gas, petroleum based fuels required for vehicle-trips, fossil fuels, and water. Fossil fuels represent the primary energy source associated with both construction and ongoing operation of the Project, and the existing, finite supplies of these natural resources will be incrementally reduced.

At the same time, the Project is an infill development located within a transit priority area that will reduce reliance on private automobiles and the consumption of non-renewable resources. The Project will provide live/work units, which allow both residential uses and work opportunities within a single location, thus reducing commute-to-work trips for Project residents. The Project's inclusion of pedestrian improvements, bicycle parking facilities, and other TDM measures would encourage the use of alternative modes of transportation. Given its location, the Project will support pedestrian and bicycle access to a considerable range of entertainment, employment, and commercial activities, as well as to other transit options in the area. The Project Site is located in proximity to multiple bus and shuttle lines and will also provide excellent access to the regional rail transportation system. These factors contribute to a land use pattern that is considered to reduce the consumption of non-renewable resources.

Furthermore, the Project will be designed to achieve the equivalent of the United States Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) Silver Certification level. The Project will also comply with the Los Angeles Green Building Code, which builds upon and sets higher standards than those incorporated in the 2013 California Green Building Standard Code, or CALGreen. A sustainability program will be prepared and monitored by an accredited design consultant to provide guidance on Project design, construction and operations; and performance monitoring during Project operations to reconcile design and energy performance and enhance energy savings. Some of the Project's key design features that contribute to energy efficiency include a cool roof, electric vehicle spaces, energy efficient appliances and programmable thermostats, motion sensors in common areas, reduced indoor water use by at least 20 percent, water efficient plumbing fixtures and fitting, and water-efficient landscaping. The Project will achieve objectives of the City's General Plan Framework Element, Southern California Association of Governments Regional Transportation Plan, and South Coast Air Quality Management District Air Quality Management Plan for establishing a regional land use pattern that promotes sustainability.

The Project's continued use of non-renewable resources will be consistent with regional and local growth forecasts in the area, as well as State and local goals for reductions in the consumption of such resources. Furthermore, the Project will not affect access to existing resources, or interfere with the production or delivery of such resources. The Project Site contains no energy resources that would be precluded from future use through Project implementation.

For all the foregoing reasons, The Project's irreversible changes to the environment related to the consumption of nonrenewable resources will not be significant.

B. ENERGY

Section 21100(b) of the State CEQA Guidelines requires that an EIR include a detailed statement setting forth mitigation measures proposed to minimize a project's significant effects on the environment, including, but not limited to, measures to reduce the wasteful, inefficient, and unnecessary consumption of energy. Chapter 7.0, *Appendix F Analysis: Energy*, of the Draft EIR provides relevant information and analyses that address the energy implications of the Project. With the evaluation emphasis on the potential to avoid or reduce inefficient, wasteful, and unnecessary consumption of energy, the analysis concluded that, because the Project will achieve greater than required energy efficiency, it will not result in the wasteful, inefficient, and unnecessary consumption of energy and will not preempt opportunities for future energy conservation.

C. Growth Inducing Impacts

The Project will result in a net increase of approximately 577,301 sf of live/work and commercial space and associated parking. The 475 live/work units are estimated to result in a population increase of 1,520, with associated jobs. The Project's 15,815 sf of arts and production space, 15,102 sf of grocery store, 16,140 square feet of restaurant space, and 9,943 square feet of commercial/retail space will generate approximately 139 net new jobs. As discussed in Section 4.10, *Population, Housing, and Employment*, of the Draft EIR, at buildout, the Project's incremental contribution to growth will be well within the amount of growth projected within the Central City North Community Plan area's 2022 planning horizon. It will comprise approximately 31 percent of the projected population, approximately 22 percent of the housing and approximately 6.0 percent of employment.

Over the longer term 2040 planning horizon, the Project will comprise approximately 7.6 percent of the population, approximately 5.6 percent of the housing and approximately 1.6 percent of the employment growth, and will be consistent with SCAG's growth projections for the area. Thus, the Project plus related projects, consisting of a balanced mix of residential, retail, and office uses, as well as other uses such as a schools, museums, and additional entertainment uses, is anticipated to result in approximately 8,957 new dwelling units in the Central City North Community Plan area, a population increase of approximately 28,663, and 22,122 new jobs. Although some related projects may not move forward, these estimates are consistent with SCAG's 2040 projections for the area. This indicates an acceleration of growth relative to SGAG projections for 2022. (Draft EIR pages 6-4 and 6-5.)

The growth occurring within the Community Plan area is consistent with and furthers the attainment of General Plan Objective 1-2: "To locate new housing in a manner which reduces vehicular trips and makes it accessible to services and facilities." The cumulative growth reflects the City's expected achievement in the generating transit oriented development and revitalization of the Central City North Community Plan area. The Central City North Community Plan area's proximity to transit connects the Project vicinity to the wider City of Los Angeles and allows for more residents and employees to either reside in or commute to the area. The growth is in line with the policies of the SCAG's 2016-2040 Regional Transportation Plan that encourage population and employment growth within SCAG's designated high quality transit areas (HQTAs) and transit priority areas where new development would be well-served and supported by existing services and infrastructure. The Project will be part of the growth trend occurring within the Central City North Community Plan and Arts District but, in itself, will not generate additional growth. The Project will not require expanded water and wastewater lines, electrical and natural gas infrastructure, or new roads, which have the potential to spur additional growth.

The Project's commercial uses, such as the grocery store, will serve land uses existing in the area or already anticipated as cumulative growth identified in the Draft EIR, Section 4.10. Therefore, the Project will not spur additional growth other than that already anticipated nor will it eliminate impediments to growth through broad changes in existing land use designations. Consequently, the Project will not foster growth inducing impacts.

D. Potential Secondary Effects

The following provides a summary of the Draft EIR's analysis of the potential secondary effects that could occur as a result of implementation of the required mitigation measures. (See Draft EIR pages 6-5 through 6-7.) For the reasons stated below, the City finds that the Project's mitigation measures will not result in significant secondary impacts.

1. Cultural Resources: Mitigation Measures MM-ARCH-1 through MM-ARCH-4 and Mitigation Measures MM-PALEO-1 through MM-PALEO-3 establish protections for archaeological and paleontological resources should they be present on the Project Site and immediately adjacent for project-related public right-of-way improvements. The mitigation measures assure that resources will be treated consistent with State CEQA Guidelines and regulatory provisions for the protection of resources. Because these Mitigation Measures are site-specific they will not result in significant secondary impacts not addressed in the Draft EIR and these Findings.

2. Hazards and Hazardous Materials: Mitigation Measures MM-HAZ-1 through MM-HAZ-3 provide mitigation for potential hazardous conditions. Should compliance with these mitigation measures result in the preparation of a Soils Management Plan (SMP) due to chemicals of concern being detected on-site, The SMP will assure compliance with SCAQMD Rule 1166 for safe transport of hazardous materials for off-site disposal. Additionally, pursuant to MM-HAZ-3, a Health and Safety Plan will be prepared in compliance with CAL-OSHA requirements for the purpose of protecting the public and on-site workers. While most potential handling and management of any detected hazardous materials will occur on-site and will not result in secondary, off-site impacts, the SMP will ensure that hazardous materials would be safely transported and properly disposed of without causing secondary health impacts to the public. As such, no significant offsite or secondary impacts not addressed in the Draft EIR and these Findings are anticipated.

3. Noise: Mitigation Measures MM-NOISE-1 through MM-NOISE-3, as revised in the Final EIR, will provide mitigation related to construction noise and vibration. Project Design Feature PDF-AES-1, discussed in Section 4.1, *Aesthetics*, of the Draft EIR will ensure that through appropriate postings and regular visual inspections that no unauthorized materials are posted on temporary construction barriers and that the noise barrier will be maintained in a reasonable manner throughout the construction period. This design feature would prevent secondary aesthetic effects from the wall. Mitigation Measure MM-NOISE-3 provides for a construction relations officer to respond to the school's concerns regarding construction noise and vibration and to reduce classroom disruption. Both Mitigation Measures MM-NOISE-1 and MM-NOISE-2 are site-specific or would not result in secondary impacts not addressed in the Draft EIR and these Findings.

4. Police Services: Mitigation Measure MM-POL-1 requires that prior to the occupancy of the Project, the Applicant provide the Central Area Commanding Officer with a diagram of each portion of the property, including access routes, and additional information to facilitate potential LAPD responses. This measure is specific to the Project Site and will not result in any secondary impacts not addressed in the Draft EIR or these Findings.

5. Transportation and Traffic: Mitigation Measure MM-TRAF-1 requires the implementation of a Transportation Demand Management (TDM) program to promote non-auto travel and to reduce single-occupant vehicle trips by a minimum of ten percent by Project occupants and employees. The TDM, including an on-site TDM coordinator, promotion of carpools, bicycle amenities, on-site kiosks, parking incentives, on-site mobility hub, and other measures will be specific to the Project Site and is not anticipated to result in any off-site or adverse secondary impacts not addressed in the Draft EIR and these Findings.

E. Effects Found Not to Be Significant

Section 15128 of the State CEQA Guidelines states that an EIR shall contain a brief statement indicating reasons that various possible significant effects of a project were determined not to be significant and not discussed in detail in the Draft EIR. Pursuant to Section 1512, such a statement may be contained in an attached copy of an Initial Study. The Initial Study prepared for the Project and included in Appendix A-1 of this Draft EIR and summarized in these Findings. Through the Initial Study process, the City determined that the Project will result in less than significant or no impacts related to reduction or loss of agricultural and forestry resources; loss or removal of biological resources; landslides; alternative wastewater or septic disposal; hazards associated with proximity to public airports or air strips; exposure to wildland fires; exposure to 100-year floodplain flooding; inundation by seiche, tsunami, or mudflow; physical division of an established community; biological conservation plans; loss of availability of mineral resources; noise in proximity to an airport or air strip; displacement of housing or residents; changes in air traffic patterns; available solid waste capacity; compliance with federal, state, and local statutes related to solid waste.

Following completion of the Initial Study process, a potential active roost of approximately 60+ Mexican free-tailed bats (*Tadarida brasiliensis*) was discovered near the southeast corner of the building, near the roof, in a small gap between rain gutters and the building. Mexican free-tailed bats are one of the most common species in California and will commonly roost in buildings and structures. This species is a low priority species for the Western Bat Working Group and is not a state or federally-listed species. Therefore, impacts to this species are only considered significant during the maternity roosting season of March through August. Excluding these bats from their roost can be conducted outside the maternity roosting season. Accordingly, at the conclusion of the 2017 maternity roosting season, the current facility operator will retain a professional bat removal company or qualified biologist with experience in bat exclusion to humanely remove the bats from the building. Potentially, humane one-way doors may be used that would allow the bats to leave the roost to forage, but prevent them from returning to the roost. The exclusion measures are typically left in place for a minimum of one week to ensure all bats have exited the roost. A presence/absence survey would be conducted at the conclusion of the exclusion period to ensure that bats have left the roost and there is no sign of bat activity. Once the roost is vacated, the rain gutters can be removed from the building to remove any potentially suitable roosting habitat and to prevent bats from returning to the roost. The removed roosting habitat is expected to prevent bats from returning to roost on the building, particularly at the same location, until the demolition phase of the Project is slated to commence. The exclusionary measures being provided by the current facility operator are not part of the Project. However, to ensure that no bats are harmed by the Project, Project Design Feature OTHER-1 has been prescribed for the Project (see Table 2-2, *Summary of Project Design Features*, in Chapter 2.0, Project Description, of the Draft EIR). This Project Design Feature requires that prior to the issuance of a demolition permit, a qualified biologist shall confirm no bats are nesting or are otherwise located on Project Site. If bats are found, the Project Applicant shall retain a professional bat removal company or qualified biologist with experience in bat exclusion to humanely remove the bats from the building outside of the roosting season of March through August. (Draft EIR pages 6-7 and 6-8.)

F. CEQA Considerations

1. The City finds that the EIR was prepared in compliance with CEQA and the CEQA Guidelines. The City finds that it has independently reviewed and analyzed the EIR for the Project, that the Draft EIR which was circulated for public review reflected its independent judgment and that the Final EIR reflects the independent judgment of the City.

2. The EIR evaluated the following potential Project and cumulative environmental impacts: Aesthetics; Air Quality; Cultural Resources (Archeological and Paleontological Resources and Tribal Cultural Resources); Geology and Soils; Greenhouse Gas Emissions; Hazards and Hazardous Materials; Hydrology and Water Quality; Land Use and Planning; Noise; Population, Housing and Employment; Public Services (Fire Protection, Police Protection, Schools, Libraries and Parks and Recreation); Transportation and Parking; and, Utilities and Service Systems (Waste Water and Water Supply). Additionally, the EIR considered, Significant Irreversible Environmental Changes, Energy, Growth Inducing Impacts, Potential Secondary Effects and Effects Found Not to Be Significant. The significant environmental impacts of the Project and the alternatives were also identified in the EIR.

3. The City finds that the EIR provides objective information to assist the decisions makers and the public at large in their consideration of the environmental consequences of the Project. The public review period provided all interested jurisdictions, agencies, private organizations, and individuals the opportunity to submit comments regarding the Draft EIR. The Final EIR was prepared after the review period and responds to comments made during the public review period.

4. Textual refinements and errata were compiled and presented to the decision makers for review and consideration. The City staff has made every effort to notify the decision makers and the interested public/agencies of each textual change in the various documents associated with Project review. These textual refinements arose for a variety of reasons. First, it is inevitable that draft documents would contain errors and would require clarifications and corrections. Second, textual clarifications were necessitated in order to describe refinements suggested as part of the public participation process.

5. The Department of City Planning evaluated comments on environmental issues received from persons who reviewed the Draft EIR. In accordance with CEQA, the Department of City Planning prepared written responses describing the disposition of significant environmental issues raised. The Final EIR provides adequate, good faith and reasoned response to the comments. The Department of City Planning reviewed the comments received and responses thereto and has determined that neither the comments received nor the responses to such comments add significant new information regarding environmental impacts to the Draft EIR. The Lead Agency has based its actions on full appraisal of all viewpoints, including all comments received up to the date of adoption of these findings, concerning the environmental impacts identified and analyzed in the EIR.

6. The Final EIR documents changes to the Draft EIR. The Final EIR provides additional information that was not included in the Draft EIR. Having reviewed the information contained in the Draft EIR and the Final EIR and in the administrative record, as well as the requirements of CEQA and the CEQA Guidelines regarding recirculation of Draft EIRs, the City finds that there is no new significant impacts, substantial increase in the severity of a previously disclosed impact, significant information in the record of proceedings or other criteria under CEQA that would require recirculation of the Draft EIR, or preparation of a supplemental or subsequent EIR. Specifically, the City finds that:

- a. The Responses to Comments contained in the Final EIR fully considered and responded to comments claiming that the Project would have significant impacts or more severe impacts not disclosed in the Draft EIR and include substantial evidence that none of these comments provided substantial evidence that the Project would result in changed circumstances, significant new information, considerably different mitigation measures, or

new or more severe significant impacts than were discussed in the Draft EIR.

- b. The City has thoroughly reviewed the public comments received regarding the Project and the Final EIR as it relates to the Project to determine whether under the requirements of CEQA, any of the public comments provide substantial evidence that would require recirculation of the EIR prior to its adoption and has determined that recirculation of the EIR is not required.
- c. None of the information submitted after publication of the Final EIR, including testimony at the public hearings on the Project, constitutes significant new information or otherwise requires preparation of a supplemental or subsequent EIR. The City does not find this information and testimony to be credible evidence of a significant impact, a substantial increase in the severity of an impact disclosed in the Final EIR, or a feasible mitigation measure or alternative not included in the Final EIR.

7. The Mitigation Measures and Project Design Features identified for the Project were included in the Draft and Final EIRs. As revised, the final Project Design Features and final Mitigation Measures for the Project are described in the Mitigation Monitoring Program (MMP). Each of the Project Design Features and Mitigation Measures identified in the MMP is incorporated into the Project. The City finds that the impacts of the Project have been mitigated to the extent feasible by the Project Design Features and the Mitigation Measures identified in the MMP.

8. CEQA requires the Lead Agency approving a project to adopt a MMP or the changes to the project which it has adopted or made a condition of project approval in order to ensure compliance with the mitigation measures during project implementation. The Mitigation Measures included in the EIR as certified and adopted by the City serves that function. The MMP includes all of the Mitigation Measures and Project Design Features adopted by the City in connection with the approval of the Project and has been designed to ensure compliance with such measures during implementation of the Project. In accordance with CEQA, the MMP provides the means to ensure that the Mitigation Measures are fully enforceable. In accordance with the requirements of Public Resources Code Section 21081.6, the City hereby adopts the MMP.

9. In accordance with the requirements of Public Resources Section 21081.6, the City hereby adopts each of the Mitigation Measures expressly set forth herein as conditions of approval for the Project.

10. The custodian of the documents or other material which constitute the record of proceedings upon which the City's decision is based is the City Department of City Planning.

11. The City finds and declares that substantial evidence for each and every finding made herein is contained in the EIR, which is incorporated herein by this reference, or is in the record of proceedings in the matter.

12. The City is certifying an EIR for, and is approving and adopting findings for, the entirety of the actions described in these Findings and in the EIR as comprising the Project.

13. The City finds that none of the public comments to the Draft EIR or subsequent public comments or other evidence in the record, including the changes in the Project in response to input from the community and the Council Office, include or constitute substantial evidence that would require recirculation of the Final EIR prior to its certification and that there is no substantial evidence elsewhere in the record of proceedings that would require substantial revision of the Final EIR prior to its certification, and that the Final EIR need not be recirculated prior to its certification.

XIII. STATEMENT OF OVERRIDING CONSIDERATIONS

The EIR has identified unavoidable significant impacts that would result from implementation of the Project. California Public Resources Code Section 21081 and CEQA Guidelines Section 15093(b) provide that when the decision of the public agency allows the occurrence of significant impacts that are identified in the EIR, but are not at least substantially mitigated, the agency must state in writing the reasons to support its action based on the complete EIR and/or other information in the record.

The Findings and this Statement of Overriding Considerations are based on substantial evidence in the record, including but not limited to the EIR, and documents and materials that constitute the record of proceedings. The following impacts are not mitigated to a less than significant level for the Project, as identified in the EIR: Under the Future with Project (2022) with Mitigation Conditions (Cumulative Impact) the following three signalized study intersections will remain significantly and unavoidably impacts by Project traffic after implementation of Project Design Features and Mitigation Measures:

- Intersection 3: Alameda Street & 6th Street (PM peak hour)
- Intersection 7: Alameda Street & 7th Street (AM and PM peak hours)
- Intersection 8: Mateo Street & 7th Street (AM and PM peak hours)

Intersection improvements were considered as mitigation measures for these study intersections; however, these improvements were not considered feasible because of the need to add additional lanes would not meet existing street classifications (or Mobility Element policies); would result in the removal of on-street parking, narrowing of lanes, or need for substantial acquisition of private property; or would not be physically possible because of intersection geometries and, thus are not recommended by LADOT. Therefore, additional intersection improvement measures could not be implemented as part of the mitigation program. Impacts at these three intersections will remain significant and unavoidable.

Accordingly, the City adopts the following Statement of Overriding Considerations. The City recognizes that significant and unavoidable impacts would result from implementation of the Project. Having (i) adopted all feasible mitigation measures, (ii) rejected certain alternatives to the Project (as analyzed in the EIR), (iii) recognized all significant, unavoidable impacts, and (iv) balanced the benefits of the Project against the Project's significant and unavoidable impacts, the City hereby finds that the benefits outweigh and override the significant unavoidable impacts for the reasons stated below.

The following reasons summarize the benefits, goals and objectives of the Project, and provide the detailed rationale for the benefits of the Project. These overriding considerations of economic, social, aesthetic, and environmental benefits of the Project justify approval of the Project and certification of the EIR. Each of the following overriding considerations separately and

independently (i) outweighs the adverse environmental impacts of the Project, and (ii) justifies adoption of the Project and certification of the EIR. In particular, achieving the underlying purpose for the Project would be sufficient to override the significant environmental impacts of the Project.

The individual considerations are:

1. The Project will accommodate 475 units of new housing, including affordable units, and commercial uses within a transit priority area, with proximity to local and regional public transit, including less than 1,500 feet from local/limited bus line routes.

2. The Project will provide a unique and creative mixed-use development that fits in with existing industrial and manufacturing uses and the growing population of the Arts District.

3. The Project's joint live/work spaces and creative commercial uses will expand the local economy, support the business environment, and aid in the retention and attraction of new businesses to the community. By some estimates, the Project would create approximately 949 (direct and indirect) construction jobs and 27 (direct and indirect) operations jobs just for the residential portion alone. In addition, there would be approximately 167 jobs created to support the influx of Project's residents. The Project would pay approximately \$7.4 million in sales tax for construction materials and approximately \$3.1 million in annual property taxes once complete.

4. The Project will contribute a wide range of unit types, including 50 studio units, 172 one bedroom units, 214 two bedroom units, and 39 three bedroom units, which will provide housing for varied income levels through the varying sizes and including affordable units, and adding to the much needed housing stock in the City.

5. The Project will contribute to the unique character of the Arts District by attracting a wide spectrum of creative users and artists; providing approximately 608 square feet of live/work arts/production/gallery space on the ground floor; and contribute to a lively pedestrian environment through public art and façade treatments (such as murals and a monument piece on the corner of Industrial and Alameda Street), and ground-level retail space, and publicly accessible streetscapes and paseos with landscaping, seating, kiosks and art of different mediums.

6. The Project will complement and improve the visual character of the area by connecting with the surrounding urban environment through landscaped open space including 98 trees on the Project Site, 4 street trees on S. Alameda Street and 21 street trees on Industrial Street, for a net increase of 120 trees compared to existing conditions, and a high level of architectural design that incorporates public art (murals) and utilitarian building materials that blend with the warehouse and industrial buildings in the immediate neighborhood.

7. The Project's paseos will create cut-throughs in the large block, providing a finer grain pedestrian connection between live/work projects to the south, north, and east.

8. The Project will provide a total of approximately 48,074 sf of open space, of which approximately 14,537 square feet would be publically-accessible and common open spaces, and approximately 23,974 square feet of additional common open space for residents, as well as 1,500 square feet of private open space and 4,612 square feet of recreational and fitness facilities for the residents, and contain approximately 5,580 square feet of planted landscaping, replacing the currently existing development, which includes massive, blank walls along the street interface, barbed wire and chain-link fencing, one non-protected tree on the Project Site and two non-

protected trees on the street right-of-way, and overhead utility lines including a large transformer on the corner of S. Alameda Street and Industrial Street, thereby providing for both private and public open space amenities that benefit the residents and the community as well as the City and beautify the Project Site.

9. The Project's 61,000 square feet of ground floor commercial uses will provide a full service 15,102 square foot grocery store, 15,815 square feet of commercial/arts and production space, 16,140 square feet of restaurant space, and 9,943 square feet of neighborhood serving commercial/retail uses that meet the needs of the Art District's existing and future residents.

10. The Project will be located within a transit priority area consistent with CEQA's 2016 RTP/SCS regional mobility goals that encourage land use and growth patterns that facilitate transit use, including the concentration of urban development near transit, thereby meeting the housing needs of the region while reducing overall vehicle trips, congestion, and energy demand.

11. The Project will incorporate Project Design Features, such as PDF-GHG-1 (Green Building Measures), PDF-AQ-1 and PDF-AQ-2 (Construction Measures), PDF-NOISE-2 (Anti-idling Measure) and land use characteristics that will reduce vehicle miles traveled through increased density, location efficiency, increased land use diversity and mixed uses, increased destination accessibility, increased transit accessibility, and pedestrian network improvements.

12. The Project will incorporate various Green Building/Sustainability features to enhance air quality and support Los Angeles' sustainability goals and policies. The Project will be designed to meet the Leadership in Energy and Environmental Design (LEED) Silver Building Rating System standards to reduce energy consumption. The Project has committed to design features which comply with the City's Green Building Code that builds upon and sets higher standards than those incorporated into the 2010 California Green Building Standards Code. Some of the Project's key design features that contribute to energy efficiency include:

- Construction waste management plan to divert all mixed construction and demolition debris to City certified construction and demolition waste processors;
- Energy efficient appliances that meet the USEPA ENERGY STAR rating standards or equivalent;
- Low-flow water fixtures that meet the USEPA WaterSense standards or equivalent;
- On-site recycling areas;
- Provision of at least 20 percent of the total code required parking spaces will be capable of supporting future electric vehicle supply equipment (EVSE) and 5 percent of those spaces will have EV chargers at Project completion;
- Double paned windows;
- No indoor fireplaces in residential units;
- Programmable thermostats;
- Motion sensors in common areas;

- Water efficient landscaping through drought tolerant plantings using California native plants, irrigation system efficiency and/or smart irrigation systems and/or alternative water supplies;
- Alternative transportation features including bicycle storage, a changing room, and preferred parking for low-emitting and fuel efficient vehicles;
- Use of glass/window areas for ventilation and daylight accessibility;
- Use of low albedo (high reflectivity) color paving to reduce heat island effect;
- Stormwater retention system;
- Heating, ventilation, and air conditioning (HVAC) systems that utilize ozone-friendly refrigerants; and
- Use of materials and finishes that emit low quantities of VOCs.

13. In addition, the development and use of the Project will accomplish the Project Objectives described in the EIR, by accomplishing the following:

- Developing an economically viable infill mixed-use development that combines live/work housing, commercial/retail, arts and production space, a grocery store, and restaurant uses, within a transit priority area proximate to public transportation consistent with regional mobility goals to reduce vehicle trips and infrastructure costs.
- Providing 475 housing units, including affordable housing, to serve a range of potential renters and help meet the market demand for new housing in the City of Los Angeles by providing new housing for an estimated 1,520 people.
- Creating an urban project that is compatible with and complimentary to currently ongoing growth in the resident population of the Arts District.
- Providing for the development of an underutilized site with approximately 526,101 square feet of new housing and 61,200 square feet of new commercial uses to meet anticipated market demands.
- Contributing to the unique character of the Arts District through a Project that attracts a wide spectrum of creative users and artists; provides arts/production/gallery space; and, contributes to a lively pedestrian environment through public art and façade treatments (such as murals), ground-level retail space, and publicly accessible streetscapes and paseos with landscaping, seating, kiosks and art of different mediums.
- Creating a development that complements and improves the visual character of the area by connecting with the surrounding urban environment through landscaped open space, street trees, and a high level of architectural design that incorporates public art and utilitarian building materials that blend with the warehouse and industrial buildings in the immediate neighborhood.

- Providing a grocery store and neighborhood serving retail uses that meet the needs of the Art District's existing and future residents.
- Creating an estimated 300 to 350 construction jobs (during peak construction activity), and based on conservative estimates approximately 139 net new permanent jobs through construction and operation of a new mixed-use development compared to the existing 27 jobs currently on-site.
- Providing joint live/work spaces and creative commercial uses that expand the local economy, support the business environment, and aid in the retention and attraction of new businesses to the community.
- Creating a development with a high quality design that supports environmental sustainability through infill development within a transit priority area that incorporates such features as a cool roof; electric vehicle chargers and "EV ready" vehicle spaces; energy efficient appliances; water efficient plumbing fixtures; and water-efficient landscaping.

Providing improvements that support and encourage the use of nearby public transit lines and the use of bicycles, walking, and other modes of alternative transportation in an infill urban location with extensive infrastructure, through inclusion of such Project elements as, without limitation, 269 bicycle parking spaces for commercial and residential use, personal lockers long-term bicycle parking associated with commercial uses, a bicycle workspace of approximately 100 square feet, including a work table, bike pump, bike stand and tools for bike repair, construction of approximately 11,907 square feet of two intersecting shaded landscaped walkway paseos on the ground level that provide a key connection that is accessible to the public between Industrial Street and Mill Street as well as seating, public art and kiosks to encourage walking through the neighborhood, and implementation of an art Mews. The Project Applicant shall implement a comprehensive Transportation Demand Management program to promote non-auto travel and reduce single-occupant vehicle trips by a minimum of ten percent.

Finding. For all the foregoing reasons, the City finds that the benefits of the Project, as approved, outweigh and override the significant and unavoidable impacts identified above.

PUBLIC HEARING AND COMMUNICATIONS

Public Hearing

A public hearing was held at City Hall for the proposed project entitlements on May 22, 2018 and was attended by approximately 20 individuals. At the public hearing, testimony was provided by the project applicant and eight speakers, with the following groups represented: Para Los Ninos Charter Elementary School, Street Arthouse and Iron Triangle Brewery.

Summary of Public Hearing Testimony

At the hearing, the project applicant presented the project features and outlined the extensive public outreach, specifically a commitment to build a project that fits the contextual setting of the Arts District. The applicant outlined the changes to the project as a response to community outreach. The applicant explained the project's compatibility with the City's goals for economic development, housing and land use.

5 local residents spoke in support of the project.

Support

- Providing housing for low income residents
- Adding green space and community centers
- Attractive looking projects that fits in the Arts District
- Housing for artists needed
- Live-work spaces cut down on travel and have space for artist collaboration
- Project will create a sense of community

Two local business owners in the community, Street Arthouse and Iron Triangle Brewery, spoke in favor of the project.

- Project will bring new life to the area.
- Residential options in area needed
- Project will bring commercial and retail activity to area

A local stakeholder, Para Los Ninos Charter Elementary School, spoke against the project.

- Concern about environmental impacts during demolition and construction
- School is adjacent to project
- Opposes all entitlements to project until discussions on mitigation reach a satisfactory conclusion.

Communications Received

One letter of support was received for the project from Abundant Housing LA.

Two letters against the project were received, including a letter from Para Los Ninos Charter Elementary School, echoing the sentiments against the project summarized above.

Additional public comments regarding the Draft Environmental Impact Report (EIR) for the project are addressed in the Final EIR:

<https://planning.lacity.org/eir/668SoAlamedaStreet/FEIR/New%20Text%20Document.html>



SHEET NUMBER		SHEET NAME	
01 GENERAL			
G001	VICINITY/LOCATION MAPS		
G003	PROJECT DATA		
G020	EXISTING SITE PHOTOGRAPHS INDEX MAP		
G021	ADJACENT PHOTOGRAPHS OF SITE		
G022	EXISTING SITE PHOTOGRAPHS		
02 ARCHITECTURAL			
A000	ARCHITECTURAL NOTATIONS		
A001	BUILDABLE AREA		
A005	PLOT PLAN		
A051	SITE PLAN		
A054	CONCEPTUAL SITE PLAN		
A091	RENDERING		
A092	RENDERING		
A093	RENDERING		
A094	RENDERING		
A110	LEVEL 01 - OVERALL FLOOR PLAN		
A111	LEVEL 02 - OVERALL FLOOR PLAN		
A112	LEVEL 03 - OVERALL FLOOR PLAN		
A113	LEVEL 04 - OVERALL FLOOR PLAN		
A114	LEVEL 05 - OVERALL FLOOR PLAN		
A115	LEVEL 06 - OVERALL FLOOR PLAN		
A116	LEVEL 07 - OVERALL FLOOR PLAN		
A11	OVERALL ROOF PLAN		
A118	LEVEL P1 - OVERALL FLOOR PLAN		
A119	LEVEL P2 - OVERALL FLOOR PLAN		
A120	LEVEL P3 - OVERALL FLOOR PLAN		
A201	EXTERIOR BUILDING ELEVATIONS - OVERALL		
A251	BUILDING SECTIONS		
A252	BUILDING SECTIONS		
A260	BUILDING MATERIALS		
A261	PEDESTRIAN/VEHICULAR CIRCULATION		
A802	SITE CIRCULATION DIAGRAM		
A803	DEDICATION KEY PLAN		
A804	STREET PLAN/SECTION DIAGRAMS		
03 LANDSCAPE			
L001	OPEN SPACE CALCULATIONS		
L002	EXISTING TREE SURVEY		
L003	OPEN SPACE CONCEPTS - THE MEWS		
L004	OPEN SPACE CONCEPTS - THE LANDINGS		
L005	OPEN SPACE CONCEPTS - THE LOOKOUT		
L006	OPEN SPACE CONCEPTS - THE HUB		
L007	OPEN SPACE CONCEPTS - THE FOUNDRY		
L008	OPEN SPACE CONCEPTS - THE WELL		
L110	LEVEL 01 - LANDSCAPE PLAN		
L111	LEVEL 02 - LANDSCAPE PLAN		
L112	LEVEL 02 - LANDSCAPE ENLARGED PLAN		
L113	LEVEL 02 - LANDSCAPE ENLARGED PLAN		
L114	LEVEL 02 - LANDSCAPE ENLARGED PLAN		
L115	LEVEL 02 - LANDSCAPE ENLARGED PLAN		
04 CIVIL			
C110	DEMOLITION PLAN		
C130	CONCEPTUAL GRADING PLAN		
C140	UTILITY PLAN		

AVA ARTS DISTRICT

668 S ALAMEDA ST
LOS ANGELES, CA 90021 Project No: 25.

[illegible]

COVER SHEET

GOOO



1 VICINITY MAP
NOT TO SCALE

GENERAL NOTES

SHEET NOTES

LEGEND



R&A
4200 SEPULVEDA BLVD, STE 104, CULVER CITY, CA 902302
P.310.730.6698
ARCHITECT
KPFF
700 S. FLOWER STREET, STE 2100, LOS ANGELES, CA 90017
P.213.418.0201
CIVIL
RCH
630 N. LARCHMONT BLVD, STE 100, LOS ANGELES, CA 90004
P.325.785.1900
LANDSCAPE

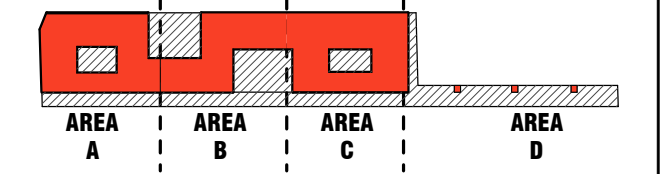
AVA ARTS DISTRICT

668 S ALAMEDA ST
LOS ANGELES, CA 90021
PROJECT NO: 253

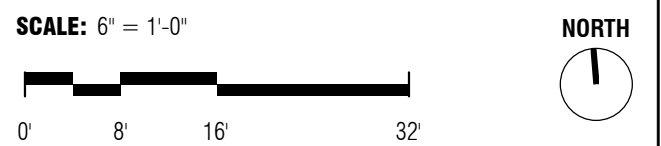
CPC-2016-3575-GPA-VZC-HD-MCUP-DB-SPR-WDI

#	DESCRIPTION	DATE ISSUED
1	100% SCHEMATIC DESIGN	FEB. 01, 2017
2	ENTITLEMENT	FEB. 01, 2017
3	SD SET FOR REVIEW	SEP. 07, 2017
4	ISSUE FOR PRELIMINARY PRICING	SEP. 29, 2017
5	CPC EXHIBIT A	JULY 12, 2018

KEY PLAN



PRELIMINARY
NOT FOR
CONSTRUCTION



VICINITY/LOCATION MAPS

G001

REQUIREMENTS AND DEFINITIONS

REGIONAL CENTER COMMERCIAL (C2-2 DENSITY)

1- 162,390 SF X 4.5 FAR = 730,755 SF OF TOTAL FLOOR AREA; 162,390 SF / 200 SF PER DWELLING UNITS = 812 UNITS

BIKE PARKING

2- PER ORDINANCE NO. 182386, (LAMC §12.21.A.16 a 1 & 2)

ELECTRIC VEHICLE REQUIREMENTS

3- PER LAMC §99.04.106.4.2 AND §99.05.106.5.3
4- NOT USED

OPEN SPACE REQUIREMENTS

5- SEE SHEET L001 FOR FULL OPEN SPACE CALCULATIONS
6- PER LAMC §12.21.G.2
(54 UNITS X 100 SF) + (167 UNITS X 100 SF) + (208 UNITS X 125 SF) + (44 UNITS X 175 SF) + (2 UNITS X 175 SF) = 56,500 SF REQUIRED
DB INCENTIVE 20% REDUCTION= 45,200 SF REQUIRED

PLANTING REQUIREMENT

7- PER LAMC §12.21.G.2
25% OF COMMON OPEN SPACE IS TO BE PLANTED

TREE REQUIREMENT

8- PER LAMC §12.21.G.2
MINIMUM OF (1) 24 INCH BOX TREE PER 4 UNITS REQUIRED
475/4 = 119 TREES

FAR CALCULATIONS

9- PER LABDS INFORMATION BULLETIN: DOCUMENT NO. P/BC 2002-021 - CALCULATING FAR
PER LABDS CASE NO. ZA 2007-3430 - CALCULATING BALCONIES AS FAR

RESIDENTIAL PARKING REQUIREMENTS

10- PARKING: 1 STALL PER STUDIO OR 1 BEDROOM, 2 STALL PER 2 BEDROOM OR 3 BEDROOM - DENSITY BONUS OPTION 1
COMMERCIAL PARKING - LAMC SECTION 12.21A4(x)(3) EXCEPTION FOR ENTERPRISE ZONE (ADDED BY ORDINANCE NO. 165,873, EFF 5/21/90.)
ENTERPRISE ZONE AS DEFINED IN SECTION 12.21.4 OF THE LAMC. (AMENDED BY ORD. NO. 177,103, EFF 12/18/05.)
OFFICE, BUSINESS, RESTAURANT, RETAIL, BAR, GALLERY, HOTEL ASSEMBLY = 2 STALLS PER 1,000 SF

PROJECT SUMMARY

SUMMARY	
Existing Zone	M3-1, HEAVY MANUFACTURING
Proposed Zone	C2-2, REGIONAL CENTER COMMERCIAL
Total Proposed Floor Area	577,301 sf
Total Lot Area (ZIMAS)	163,381.2 sf
Pre-dedication	163,379 sf
Post-dedication	162,562 sf
FAR	3,551
Total Number of Dwelling Units Allowed ¹	812
Total Number of Dwelling Units Provided	475
Total Number of Parking Provided	842
Total Number of Bike Parking Provided	269

PARKING CALCULATIONS					BICYCLE ²				
	PARKING								
	PARKING RECOMMENDED	TOTAL PROVIDED	ADA	FEV ³	EV CHARGER READY	SHORT TERM REQUIRED	SHORT TERM PROVIDED	LONG TERM REQUIRED	LONG TERM PROVIDED
Residential	728	728	16	36		19	19	194	194
Non-Residential	114	114	6	7		28	28	28	28
Project Total	842	842	22	43	168	47	47	222	222

TOTAL LIVE / WORK UNITS IN PROJECT			
	COUNT	FLOOR AREA	AVG
Live / Work Studio Units	50	28,567 sf	
Live / Work 1 bdrm Units	172	116,619 sf	
Live / Work 2 bdrm Units	214	226,779 sf	
Live / Work 3 bdrm Units	39	53,008 sf	
Project Total	475	424,973 sf	895 sf

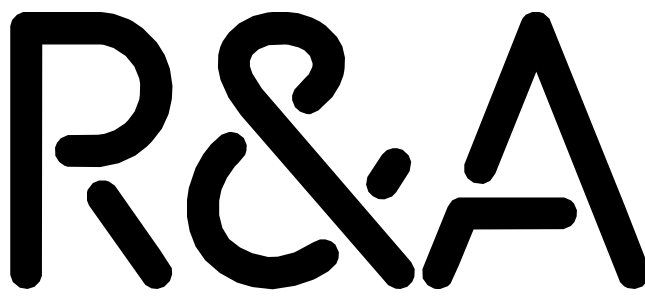
LIVE / WORK OPEN SPACE REQUIREMENTS ⁵		
	REQUIRED	PROVIDED
Open Space ⁶	44,620 sf	44,623 sf
Planting ⁷	5,485 sf	7,493 sf
Trees ⁸	119	119

PROJECT SUMMARY OF ALL PROGRAM BY USE

PROGRAM	UNIT COUNT	AVG UNIT SIZE	NET AREA	FAR FLOOR AREA ⁹	OPTION A - DENSITY BONUS (PARKING RECOMMENDED) ¹⁰	OPTION B - CONDOMINIUMS ¹¹	PARKING PROVIDED
LIVE / WORK							
Live / Work Studio Units	50	571 sf	28,567 sf		50	125	50
Live / Work 1 bdrm Units	172	678 sf	116,619 sf		172	430	172
Live / Work 2 bdrm Units	214	1,060 sf	226,779 sf		428	535	428
Live / Work 3 bdrm Units	39	1,359 sf	53,008 sf		78	97.5	78
Clubroom Area			2,223 sf				
Fitness Area			2,389 sf				
Lobby			1,645 sf				
Gallery			606 sf				
SUPPORT (INCLUDED IN FAR) ⁹							
Electrical			2,392 sf				
Janitor's Closet			391 sf				
Service			2,913 sf				
Total			437,534 sf	516,101 sf	728	1188	728

COMMERCIAL							
Commerical			9,943 sf		20	20	
Commerical/ Arts And Production			15,815 sf		32	32	
Grocery Store Tenant			15,102 sf		30	60	
Restaurant			16,140 sf		32	32	
Total			57,000 sf		114	144	114
SUPPORT (INCLUDED IN FAR) ⁹							
Trash Room			3,466 sf				
Total				61,200 sf			
GRAND TOTAL				577,301 sf	842	1332	842

SUPPORT (NOT INCLUDED IN FAR) ⁹							
Electrical Rooms			2,299 sf				
IDF Closets			365 sf				
Long Term Bike Parking			5,833 sf				
Generator Room			1,671 sf				
Fan Room			3,869 sf				
Fire Pump Room			1,828 sf				
Maintenance Room			2,111 sf				
Pump Room			275 sf				
Storage Tank			716 sf				
Janitors Closet			587 sf				
Service			3,100 sf				
DWP Service			2,190 sf				
Storage			9,798 sf				



R&A
4200 SEPULVEDA BLVD, STE 104, CULVER CITY, CA 902302
P.310.730.6698

ARCHITECT

KPFF
700 S. FLOWER STREET, STE 2100, LOS ANGELES, CA 90017
P.213.418.0201

CIVIL

RCH
630 N. LARCHMONT BLVD, STE 100, LOS ANGELES, CA 90004
P.323.785.1900

LANDSCAPE

AVA ARTS DISTRICT

668 S ALAMEDA ST
LOS ANGELES, CA 90021

PROJECT NO: 253

CPC-2016-3575-GPA-VZC-HD-MCUP-DB-SPR-WDI

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SD SET FOR REVIEW		SEP. 07, 2017
ISSUE FOR PRELIMINARY PRICING		SEP. 29, 2017
CPC EXHIBIT A		JULY 12, 2018

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CONSTRUCTION

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PROJECT DATA

G003

AVA ARTS DISTRICT

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PROJECT NO: 253

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EXISTING SITE PHOTOGRAPHY INDEX MAP

G020



1 SITE PHOTOGRAPHY INDEX

1" = 60'-0" RE: 1/145



1 SOUTH EAST
NOT TO SCALE



3 NORTH WEST
NOT TO SCALE



2 SOUTH WEST
NOT TO SCALE



4 NORTH EAST
NOT TO SCALE



AVA ARTS DISTRICT

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5 MILL AND 7TH

12" = 1'-0" RE: /



9 7TH STREET LOOKING NORTH

12" = 1'-0" RE: /



10 ALAMEDA AND 7TH

NOT TO SCALE



6 INDUSTRIAL AND MILL

12" = 1'-0" RE: /



11 ALAMEDA AND INDUSTRIAL LOOKING SOUTH

12" = 1'-0" RE: /



7 MILL LOOKING WEST

12" = 1'-0" RE: /



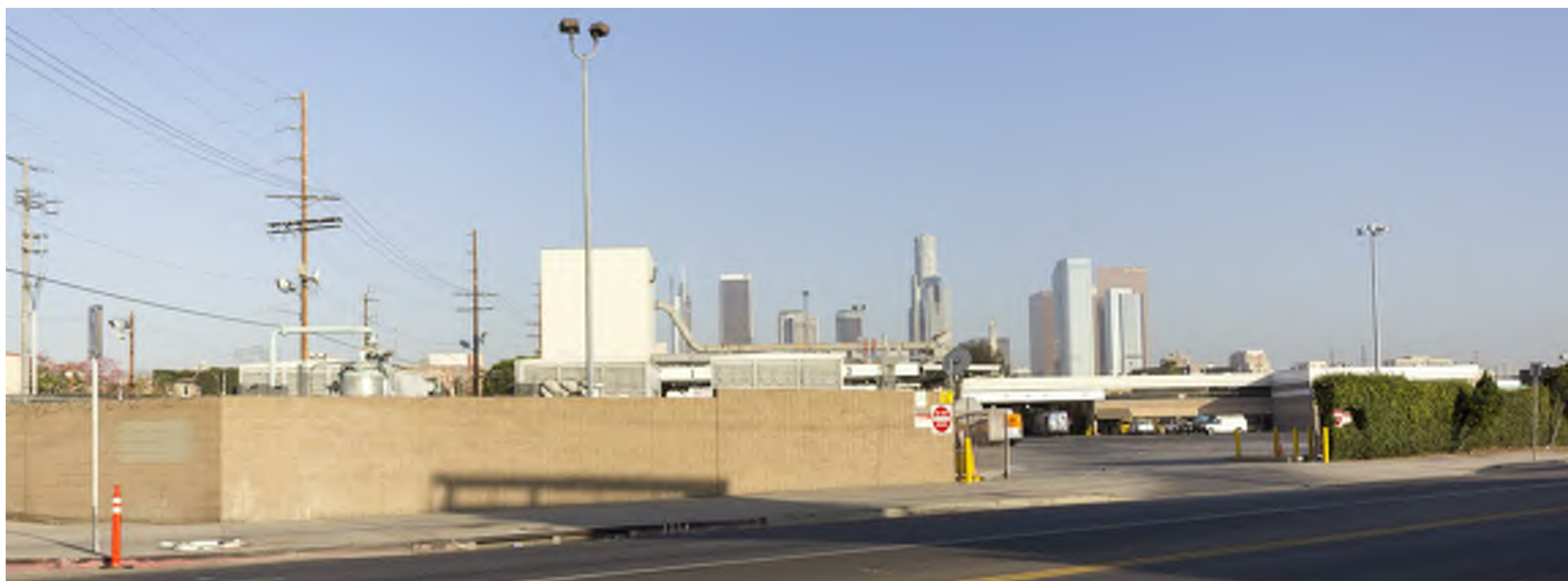
12 ALAMEDA LOOKING SOUTHWEST

12" = 1'-0" RE: /



8 7TH STREET LOOKING SOUTHWEST

12" = 1'-0" RE: /



13 ALAMEDA LOOKING NORTHWEST

12" = 1'-0" RE: /

R&A

ARCHITECT
4200 SEPULVEDA BLVD, STE 104, CULVER CITY, CA 90230
P.310.730.6698

CIVIL
KPFF
700 S. FLOWER STREET, STE 2100, LOS ANGELES, CA 90017
P.213.418.0201

LANDSCAPE
ROH
630 N. LARCHMONT BLVD, STE 100, LOS ANGELES, CA 90004
P.323.785.1800

AVA ARTS DISTRICT

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EXISTING SITE PHOTOGRAPHS

G022



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P.310.730.6698

ARCHITECT

KPFF
700 S. FLOWER STREET, STE 2100, LOS ANGELES, CA 90017
P.213.416.0201

CIVIL

RCH
630 N. LARCHMONT BLVD, STE 100, LOS ANGELES, CA 90004
P.325.785.1800

LANDSCAPE

AVA ARTS DISTRICT

668 S ALAMEDA ST
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PROJECT NO: 253

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ARCHITECTURAL NOTATIONS


A000

01 GENERAL

- 

COLUMN LINE /GRID INDICATOR
- 

BENCHMARK/FLOOR ELEVATION SYMBOL
- 

NORTH ARROW
- 

WALL/BUILDING ELEVATION SYMBOL
- 

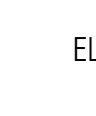
BUILDING SECTION SYMBOL
- 

WALL SECTION/DETAIL SECTION SYMBOL
- 

DETAIL REFERENCE SYMBOL
- 

REVISION INDICATOR
- 

TEXTNOTE SYMBOL
- 

FLOOR SLAB ELEVATION
- 

STAIR TAG
- 

FLOOR TAG
- 

SPOT ELEVATION SYMBOL
- 

ROOM TAG SYMBOLS
- 

PARTITION TYPE SYMBOL
- 

DOOR SYMBOL
- 


WINDOW SYMBOL
- 

CURTAIN/SYSTEM PANEL SYMBOL
- 

CEILING HEIGHT SYMBOL
- 

FINISH TAG SYMBOL
- 

LANDSCAPE TAG SYMBOL
- 

FURNITURE TAG
- 

FURNITURE SYSTEMS TAG

Type Name
Gross Floor Area

OR

Room Name
150 SF

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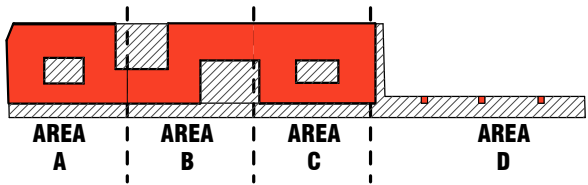
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KEY PLAN

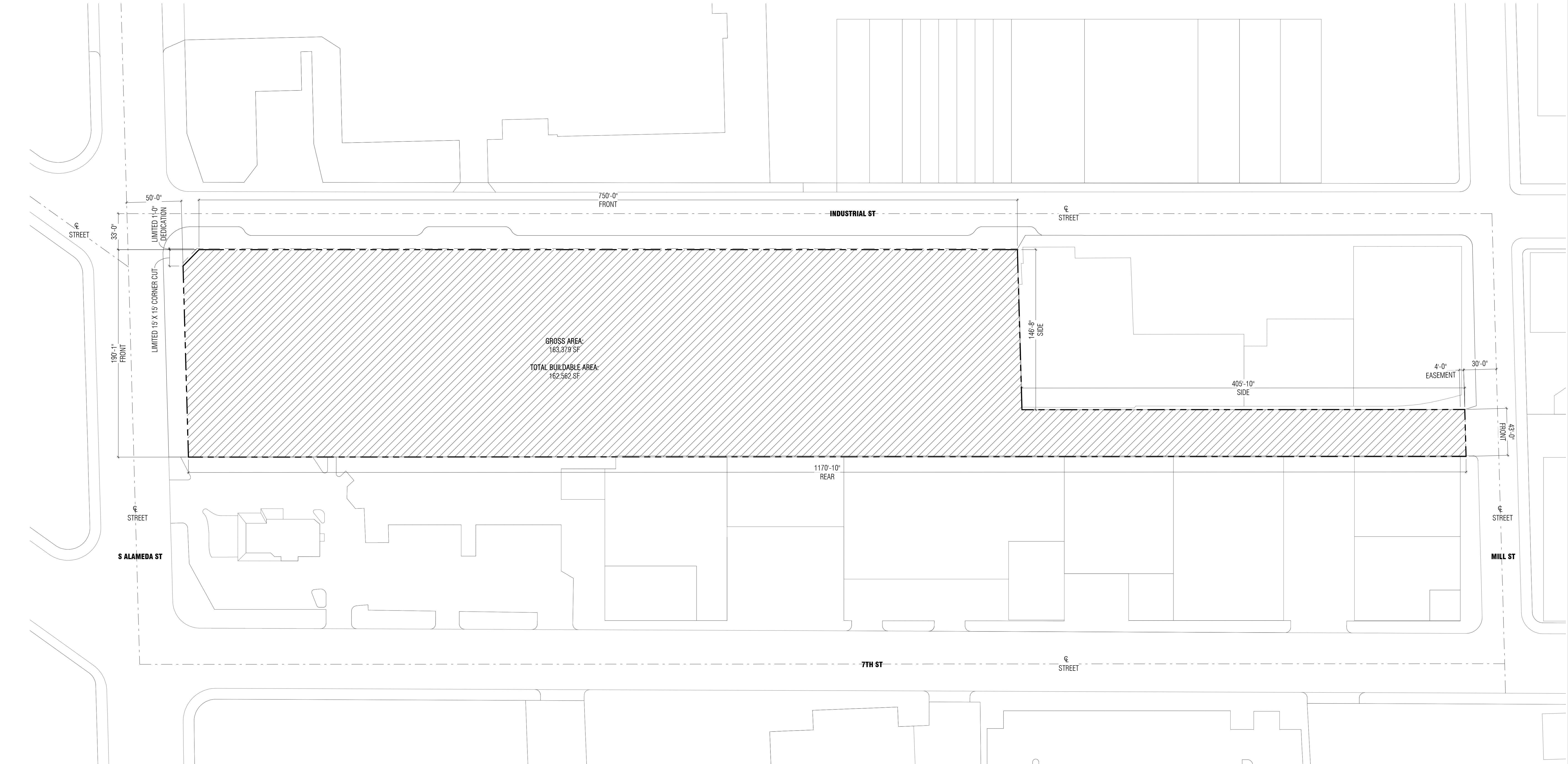


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BUILDABLE AREA

A050



1 BUILDABLE AREA
1" = 40'-0" RE: 1/145

GENERAL NOTES

SHEET NOTES

YARD SETBACKS:	REQUIRED:	PROVIDED:
COMMERCIAL USES, GROUND LEVEL:		
ALAMEDA ST (FRONT YARD)	0'-0"	0'-0"
INDUSTRIAL ST (FRONT YARD)	0'-0"	0'-0"
MILL ST (FRONT YARD)	0'-0"	0'-0"
MILL ST (SIDE YARD)	N/A	N/A
EAST SIDE PASEO & MEWS (SIDE YARD)	0'-0"	15'-7"
SOUTH ALLEY (REAR YARD)	0'-0"	28'-0"
RESIDENTIAL USES, LEVELS 02-07:		
INTERIOR LOT LINES (NOT FACING STREETS)		
SIDE YARD	10'-0"	15'-7"
REAR YARD	19'-0"	28'-0"

LEGEND

---	POST-DEDICATION PROPERTY LINE
---	PRE-DEDICATION PROPERTY LINE (EXISTING)
---	SETBACK

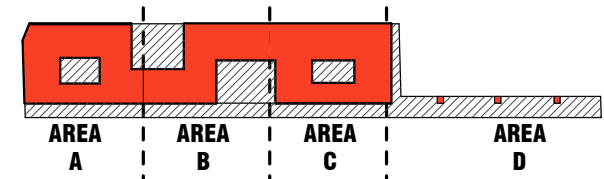
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KEY PLAN

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SCALE: 1" = 40'-0"

0' 20' 40' 80'



PLOT PLAN

A051

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1 PLOT PLAN

1" = 40'-0" RE: 1/145

GENERAL NOTES

- FOR F.A.R., PARKING REQUIREMENT & OUTDOOR SPACE REQUIREMENT SEE SHEET G003.
- FOR PROPOSED SETBACKS AND EXISTING R.O.W. SEE SHEET A050.
- FOR DEMOLITION SEE SHEET C1.10.
- FOR EXISTING TREE PROTECTION SEE SHEET C002.
- FOR OPEN SPACE, LANDSPACE, & TREE CALCULATIONS SEE L001.

SHEET NOTES

LEGAL DESCRIPTION

TRACT: CITY LANDS OF LOS ANGELES, M R 2-504/505 PAT 3-64/65
INDUSTRIAL M B 5-56BLOCK: NONE
LOT: FR F, PT "UNNUMBERED LT"APN: 5164 - 023 - 020
5164 - 023 - 015
5161 - 023 - 004
5164 - 023 - 016
5164 - 023 - 019
5164 - 023 - 021
5164 - 023 - 022
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5164 - 022 - 005
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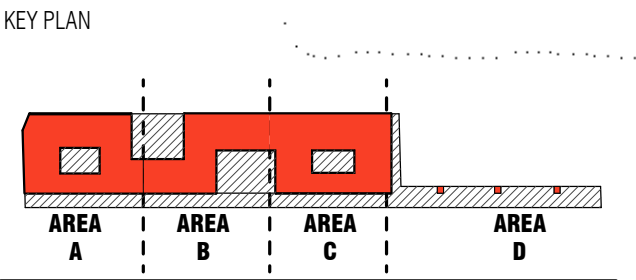
LEGEND

PROPOSED LIVE/WORK, COMMERCIAL GROCERY, ARTS AND PRODUCTION SPACE, RESTAURANT	POST-DEDICATION PROPERTY LINE
EXTENT OF PROPOSED SUBTERRANEAN PARKING GARAGE, SEE SHEET A805	PRE-DEDICATION PROPERTY LINE (EXISTING)
	SETBACK
	TO BE DEMOLISHED

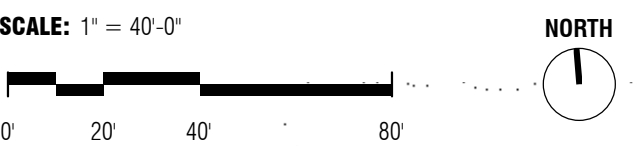
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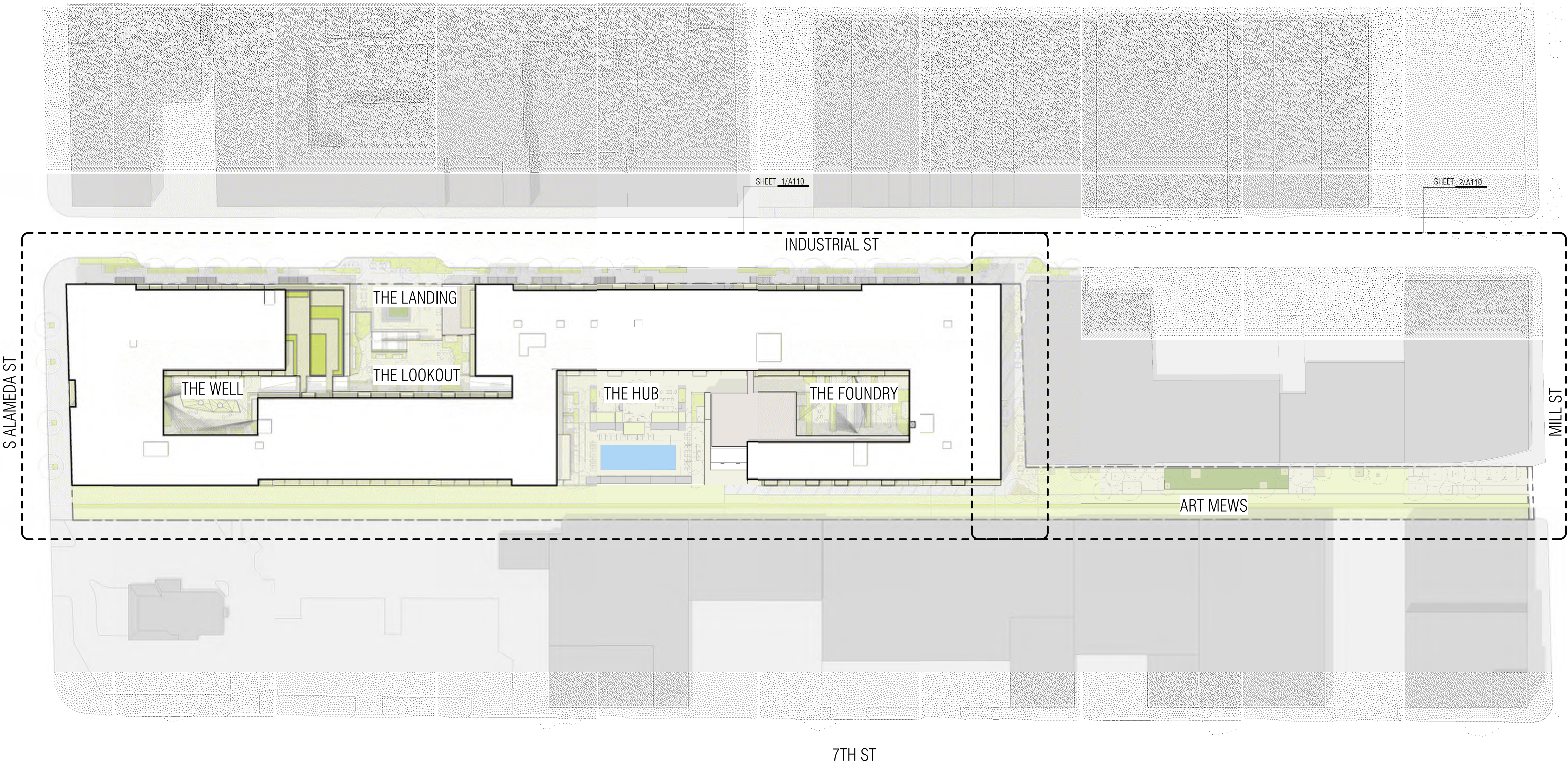
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SITE PLAN
A053



1 SITE PLAN
1" = 40'-0" RE: 1/145

GENERAL NOTES

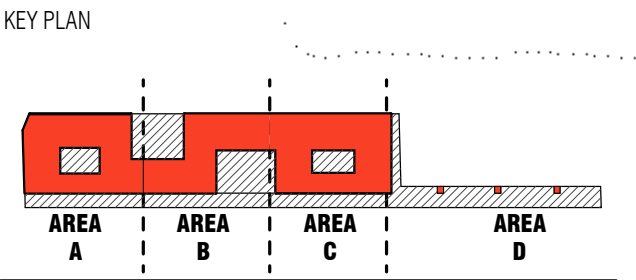
SHEET NOTES

LEGEND

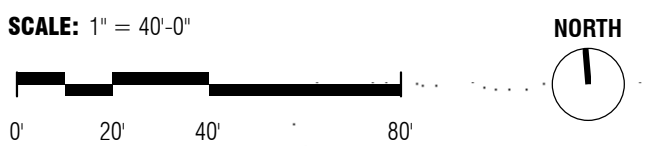
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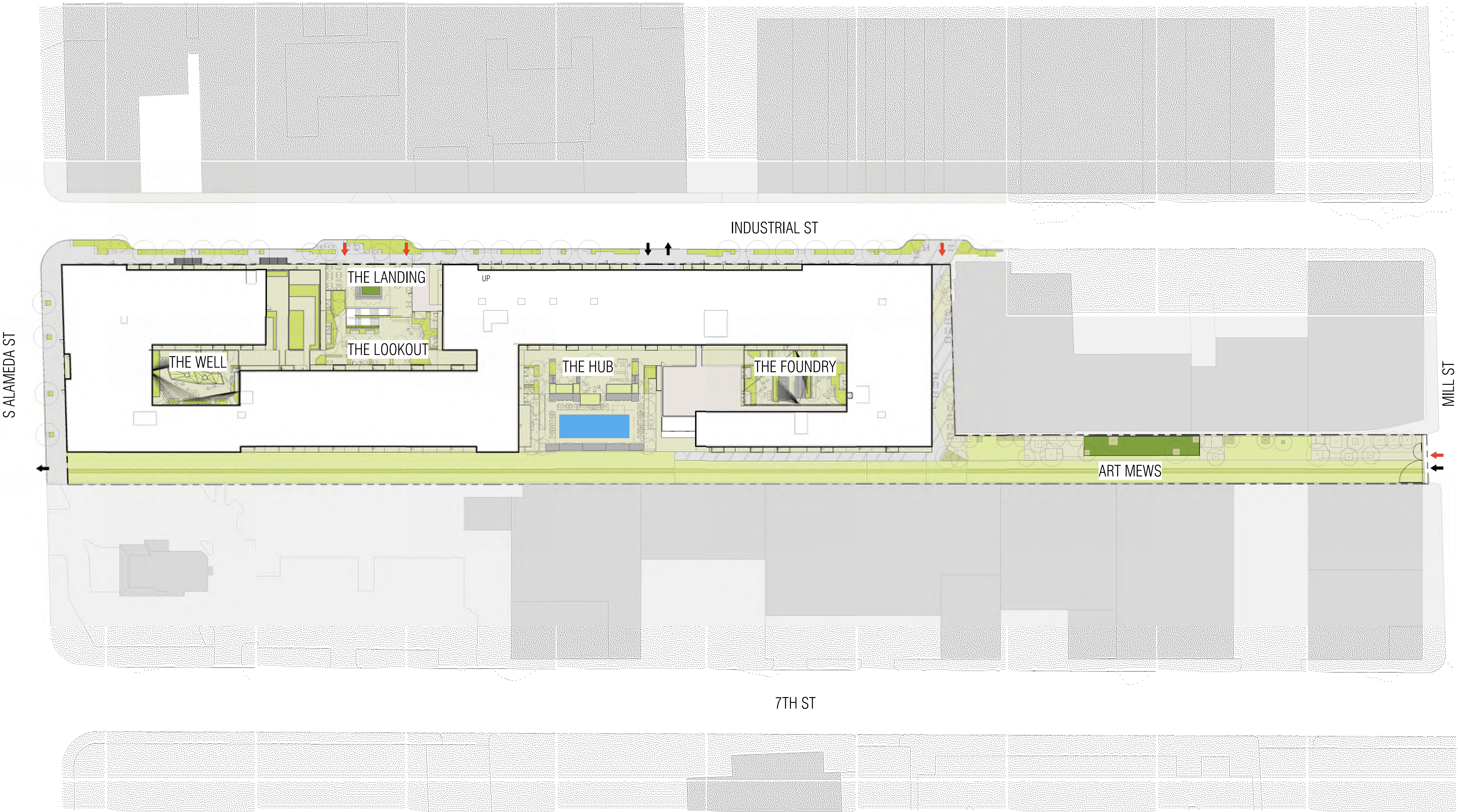
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CONCEPTUAL SITE PLAN
A054



1 CONCEPTUAL SITE PLAN

1" = 40'-0" RE: 1/145

GENERAL NOTES

SHEET NOTES

LEGEND

- EXISTING BUILDING
- PEDESTRIAN ENTRY POINTS
- VEHICULAR ENTRY/EXIT POINTS

AVA ARTS DISTRICT

668 S ALAMEDA ST
LOS ANGELES, CA 90021
PROJECT NO: 253

CPC-2016-3575-GPA-VZC-HD-MCUP-DB-SPR-WDI

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SCALE: NOT TO SCALE

RENDERING

A091



1 VIEW OF THE LANDING ALONG INDUSTRIAL

AVA ARTS DISTRICT

668 S ALAMEDA ST
LOS ANGELES, CA 90021

PROJECT NO: 253

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RENDERING

A092



1 VIEW OF THE ART MEWS FROM MILL STREET

12" = 1'-0" RE: /

RCH

630 N. LARCHMONT BLVD, STE 100, LOS ANGELES, CA 90004

P.325.785.1800

LANDSCAPE

AVA ARTS DISTRICT

668 S ALAMEDA ST
LOS ANGELES, CA 90021

PROJECT NO: 253



1 INTERIOR VIEW OF A TYPICAL 2 BEDROOM LIVE/WORK

1/2" = 1'-0" RE: /

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CONSTRUCTION

SCALE: NOT TO SCALE

RENDERING

A093



1 CORNER VIEW INDUSTRIAL ST / ALAMEDA ST
1/2" = 1'-0" RE: /

AVA ARTS DISTRICT

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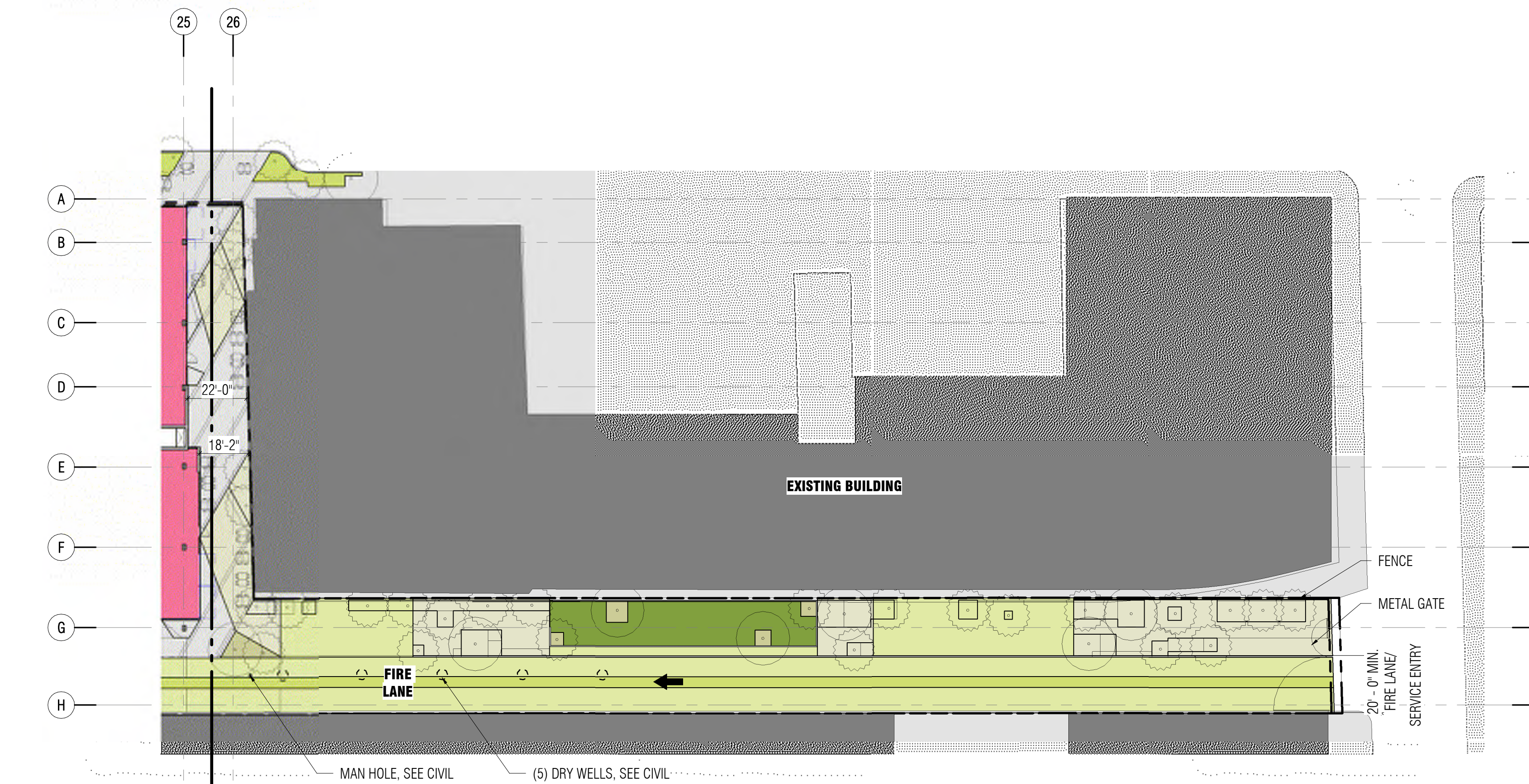
RENDERING

A094

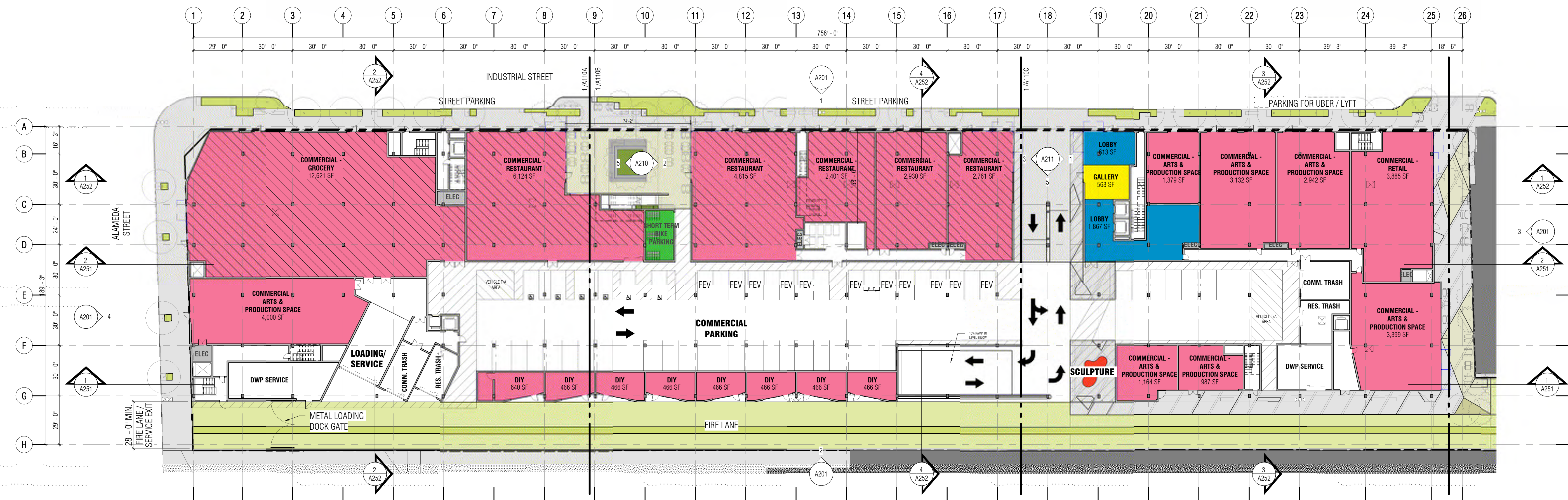
AVA ARTS DISTRICT

668 S ALAMEDA ST
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PROJECT NO: 253



2 LEVEL 01 - AREA D
1/32" = 1'-0" RE: 1/145



1 LEVEL 01 - AREA A, B, C - OVERALL FLOOR PLAN
1/32" = 1'-0" RE: 1/145

GENERAL NOTES

1. APPLICANT IS REQUESTING A MASTER CUP FOR A FULL LINE OF ALCOHOL FOR OFF-SITE CONSUMPTION FOR ONE ESTABLISHMENT UP TO 12,621 SF; AND FOR ON-SITE CONSUMPTION FOR UP TO FIVE ESTABLISHMENTS, UP TO 17,019 SF

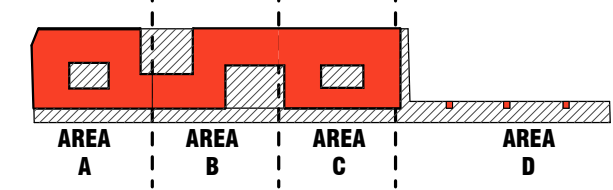
SHEET NOTES

1. SEE L SHEETS FOR LANDSCAPE
2. CEILING HEIGHT IS TO UNDERSIDE OF STRUCTURE

LEGEND

- COMMERCIAL - ARTS & PRODUCTION SPACE
- COMMERCIAL - GROCERY
- COMMERCIAL - RESTAURANT
- COMMERCIAL - RETAIL
- LOBBY
- GALLERY
- DIY
- SHORT TERM BIKE PARKING
- ELEC
- AREA TO BE USED FOR THE SALE AND OFF-SITE CONSUMPTION OF ALCOHOLIC BEVERAGES, SEE GENERAL NOTE 1
- EXISTING FIRE HYDRANT (SEE CIVIL)
- NEW FIRE HYDRANT
- EV ELECTRIC VEHICLE CHARGING STATION
- FEV FUTURE ELECTRICAL CHARGING STATION
- SLAB BREAK

KEY PLAN



**PRELIMINARY
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CONSTRUCTION**



LEVEL 01 - OVERALL FLOOR PLAN

A110

AVA ARTS DISTRICT

668 S ALAMEDA ST
LOS ANGELES, CA 90021 PROJECT NO: 253



1 LEVEL 02 - AREA A, B, C - OVERALL FLOOR PLAN
1/32" = 1'-0" RE: 1/145

GENERAL NOTES

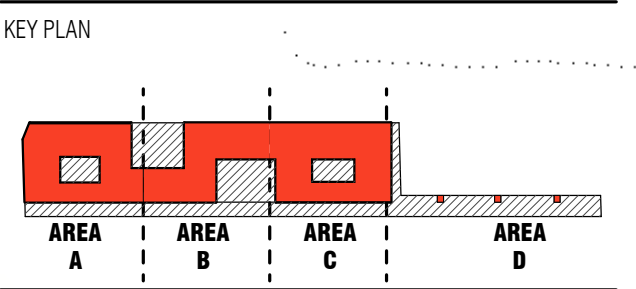
SHEET NOTES

- SEE L SHEETS FOR LANDSCAPE FOR TYPICAL LIVE/WORK UNIT PLANS
L/W 0: SEE SHEET A501
L/W 1: SEE SHEET A502 - A504
L/W 2: SEE SHEET A504 - A505
L/W 3: SEE SHEET A505 - A507

LEGEND

- ACCESSIBLE RESTROOM
- L/W 0
- L/W 1
- L/W 2
- L/W 3
- CLUBROOM
- FITNESS
- IDF
- ELEC
- JANITORS CLOSET
- SERVICE
- RENTABLE STORAGE
- CIRCULATION - EXTERIOR
- CIRCULATION - INTERIOR

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CONSTRUCTION



LEVEL 02 - OVERALL FLOOR PLAN
A111

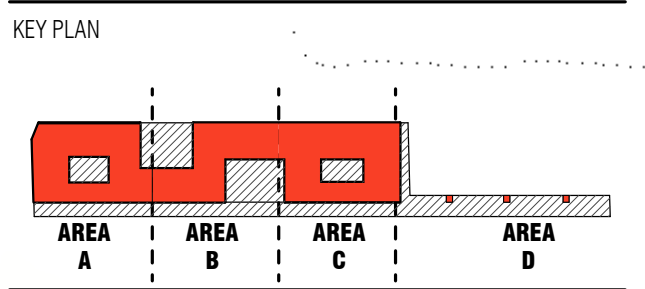
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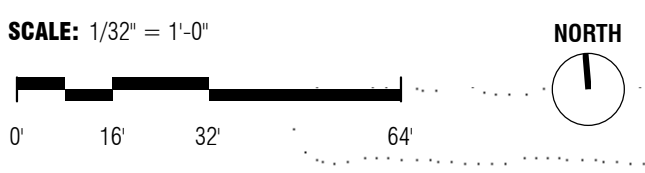
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#	DESCRIPTION	DATE ISSUED
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2	ENTITLEMENT	FEB. 01, 2017
3	SD SET FOR REVIEW	SEP. 07, 2017
4	ISSUE FOR PRELIMINARY PRICING	SEP. 29, 2017
5	CPC EXHIBIT A	JULY 12, 2018



PRELIMINARY
NOT FOR
CONSTRUCTION



LEVEL 03 - OVERALL FLOOR PLAN

A112



1 LEVEL 03 - AREA A, B, C - OVERALL FLOOR PLAN
1/32" = 1'-0" RE: 1/145

GENERAL NOTES

SHEET NOTES

FOR TYPICAL LIVE/WORK UNIT PLANS
L/W 0: SEE SHEET A501
L/W 1: SEE SHEET A502 - A504
L/W 2: SEE SHEET A504 - A505
L/W 3: SEE SHEET A505 - A507

LEGEND

- ACCESSIBLE RESTROOM
- L/W 0
- L/W 1
- L/W 2
- L/W 3
- FITNESS
- IDF
- ELEC
- JANITORS CLOSET
- SERVICE
- RENTABLE STORAGE
- CIRCULATION - EXTERIOR
- CIRCULATION - INTERIOR

AVA ARTS DISTRICT

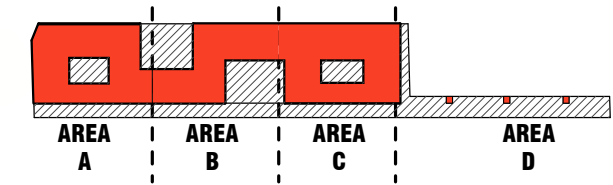
668 S ALAMEDA ST
LOS ANGELES, CA 90021

PROJECT NO: 253

CPC-2016-3575-GPA-VZC-HD-MCUP-DB-SPR-WOI

#	DESCRIPTION	DATE ISSUED
1	100% SCHEMATIC DESIGN	FEB. 01, 2017
2	ENTITLEMENT	FEB. 01, 2017
3	SD SET FOR REVIEW	SEP. 07, 2017
4	ISSUE FOR PRELIMINARY PRICING	SEP. 29, 2017
5	CPC EXHIBIT A	JULY 12, 2018

KEY PLAN



PRELIMINARY
NOT FOR
CONSTRUCTION

SCALE: 1/32" = 1'-0"



LEVEL 04 - OVERALL FLOOR PLAN

A113



1 LEVEL 04 - AREA A, B, C - OVERALL FLOOR PLAN
1/32" = 1'-0" RE: 1/145

GENERAL NOTES

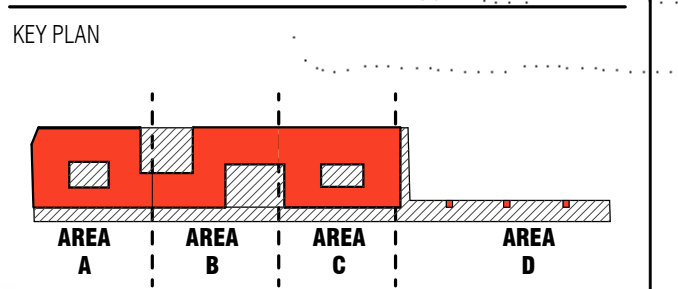
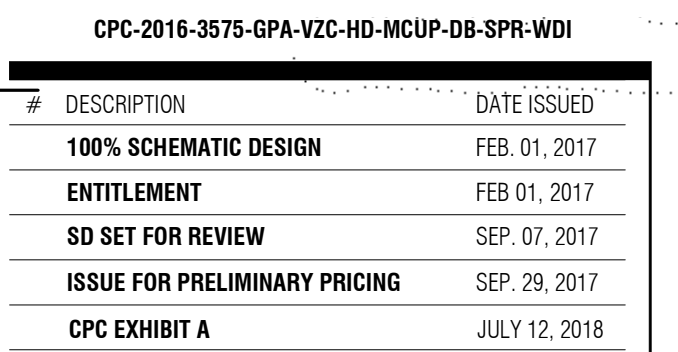
SHEET NOTES

FOR TYPICAL LIVE/WORK UNIT PLANS
L/W 0: SEE SHEET A501
L/W 1: SEE SHEET A502 - A504
L/W 2: SEE SHEET A504 - A505
L/W 3: SEE SHEET A505 - A507

LEGEND

- ACCESSIBLE RESTROOM
- L/W 0
- L/W 1
- L/W 2
- L/W 3
- IDF
- ELEC
- JANITORS CLOSET
- SERVICE
- RENTABLE STORAGE
- CIRCULATION - EXTERIOR
- CIRCULATION - INTERIOR

668 S ALAMEDA ST
LOS ANGELES, CA 90021 PROJECT NO: 253



**PRELIMINARY...
NOT FOR
CONSTRUCTION**



LEVEL 05 - OVERALL FLOOR PLAN

A114

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FOR TYPICAL LIVE/WORK UNIT PLANS

L/W 0: SEE SHEET A501

L/W 1: SEE SHEET A502 - A504

L/W 2: SEE SHEET A504 - A505

L/W 3: SEE SHEET A505 - A507

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822

AVA ARTS DISTRICT

668 S ALAMEDA ST
LOS ANGELES, CA 90021
PROJECT NO: 253



1 LEVEL 06 - AREA A, B, C - OVERALL FLOOR PLAN
1/32" = 1'-0" RE: 1/145

GENERAL NOTES

SHEET NOTES

FOR TYPICAL LIVE/WORK UNIT PLANS
L/W 0: SEE SHEET A501
L/W 1: SEE SHEET A502 - A504
L/W 2: SEE SHEET A504 - A505
L/W 3: SEE SHEET A505 - A507

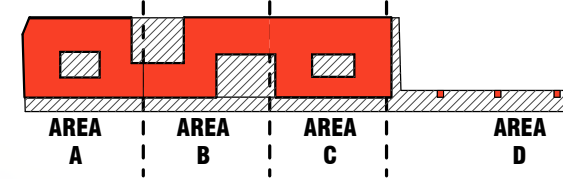
LEGEND

- ACCESSIBLE RESTROOM
- L/W 0
- L/W 1
- L/W 2
- L/W 3
- IDF
- ELEC
- JANITORS CLOSET
- SERVICE
- RENTABLE STORAGE
- CIRCULATION - EXTERIOR
- CIRCULATION - INTERIOR

CPC-2016-3575-GPA-VZC-HD-MCUP-DB-SPR-WDI

| # | DESCRIPTION | DATE ISSUED |
|---|-------------------------------|---------------|
| 1 | 100% SCHEMATIC DESIGN | FEB. 01, 2017 |
| 2 | ENTITLEMENT | FEB. 01, 2017 |
| 3 | SD SET FOR REVIEW | SEP. 07, 2017 |
| 4 | ISSUE FOR PRELIMINARY PRICING | SEP. 29, 2017 |
| 5 | CPC EXHIBIT A | JULY 12, 2018 |

KEY PLAN



PRELIMINARY
NOT FOR
CONSTRUCTION

SCALE: 1/32" = 1'-0"



LEVEL 06 - OVERALL FLOOR PLAN

A115

AVA ARTS DISTRICT

668 S ALAMEDA ST
LOS ANGELES, CA 90021 PROJECT NO: 253



1 LEVEL 07 - AREA A, B, C - OVERALL FLOOR PLAN
1/32" = 1'-0" RE: 1/145

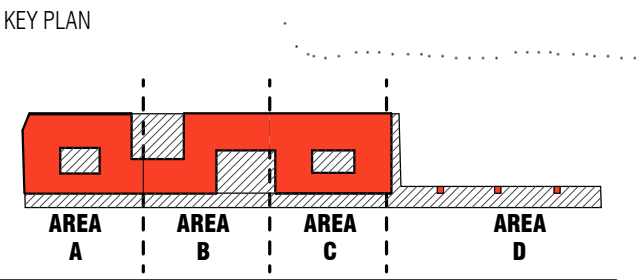
GENERAL NOTES

SHEET NOTES

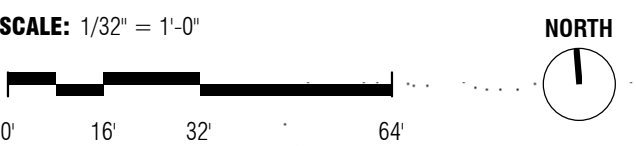
FOR TYPICAL LIVE/WORK UNIT PLANS
L/W 0: SEE SHEET A501
L/W 1: SEE SHEET A502 - A504
L/W 2: SEE SHEET A504 - A505
L/W 3: SEE SHEET A505 - A507

LEGEND

| # | DESCRIPTION | DATE ISSUED |
|---|-------------------------------|---------------|
| 1 | 100% SCHEMATIC DESIGN | FEB. 01, 2017 |
| 2 | ENTITLEMENT | FEB. 01, 2017 |
| 3 | SD SET FOR REVIEW | SEP. 07, 2017 |
| 4 | ISSUE FOR PRELIMINARY PRICING | SEP. 29, 2017 |
| 5 | CPC EXHIBIT A | JULY 12, 2018 |



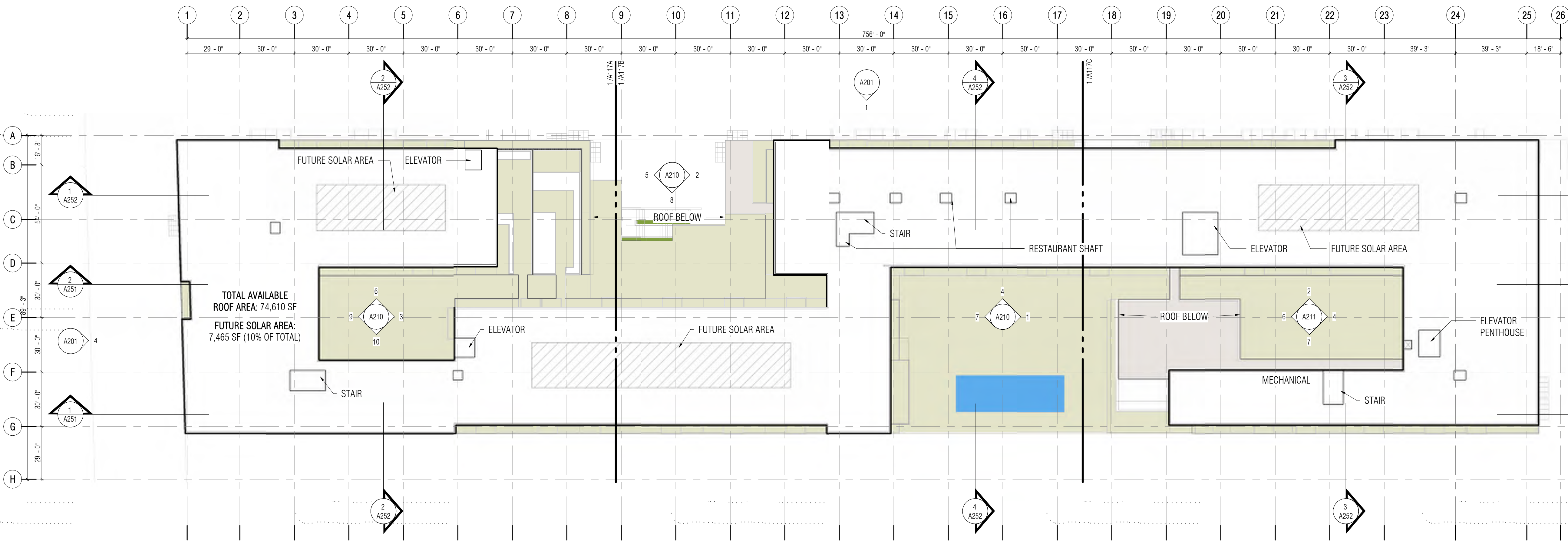
PRELIMINARY
NOT FOR
CONSTRUCTION



LEVEL 07 - OVERALL FLOOR PLAN
A116

AVA ARTS DISTRICT

668 S ALAMEDA ST
LOS ANGELES, CA 90021 PROJECT NO: 253



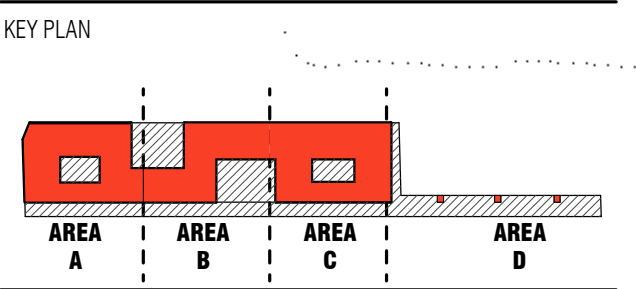
1 OVERALL ROOF PLAN
1/32" = 1'-0" RE: 1/145

GENERAL NOTES

SHEET NOTES

LEGEND

| # | DESCRIPTION | DATE ISSUED |
|---|-------------------------------|---------------|
| 1 | 100% SCHEMATIC DESIGN | FEB. 01, 2017 |
| 2 | ENTITLEMENT | FEB. 01, 2017 |
| 3 | SD SET FOR REVIEW | SEP. 07, 2017 |
| 4 | ISSUE FOR PRELIMINARY PRICING | SEP. 29, 2017 |
| 5 | CPC EXHIBIT A | JULY 12, 2018 |



PRELIMINARY
NOT FOR
CONSTRUCTION



OVERALL ROOF PLAN
A117

AVA ARTS DISTRICT

668 S ALAMEDA ST
LOS ANGELES, CA 90021 PROJECT NO: 253



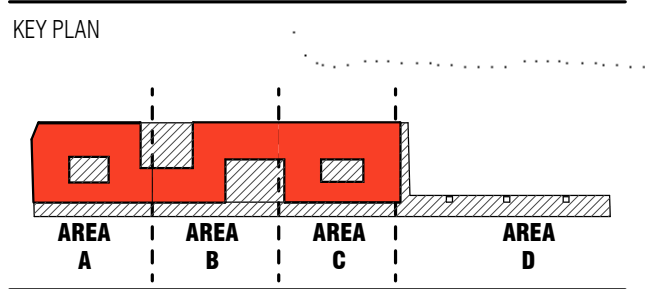
1 LEVEL P1 - AREA A, B, C - OVERALL FLOOR PLAN
1/32" = 1'-0" RE: 1/146

GENERAL NOTES

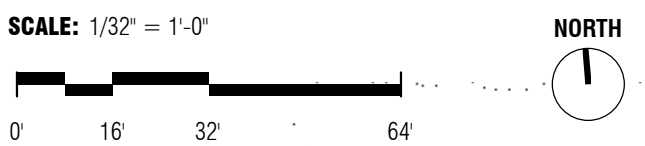
SHEET NOTES

LEGEND

- LONG TERM BIKE STORAGE
- ELEC
- MAINTENANCE
- STORAGE
- FEV ELECTRICAL CHARGING STATION
- DEDICATED RETAIL PARKING STALL



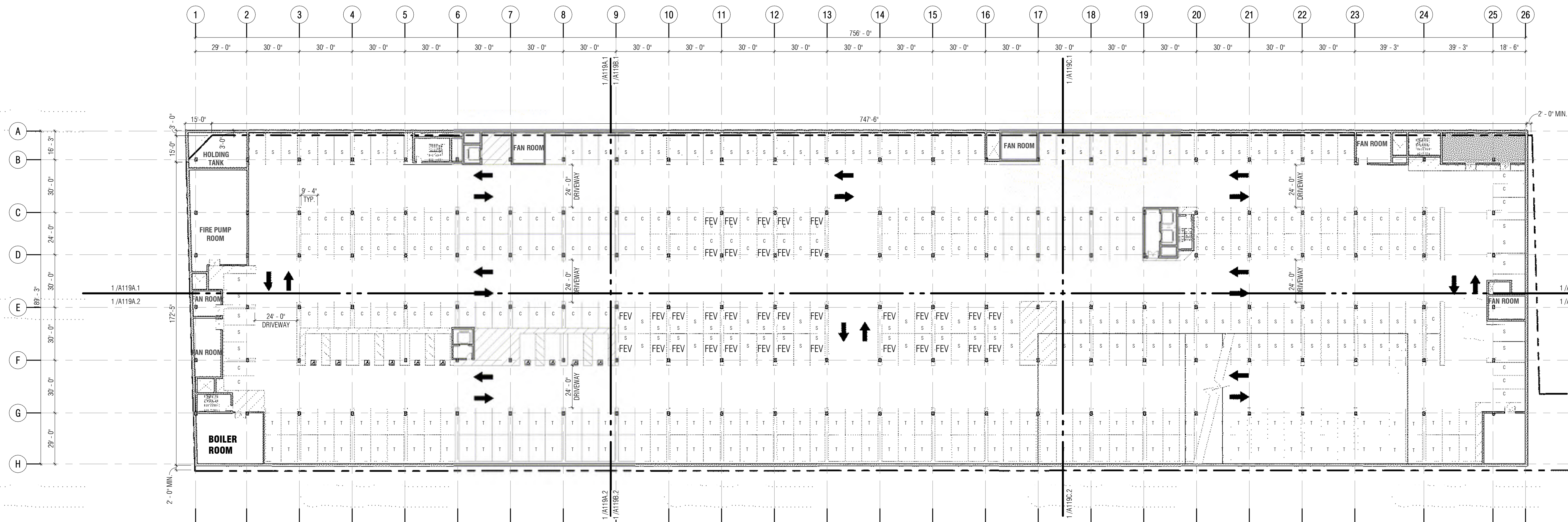
PRELIMINARY
NOT FOR
CONSTRUCTION



LEVEL P1 - OVERALL FLOOR PLAN
A118

AVA ARTS DISTRICT

668 S ALAMEDA ST
LOS ANGELES, CA 90021
PROJECT NO: 253



1 LEVEL P2 - AREA A, B, C - OVERALL FLOOR PLAN
1/32" = 1'-0" RE: 1/146

GENERAL NOTES

SHEET NOTES

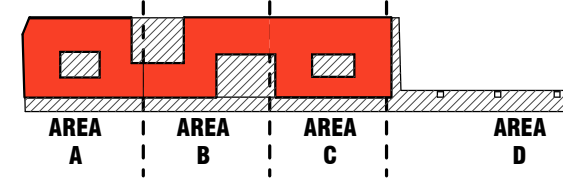
LEGEND

FEV ELECTRICAL CHARGING STATION

CPC-2016-3575-GPA-VZC-HD-MCUP-DB-SPR-WDI

| # | DESCRIPTION | DATE ISSUED |
|-------------------------------|-------------------------------|---------------|
| 100% | 100% SCHEMATIC DESIGN | FEB. 01, 2017 |
| ENTITLEMENT | ENTITLEMENT | FEB. 01, 2017 |
| SD SET FOR REVIEW | SD SET FOR REVIEW | SEP. 07, 2017 |
| ISSUE FOR PRELIMINARY PRICING | ISSUE FOR PRELIMINARY PRICING | SEP. 29, 2017 |
| CPC EXHIBIT A | CPC EXHIBIT A | JULY 12, 2018 |

KEY PLAN



PRELIMINARY
NOT FOR
CONSTRUCTION

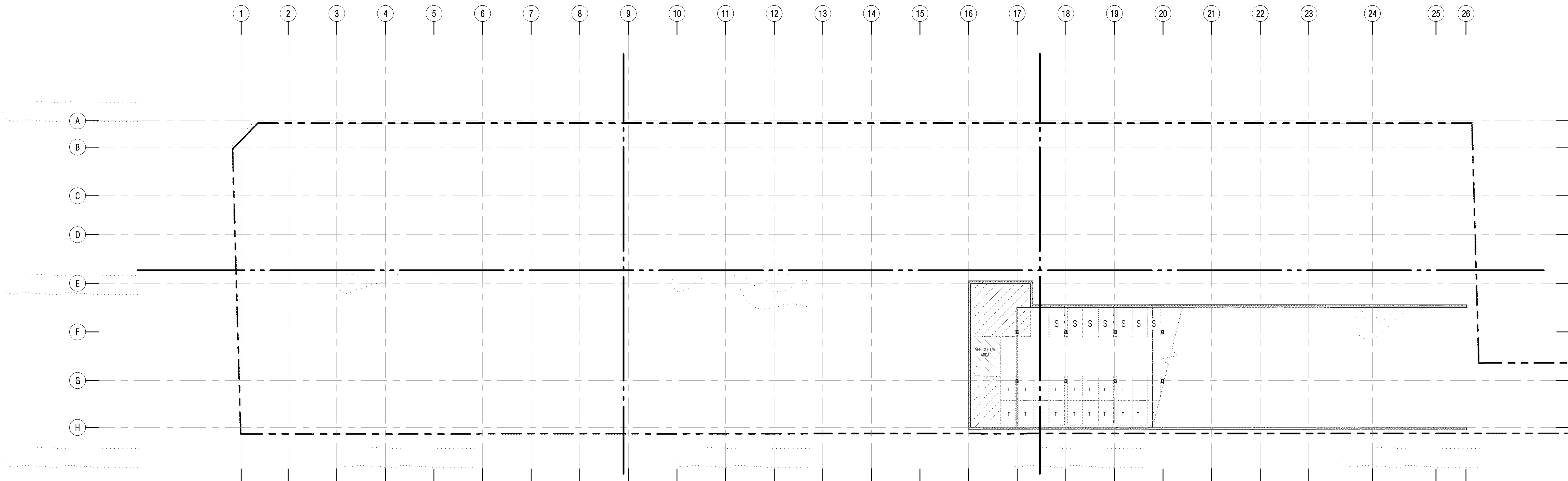


LEVEL P2 - OVERALL FLOOR PLAN

A119

AVA ARTS DISTRICT

668 S ALAMEDA ST
LOS ANGELES, CA 90021 PROJECT NO: 253



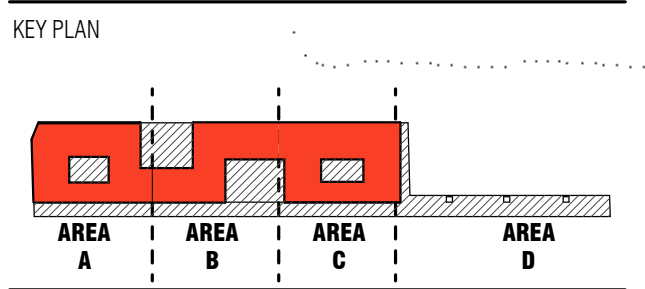
1 LEVEL P3 - AREA B, C - OVERALL FLOOR PLAN
1/32" = 1'-0" RE: 1/147

GENERAL NOTES

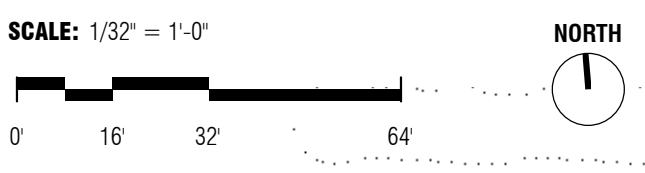
SHEET NOTES

LEGEND

| # | DESCRIPTION | DATE ISSUED |
|---|-------------------------------|---------------|
| 1 | 100% SCHEMATIC DESIGN | FEB. 01, 2017 |
| 2 | ENTITLEMENT | FEB. 01, 2017 |
| 3 | SD SET FOR REVIEW | SEP. 07, 2017 |
| 4 | ISSUE FOR PRELIMINARY PRICING | SEP. 29, 2017 |
| 5 | CPC EXHIBIT A | JULY 12, 2018 |



PRELIMINARY
NOT FOR
CONSTRUCTION



LEVEL P3 - OVERALL FLOOR PLAN
A120

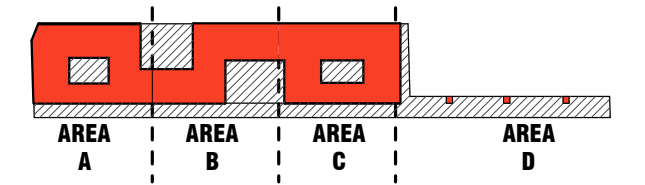
AVA ARTS DISTRICT

668 S ALAMEDA ST
LOS ANGELES, CA 90021
PROJECT NO: 253

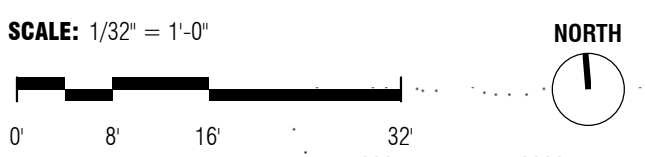
CPC-2016-3575-GPA-VZC-HD-MCUP-DB-SPR-WDI

| # | DESCRIPTION | DATE ISSUED |
|-------------------------------|------------------|---------------|
| 100% | SCHEMATIC DESIGN | FEB. 01, 2017 |
| ENTITLEMENT | | FEB. 01, 2017 |
| SD SET FOR REVIEW | | SEP. 07, 2017 |
| ISSUE FOR PRELIMINARY PRICING | | SEP. 29, 2017 |
| CPC EXHIBIT A | | JULY 12, 2018 |

KEY PLAN

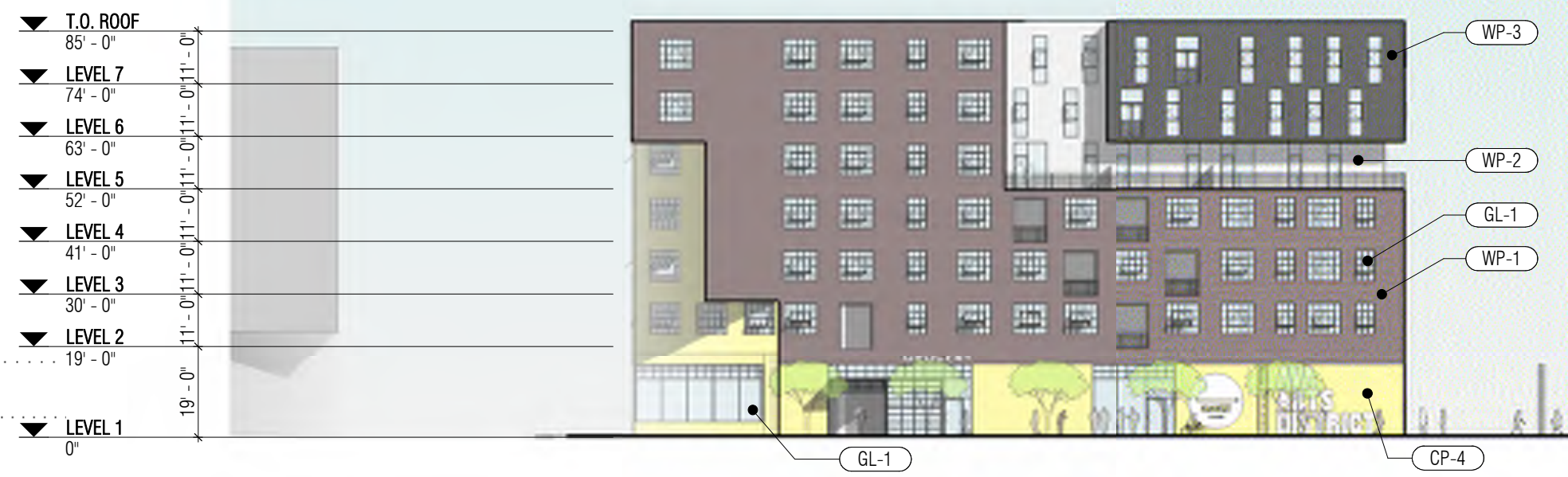


PRELIMINARY
NOT FOR
CONSTRUCTION



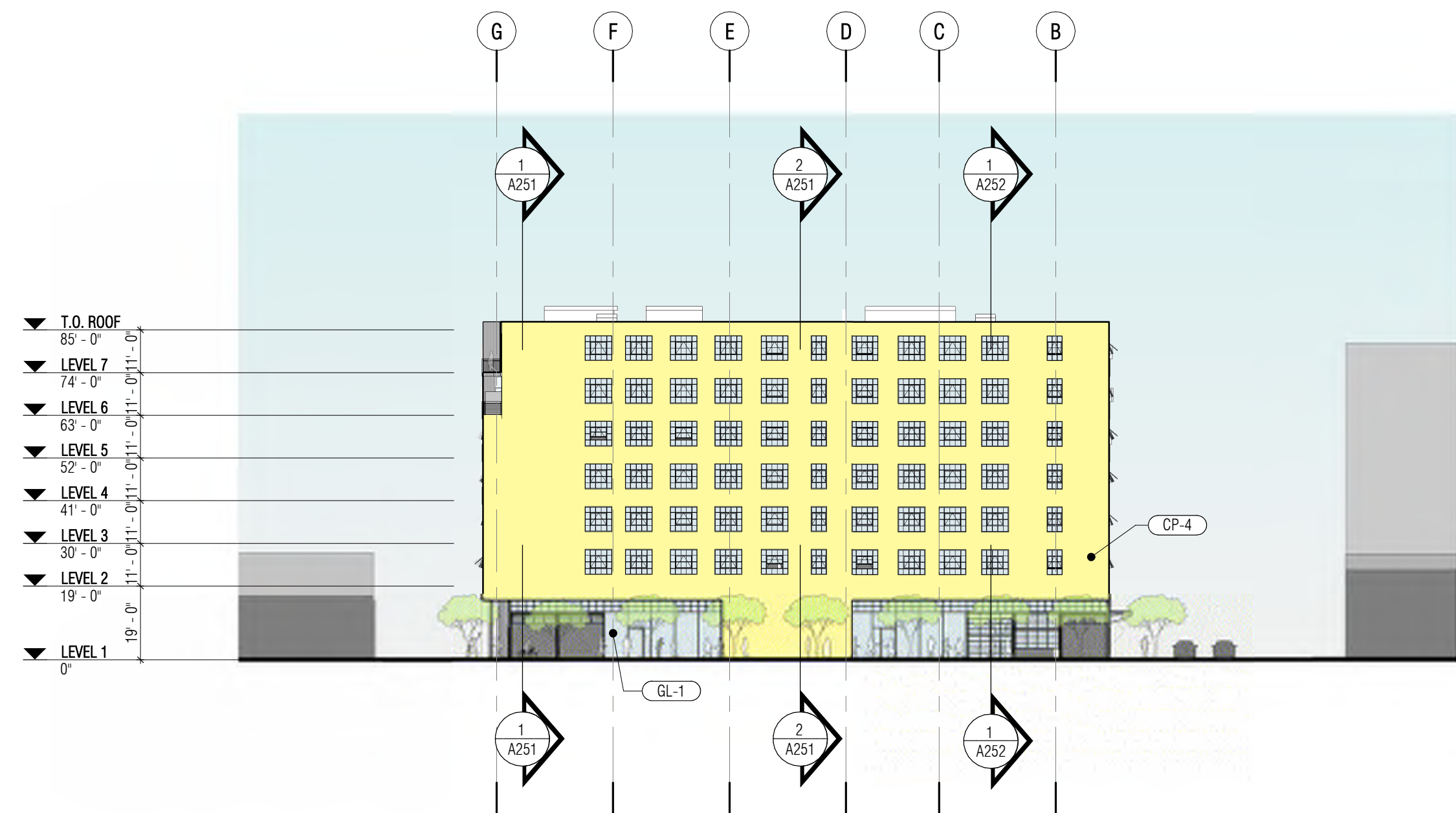
EXTERIOR BUILDING ELEVATIONS - OVERALL

A201



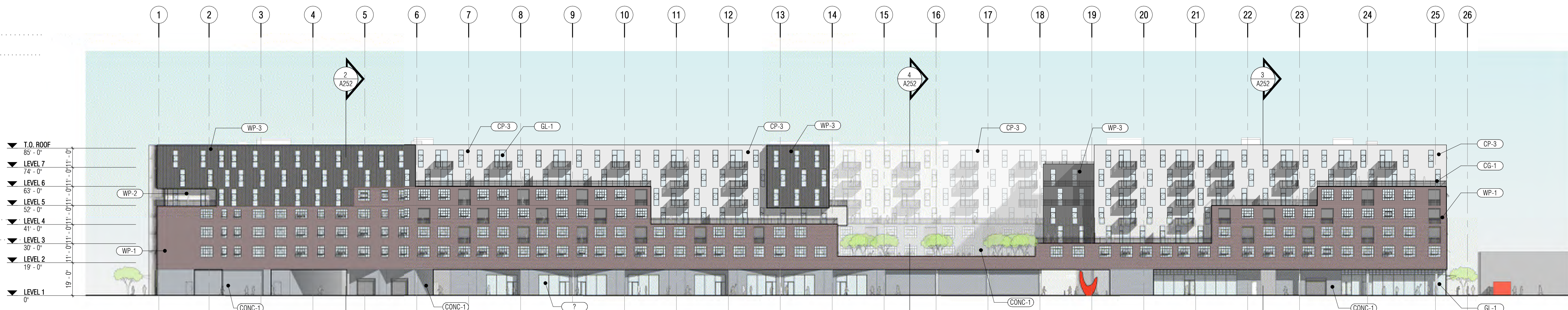
4 ELEVATION - WEST

1/32" = 1'-0" RE: 1/A110



3 ELEVATION - EAST

1/32" = 1'-0" RE: 1/A110



2 ELEVATION - SOUTH

1/32" = 1'-0" RE: 1/A110



1 ELEVATION - NORTH

1/32" = 1'-0" RE: 1/A110

GENERAL NOTES

SHEET NOTES

LEGEND

EXTERIOR FINISHES
REFER TO SHEET A601 FOR MATERIAL
REFERENCES

CG - 1: CABLE GUARDRAIL

CONC-1: BOARDFORM CONCRETE

CONC-2: CAST IN PLACE CONCRETE

CP-1: CEMENT PLASTER

CP-2: CEMENT PLASTER

CP-3: CEMENT PLASTER

CP-4: ART MURAL

GL-1: GLASS

MP-1: PERFORATED METAL PANEL
MN-1: MESH NET

PT-1: PAINT

WP-1: GLASS FIBER RE-ENFORCED CONCRETE

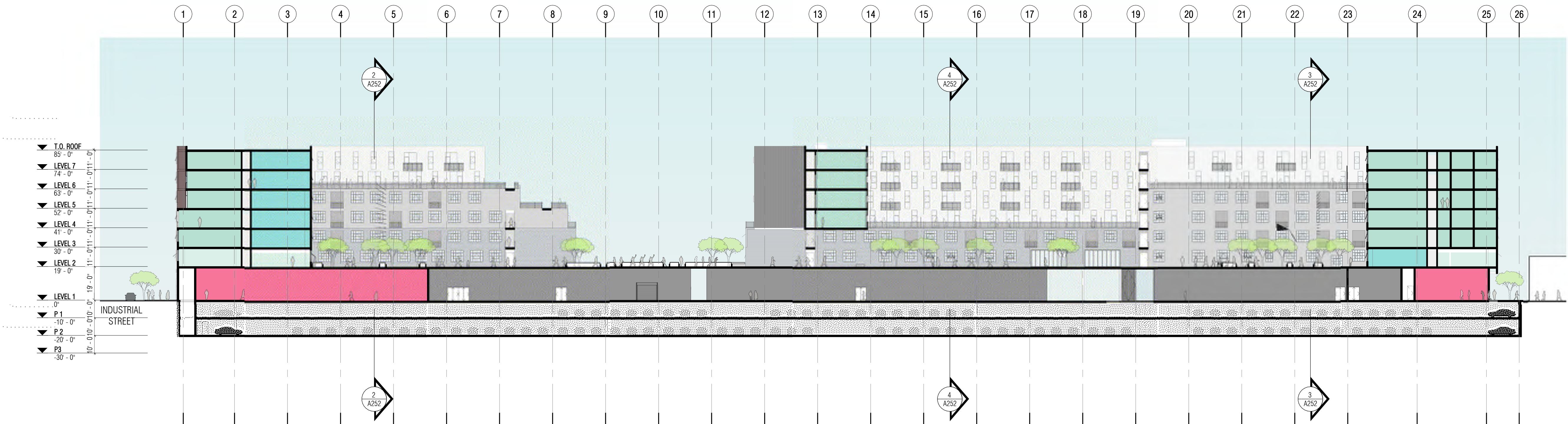
PANELS

WP-2: METAL PANEL CORRUGATED

WP-3: METAL PANEL ZINC

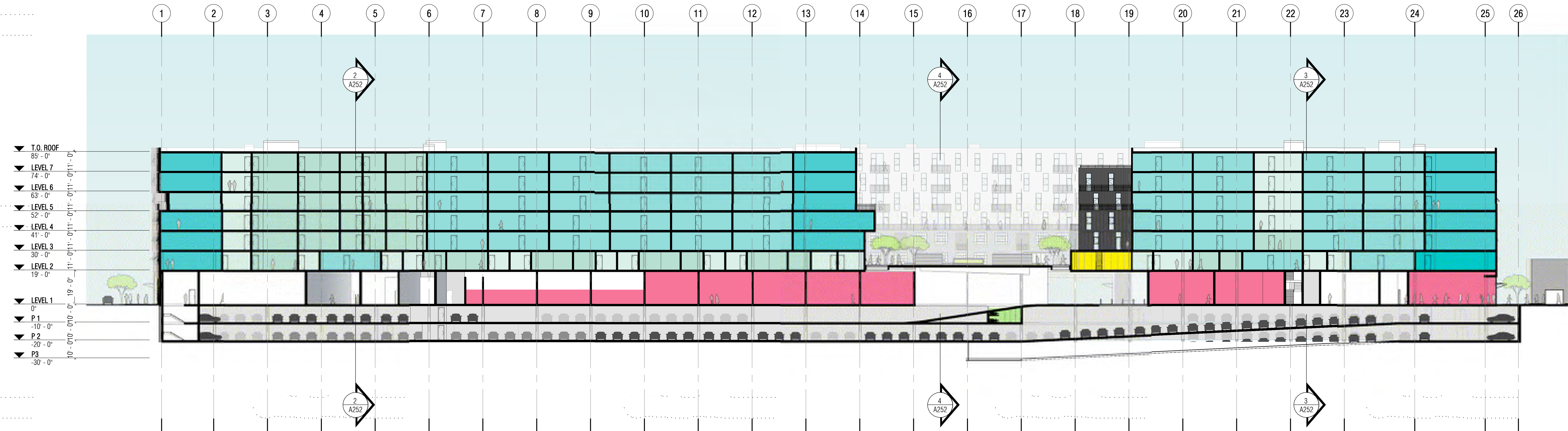
AVA ARTS DISTRICT

668 S ALAMEDA ST
LOS ANGELES, CA 90021



2 SECTION - EW - 01

1/32" = 1'-0" RE: 1/A110



1 SECTION - EW - 02

1/32" = 1'-0" RE: 1/A110

GENERAL NOTES

SHEET NOTES

LEGEND

- COMMERCIAL - GROCERY
- COMMERCIAL - RETAIL
- L/W 0
- L/W 1
- L/W 2
- GARAGE
- CIRCULATION - EXTERIOR
- CIRCULATION - INTERIOR

PRELIMINARY
NOT FOR
CONSTRUCTION

SCALE: 1/32" = 1'-0"

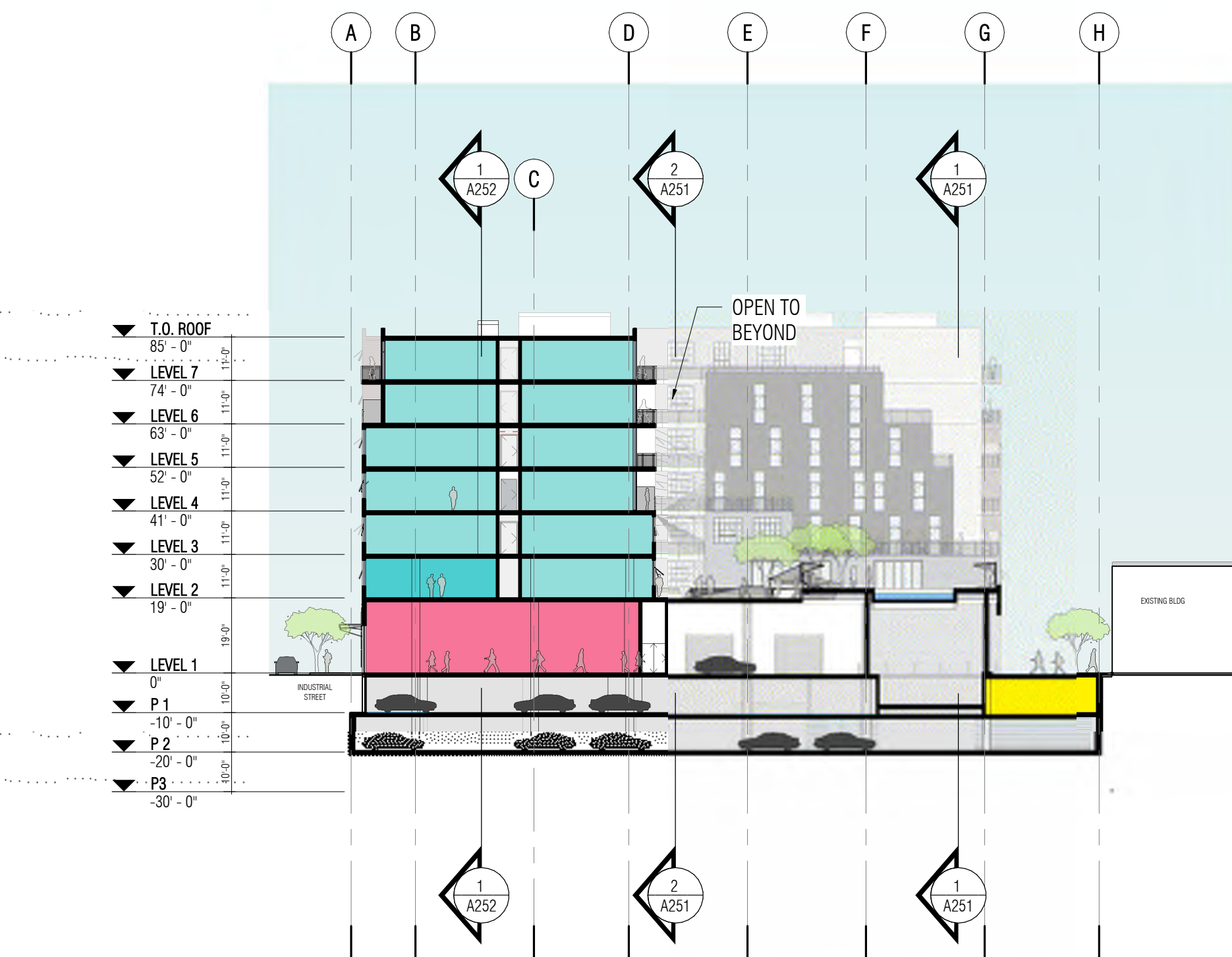


BUILDING SECTIONS

A251

AVA ARTS DISTRICT

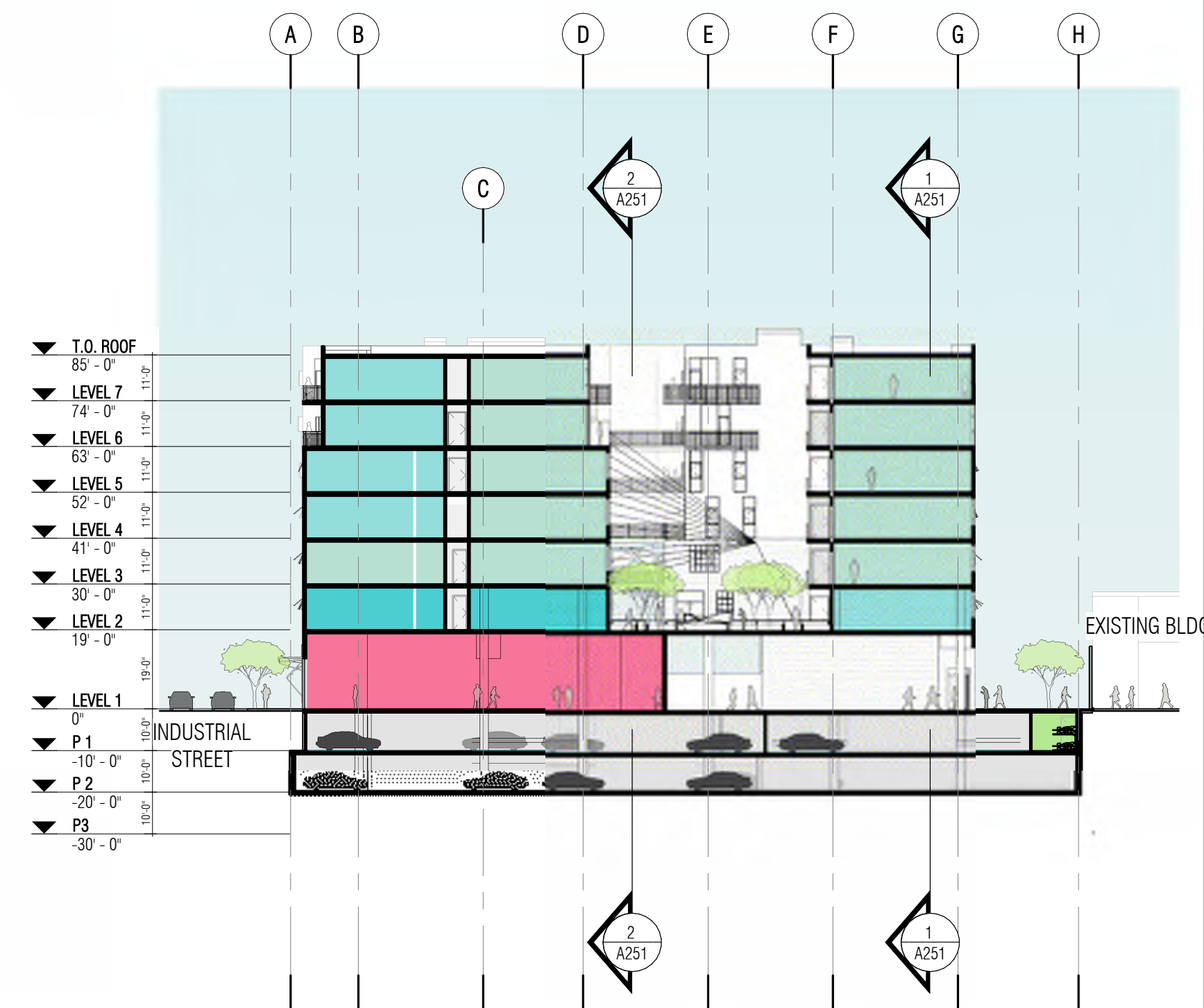
668 S ALAMEDA ST
LOS ANGELES, CA 90021 PROJECT NO: 253



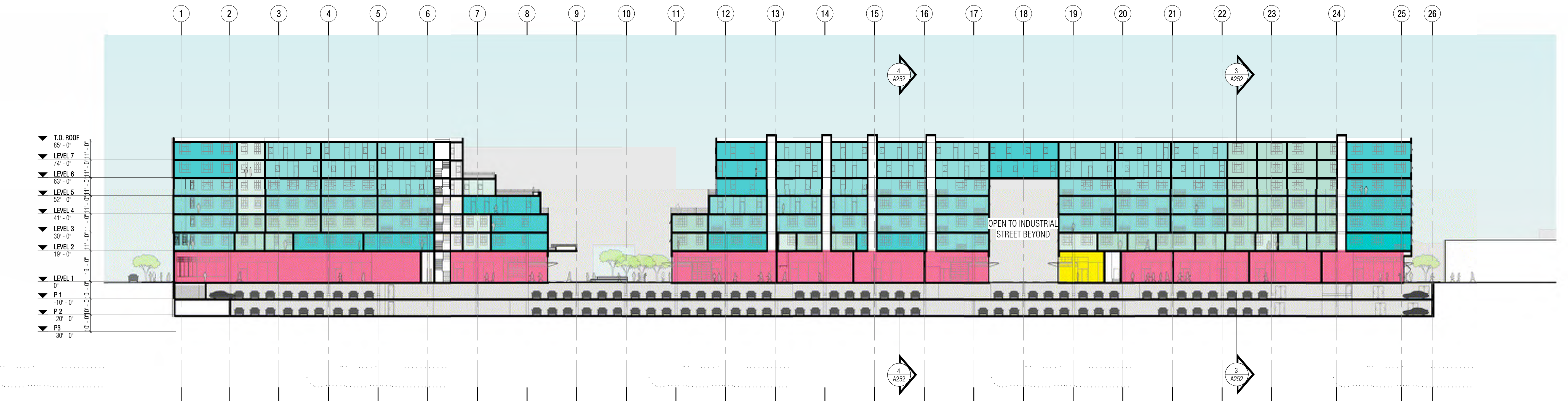
4 SECTION - NS - 03
1/32" = 1'-0" RE: 1/A110



3 SECTION - NS - 02
1/32" = 1'-0" RE: 4/A031



2 SECTION - NS - 01
1/32" = 1'-0" RE: 1/A110



1 SECTION - EW - 03
1/32" = 1'-0" RE: 1/A110

GENERAL NOTES

SHEET NOTES

LEGEND

- COMMERCIAL - ARTS & PRODUCTION SPACE
- COMMERCIAL - GROCERY
- COMMERCIAL - RESTAURANT
- COMMERCIAL - RETAIL
- GALLERY
- L/W 0
- L/W 1
- L/W 2
- L/W 3
- L/W 4
- GARAGE
- STORAGE
- CIRCULATION - INTERIOR

**PRELIMINARY
NOT FOR
CONSTRUCTION**

SCALE: 1/32" = 1'-0"

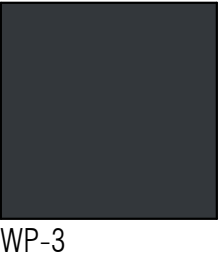


BUILDING SECTIONS

A252



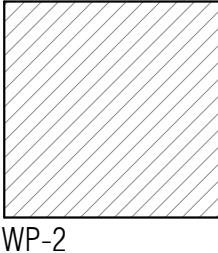
WP: METAL PANEL LIGHT BLACK



WP-3



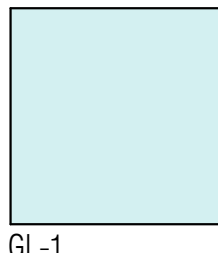
WP: CORRUGATED METAL PANEL



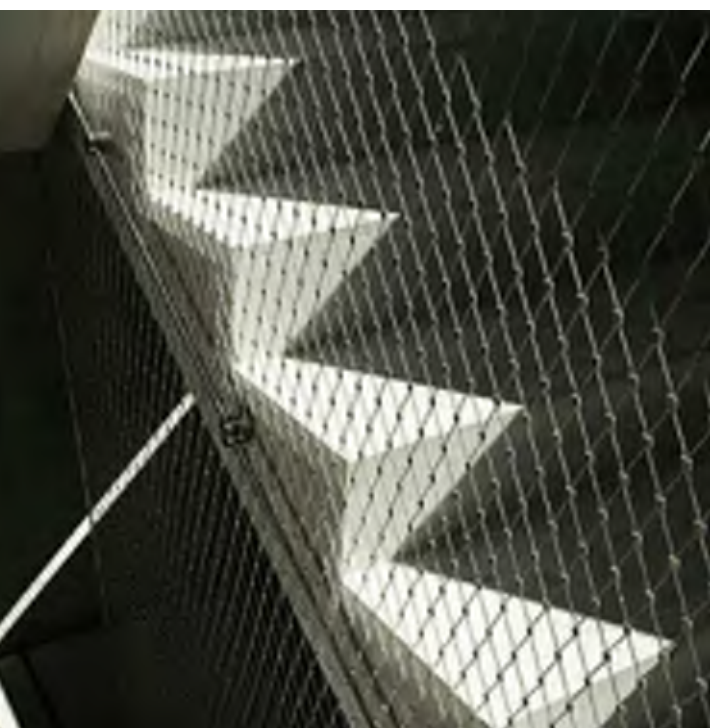
WP-2



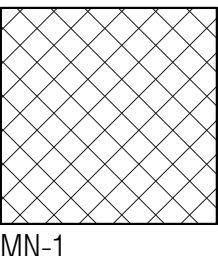
GL: INSULATED GLAZING UNIT W/ LOW-E COATING



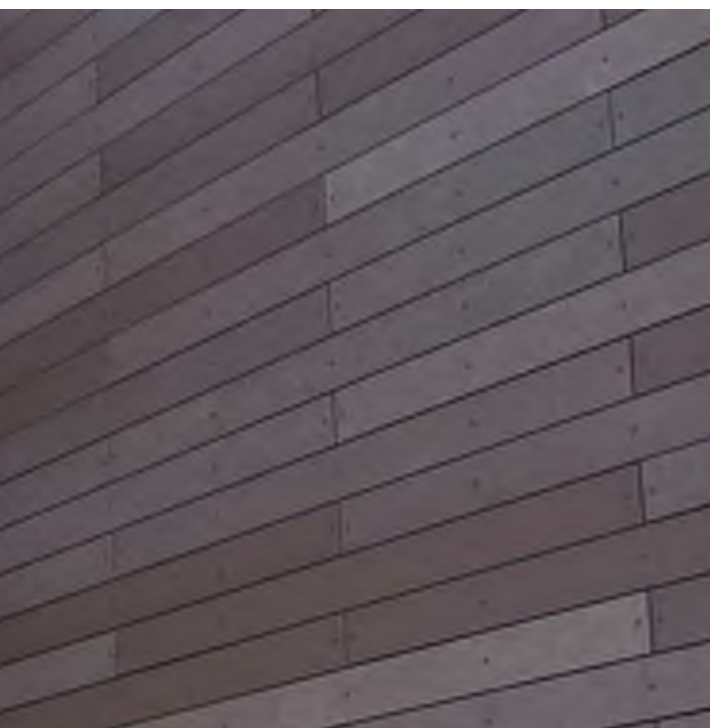
GL-1



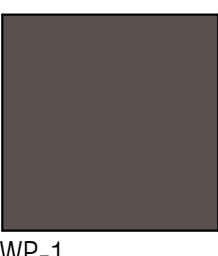
MN: MESH NETTING



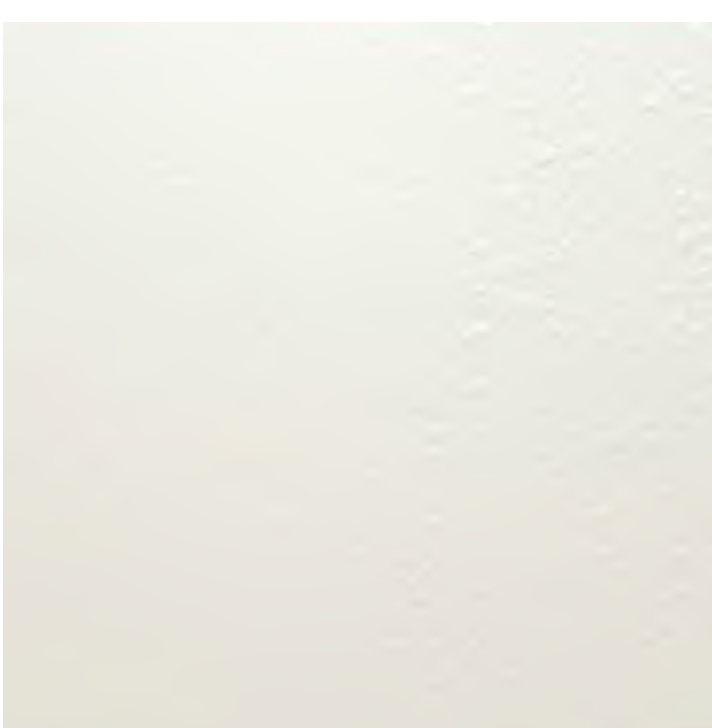
MN-1



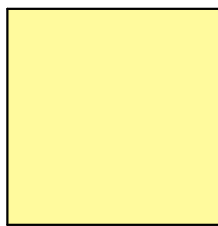
WP: GLASS FIBER REINFORCED CEMENT BOARD



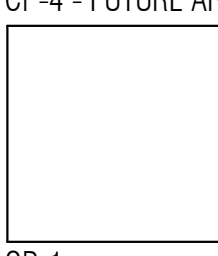
WP-1



CP: FINE, STEEL TROWELL FINISHED CEMENT PLASTER



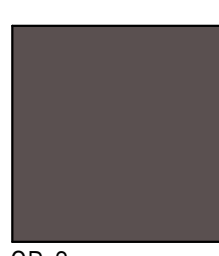
CP-4 - FUTURE ART INSTALLATION



CP-1



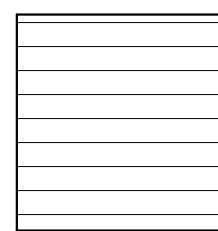
CP-2



CP-3



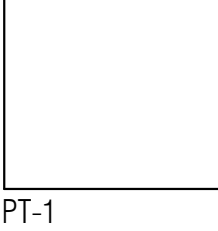
CG: CABLE GUARDRAIL



CG-1



PT: PAINT



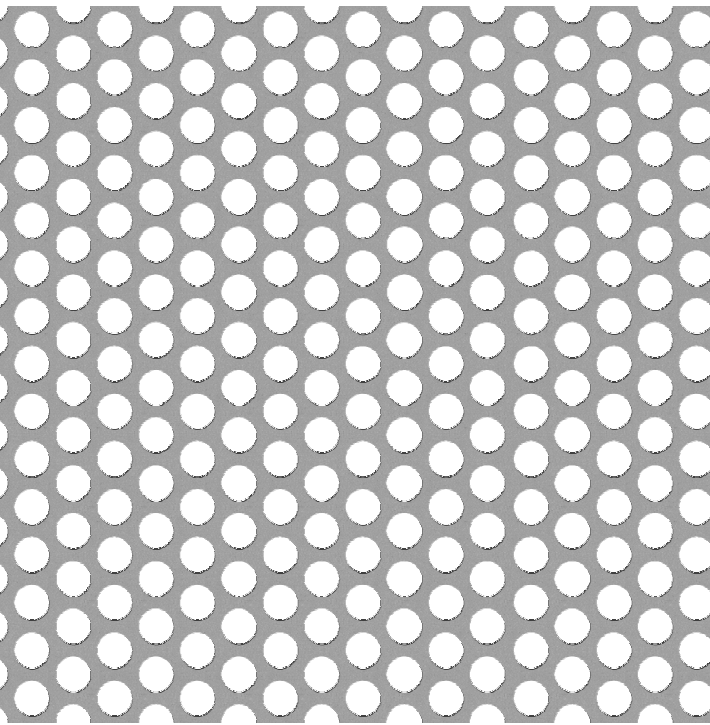
PT-1



CONC: CAST IN PLACE, ARCHITECTURAL CONCRETE



CONC-2



MP: PERFORATED METAL PANEL



MP-1



CONC: CAST IN PLACE, BOARD-FORMED ARCHITECTURAL CONCRETE



CONC-1

AVA ARTS DISTRICT

668 S ALAMEDA ST
LOS ANGELES, CA 90021
PROJECT NO: 253

CPC-2016-3575-GPA-VZC-HD-MCUP-08-SPR-WOI

| # | DESCRIPTION | DATE ISSUED |
|-------------------------------|------------------|---------------|
| 100% | SCHEMATIC DESIGN | FEB. 01, 2017 |
| ENTITLEMENT | | FEB. 01, 2017 |
| SD SET FOR REVIEW | | SEP. 07, 2017 |
| ISSUE FOR PRELIMINARY PRICING | | SEP. 29, 2017 |
| CPC EXHIBIT A | | JULY 12, 2018 |

PRELIMINARY
NOT FOR
CONSTRUCTION

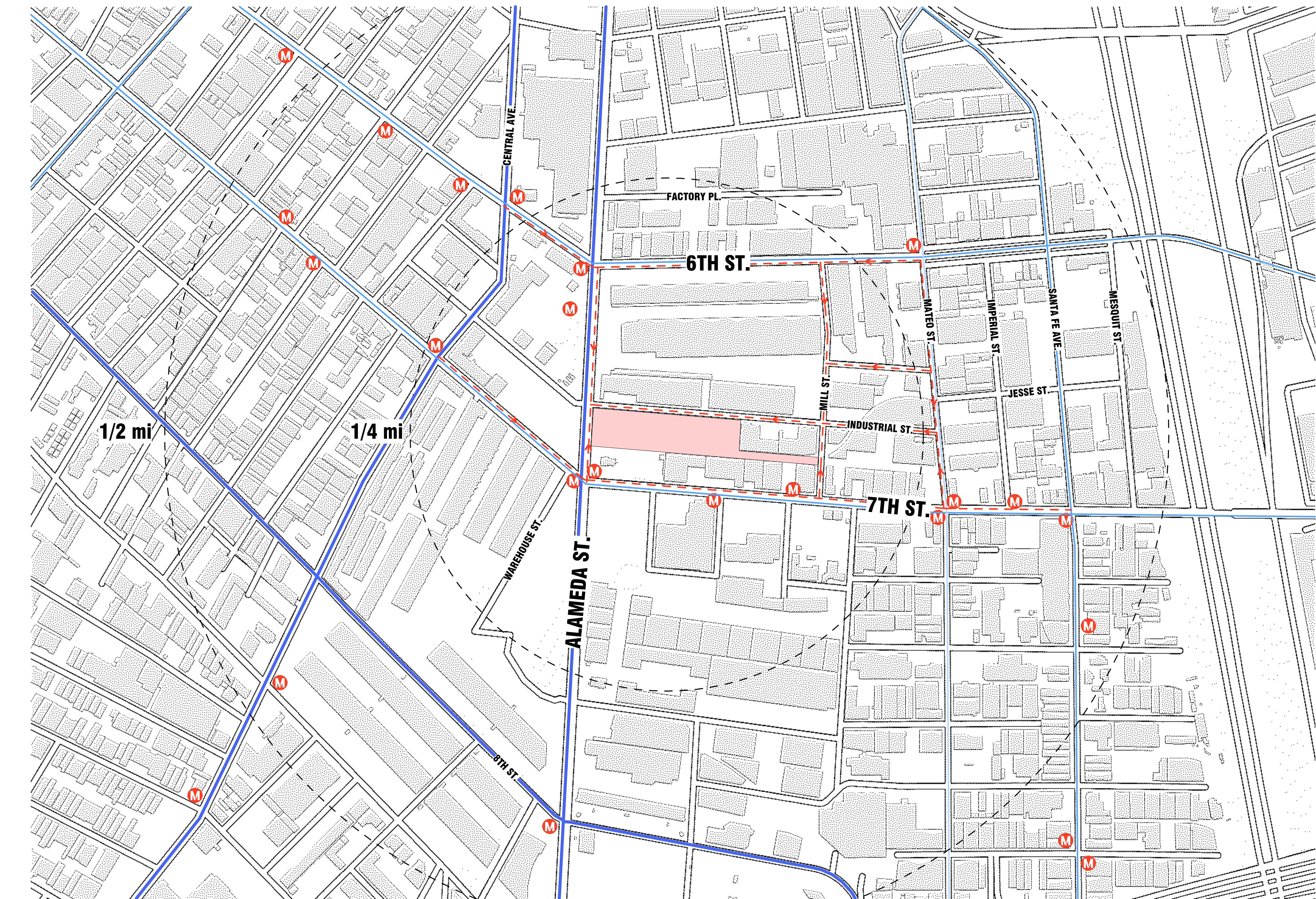
SCALE: NOT TO SCALE

BUILDING MATERIALS

A601

AVA ARTS DISTRICT

668 S ALAMEDA ST
LOS ANGELES, CA 90021
PROJECT NO: 253



1 PEDESTRIAN CONNECTIVITY
1" = 160'-0" RE

GENERAL NOTES

SHEET NOTES

LEGEND

- AVENUE I
- AVENUE II
- AVENUE III
- PEDESTRIAN PATH
- METRO BUS STOP

PRELIMINARY
NOT FOR
CONSTRUCTION



PEDESTRIAN/VEHICULAR CIRCULATION

A801

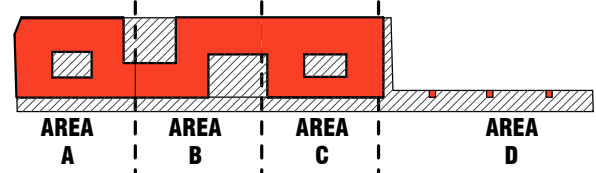
AVA ARTS DISTRICT

668 S ALAMEDA ST
LOS ANGELES, CA 90021
PROJECT NO: 253

CPC-2016-3575-GPA-VZC-HD-MCUP-D8-SPR-WDI

| # | DESCRIPTION | DATE ISSUED |
|-------------------------------|-------------------------------|---------------|
| 100% | 100% SCHEMATIC DESIGN | FEB. 01, 2017 |
| ENTITLEMENT | ENTITLEMENT | FEB. 01, 2017 |
| SD SET FOR REVIEW | SD SET FOR REVIEW | SEP. 07, 2017 |
| ISSUE FOR PRELIMINARY PRICING | ISSUE FOR PRELIMINARY PRICING | SEP. 29, 2017 |
| CPC EXHIBIT A | CPC EXHIBIT A | JULY 12, 2018 |

KEY PLAN

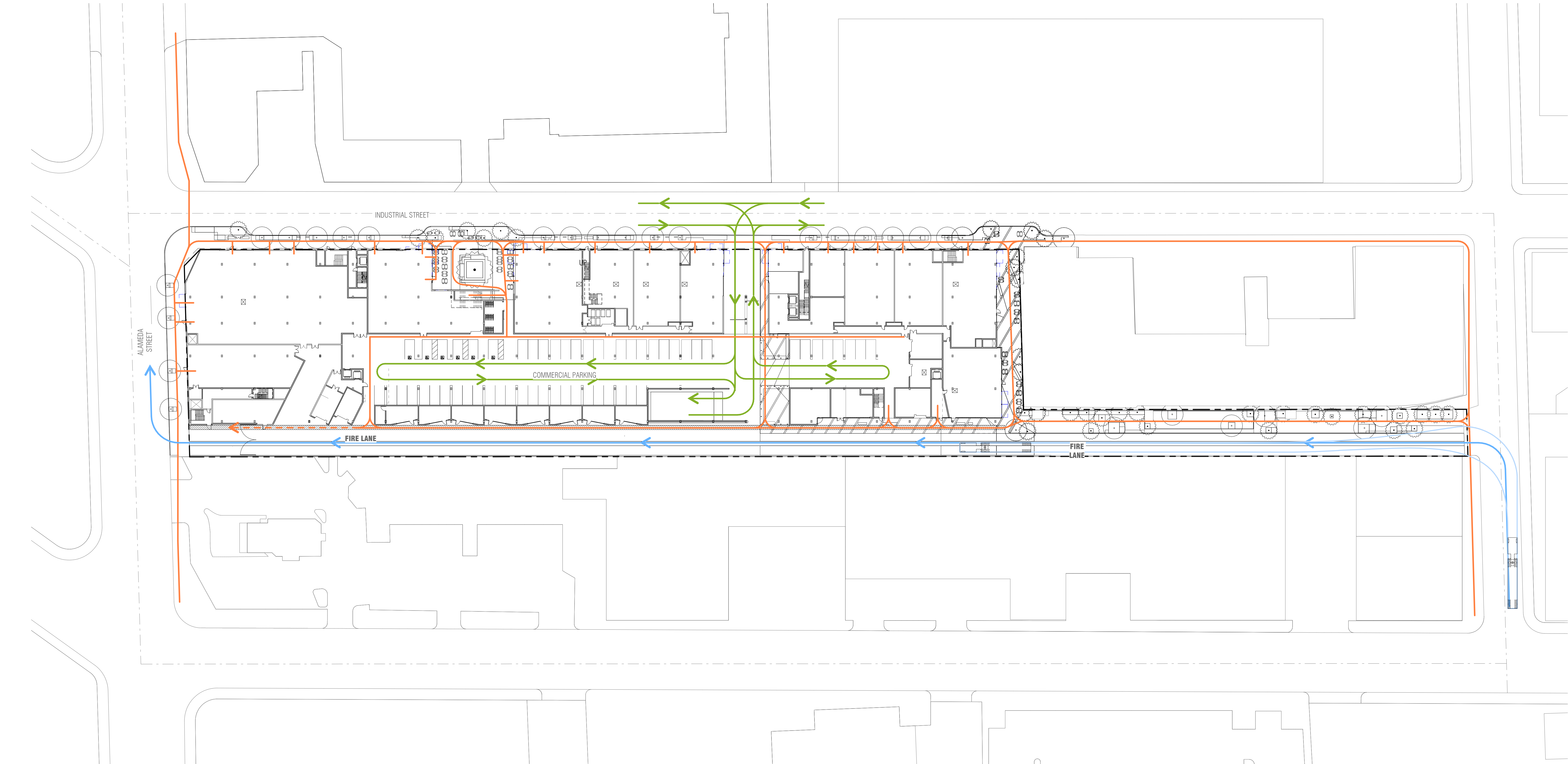


PRELIMINARY
NOT FOR
CONSTRUCTION



SITE CIRCULATION DIAGRAM

A802



1 LEVEL 01
1" = 40'-0" RE: 1/145

GENERAL NOTES

SHEET NOTES

LEGEND

- PEDESTRIAN CIRCULATION
- VEHICLE CIRCULATION
- ONE WAY FIRE LANE/SERVICE VEHICLE CIRCULATION

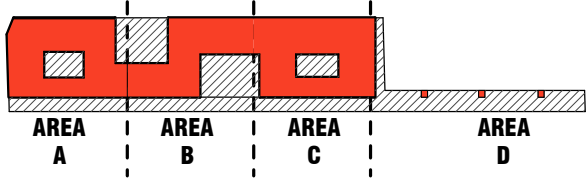
AVA ARTS DISTRICT

668 S ALAMEDA ST
LOS ANGELES, CA 90021
PROJECT NO: 253

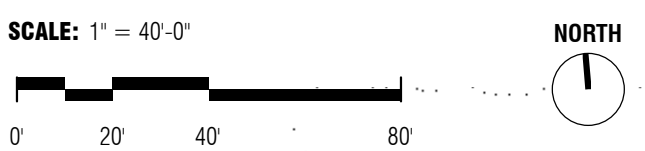
CPC-2016-3575-GPA-VZC-HD-MCUP-DB-SPR-W01

| # | DESCRIPTION | DATE ISSUED |
|---|-------------------------------|---------------|
| 1 | 100% SCHEMATIC DESIGN | FEB. 01, 2017 |
| 2 | ENTITLEMENT | FEB. 01, 2017 |
| 3 | SD SET FOR REVIEW | SEP. 07, 2017 |
| 4 | ISSUE FOR PRELIMINARY PRICING | SEP. 29, 2017 |
| 5 | CPC EXHIBIT A | JULY 12, 2018 |

KEY PLAN

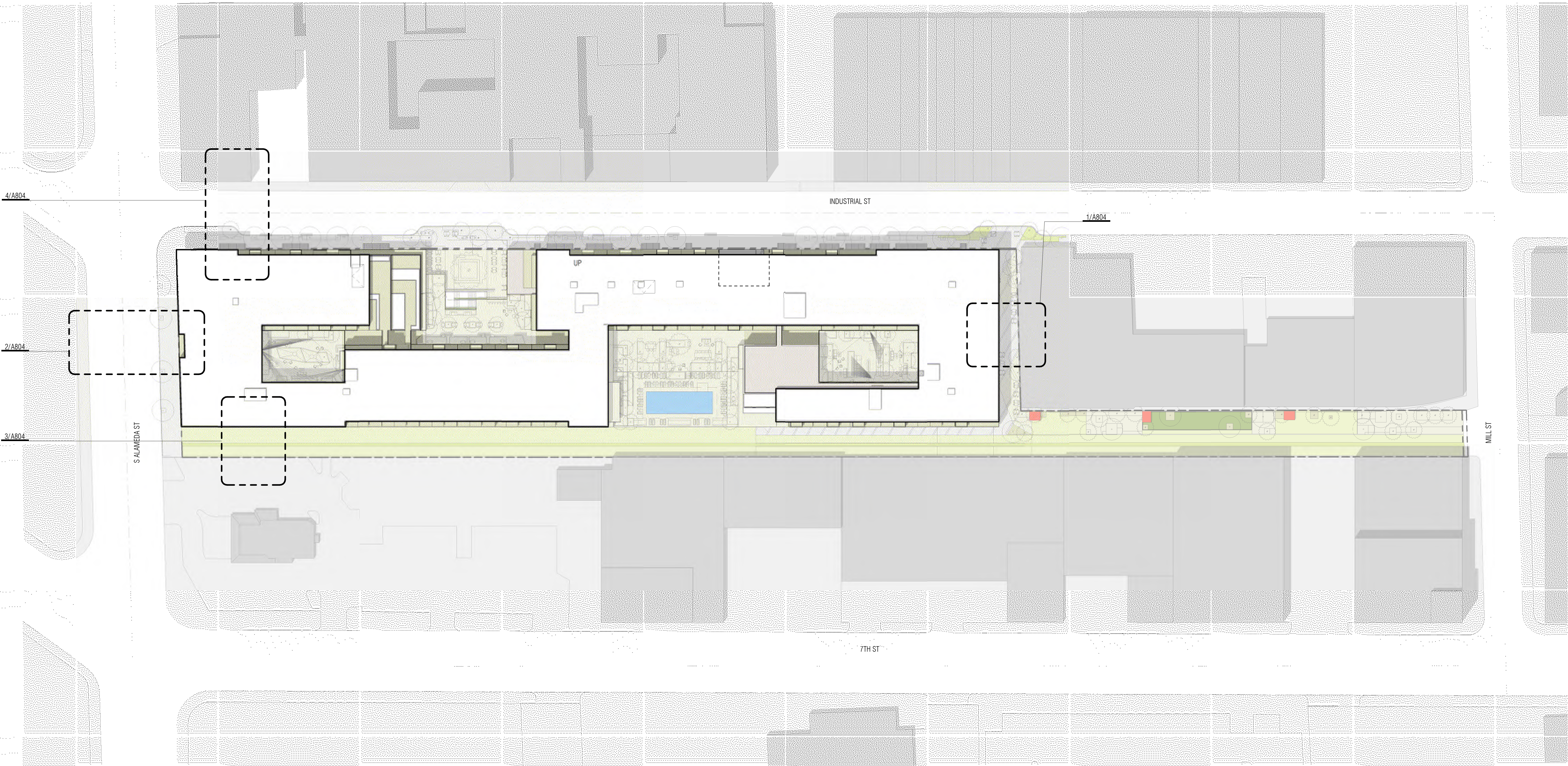


PRELIMINARY
NOT FOR
CONSTRUCTION



DEDICATIONS KEY PLAN

A803



1 DEDICATIONS KEY PLAN
1" = 40'-0" RE: 1/145

GENERAL NOTES

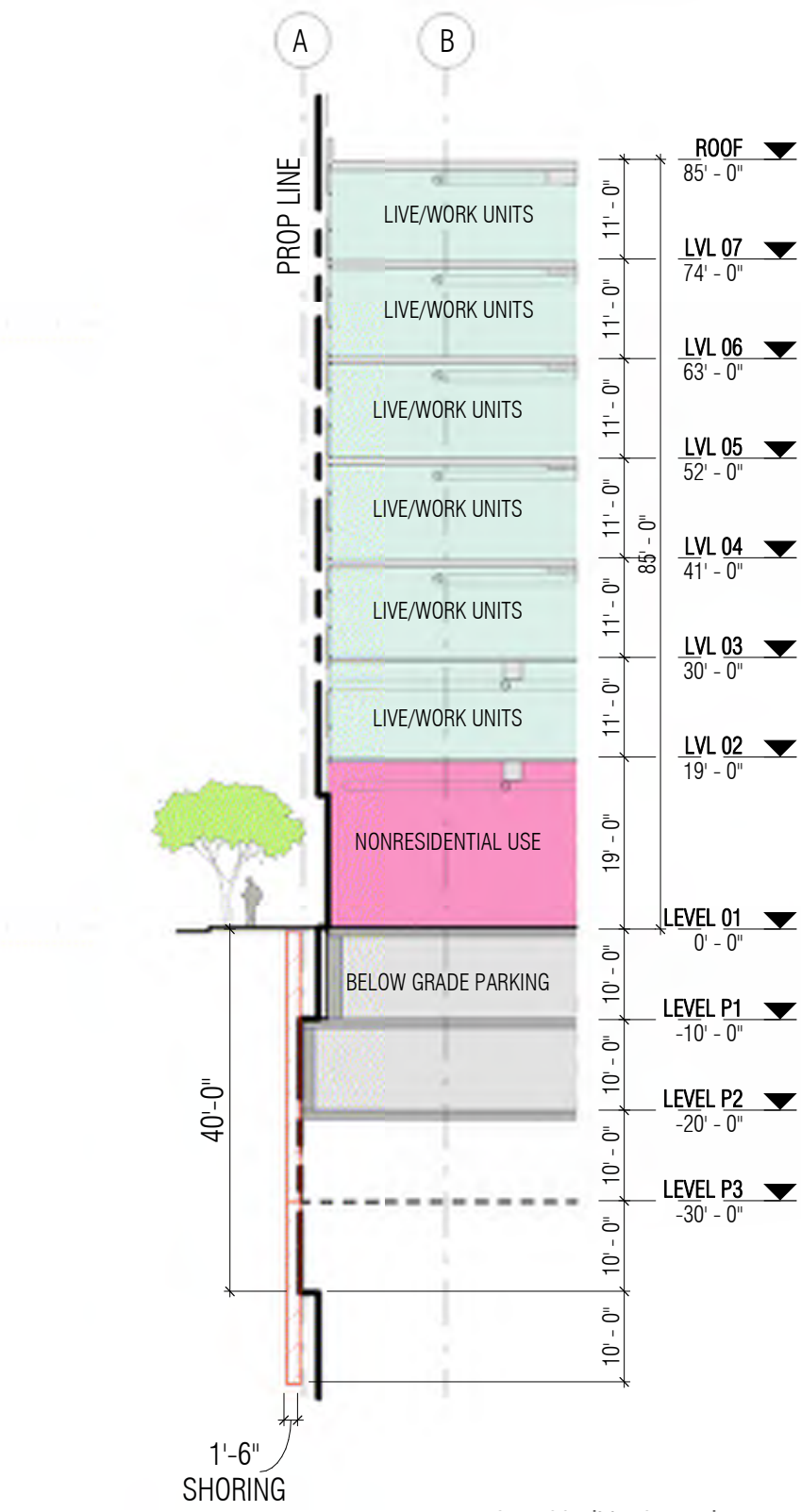
SHEET NOTES

LEGEND

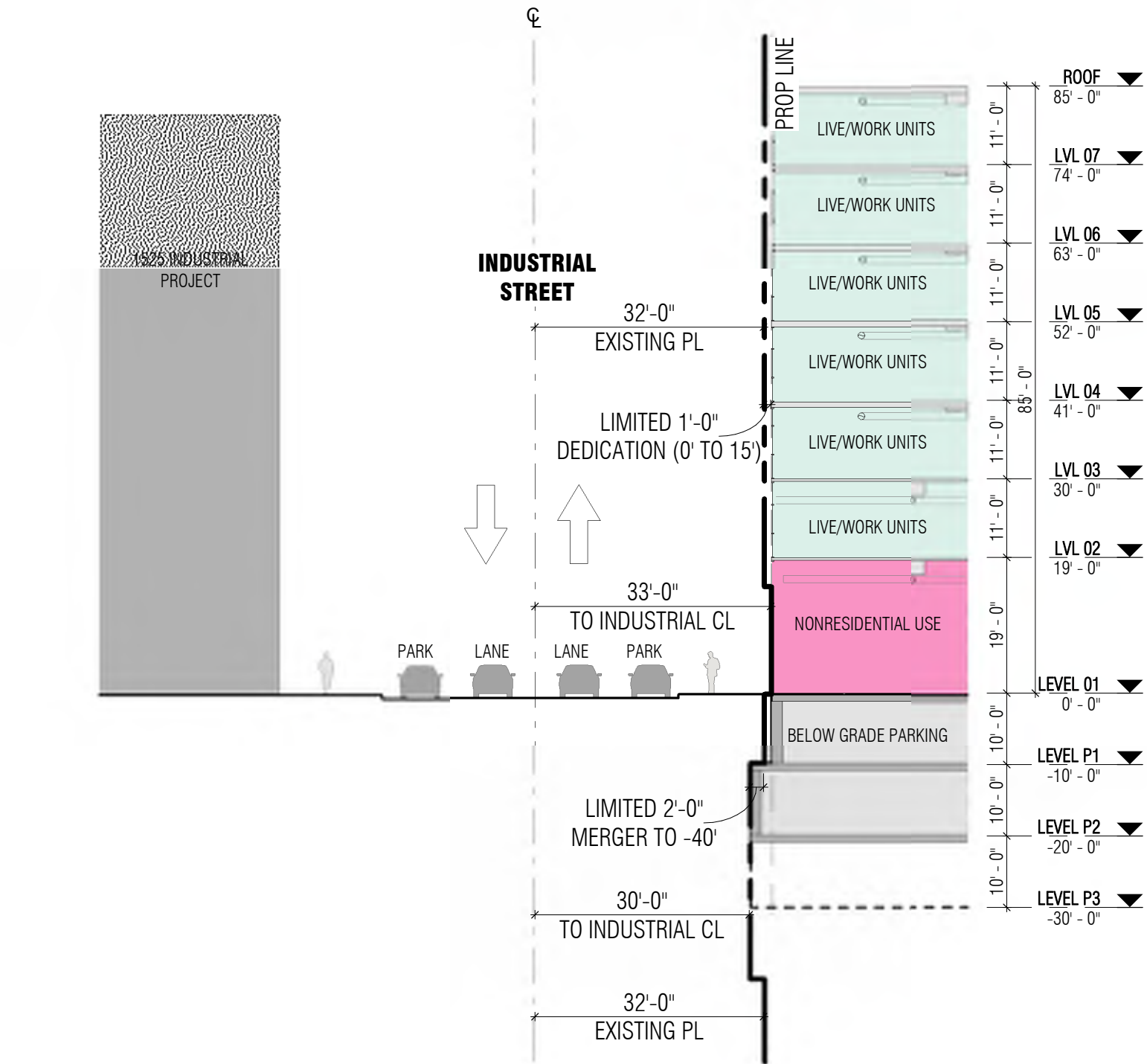
AVA ARTS DISTRICT

668 S ALAMEDA ST
LOS ANGELES, CA 90021

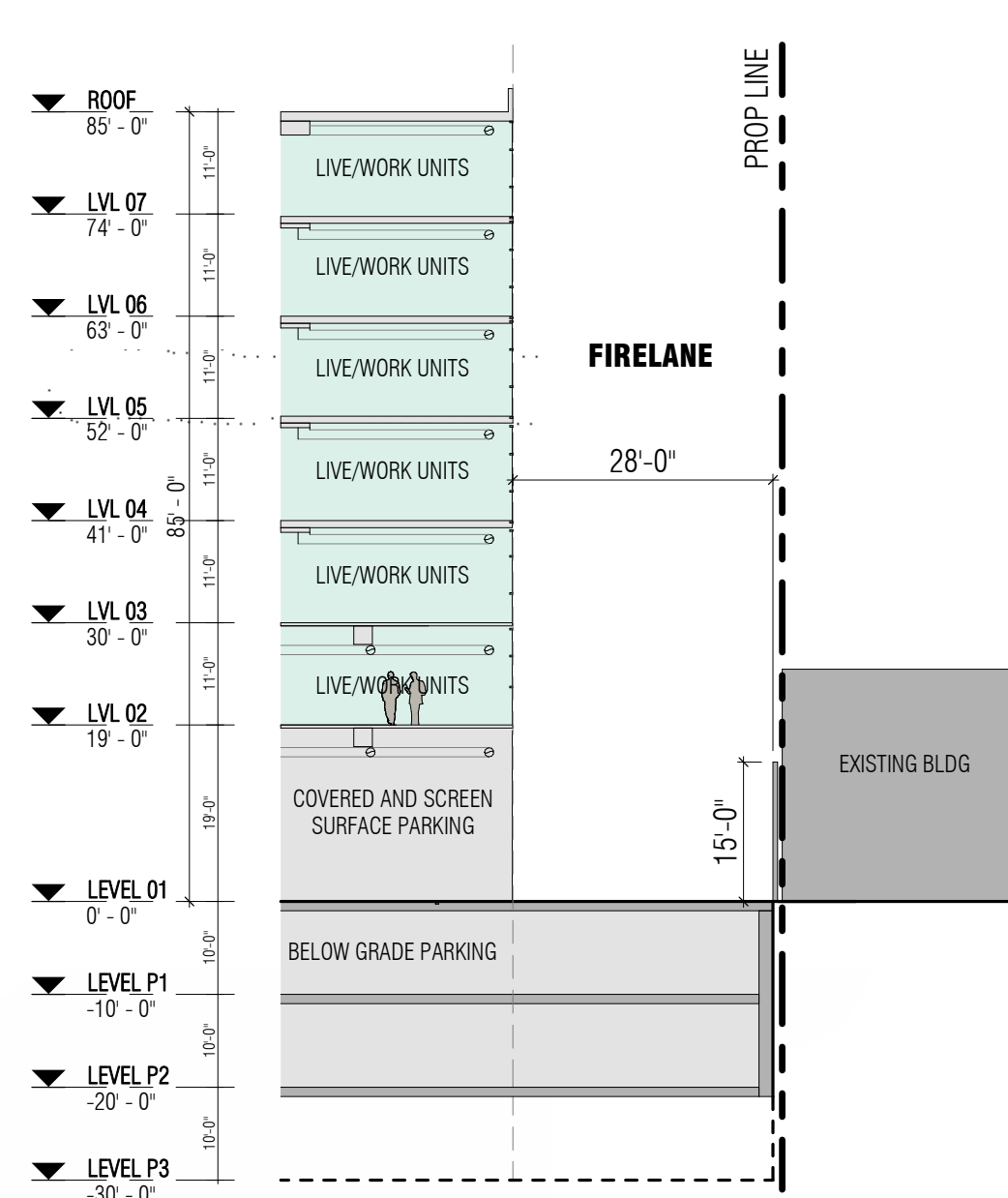
PROJECT NO: 253



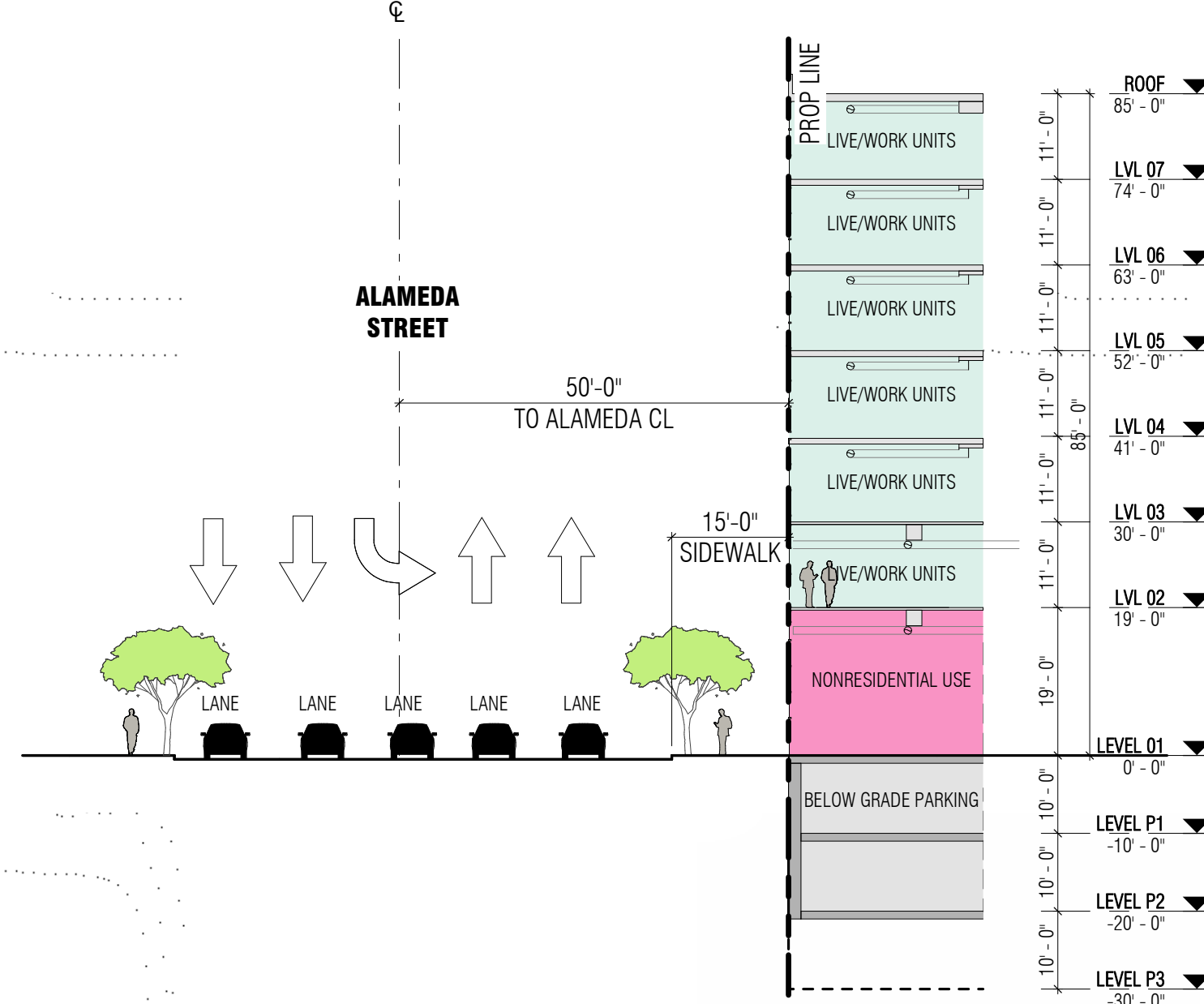
5 SHORING SECTION
1" = 20'-0" RE: 1/A204



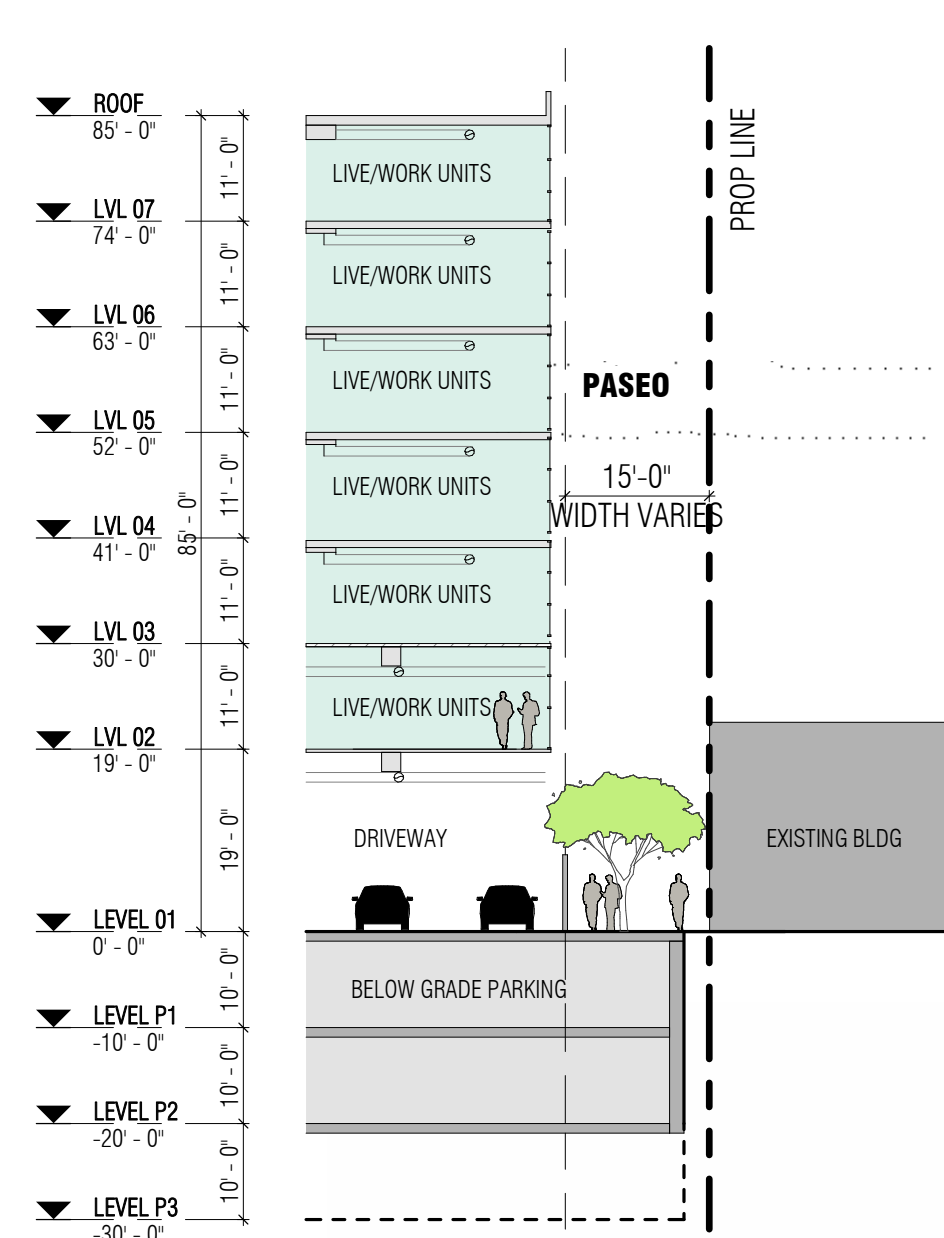
4 INDUSTRIAL - STREET PLAN (FRONT YARD)
1" = 20'-0" RE: 1/A803



3 FIRE LANE - STREET PLAN (SIDE YARD)
1" = 20'-0" RE: 1/A803



2 ALAMEDA - STREET PLAN (FRONT YARD)
1" = 20'-0" RE: 1/A803



1 PASEO - STREET PLAN (SIDE YARD)
1" = 20'-0" RE: 1/A803

GENERAL NOTES

SHEET NOTES

LEGEND

CPC-2016-3575-GPA-VZC-HD-MCUP-DB-SPR-WDI

| # | DESCRIPTION | DATE ISSUED |
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| ENTITLEMENT | | FEB. 01, 2017 |
| SD SET FOR REVIEW | | SEP. 07, 2017 |
| ISSUE FOR PRELIMINARY PRICING | | SEP. 29, 2017 |
| CPC EXHIBIT A | | JULY 12, 2018 |

**PRELIMINARY
NOT FOR
CONSTRUCTION**

SCALE: 1" = 20'-0"

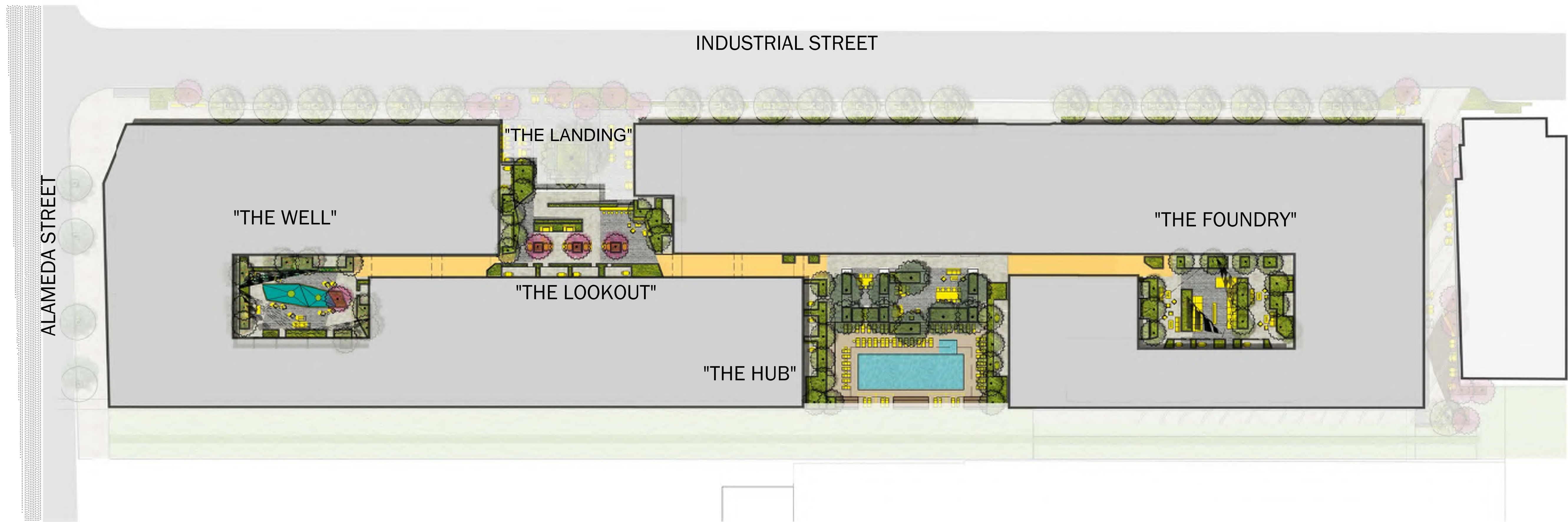
0 10' 20' 40'

STREET PLAN/SECTION DIAGRAMS

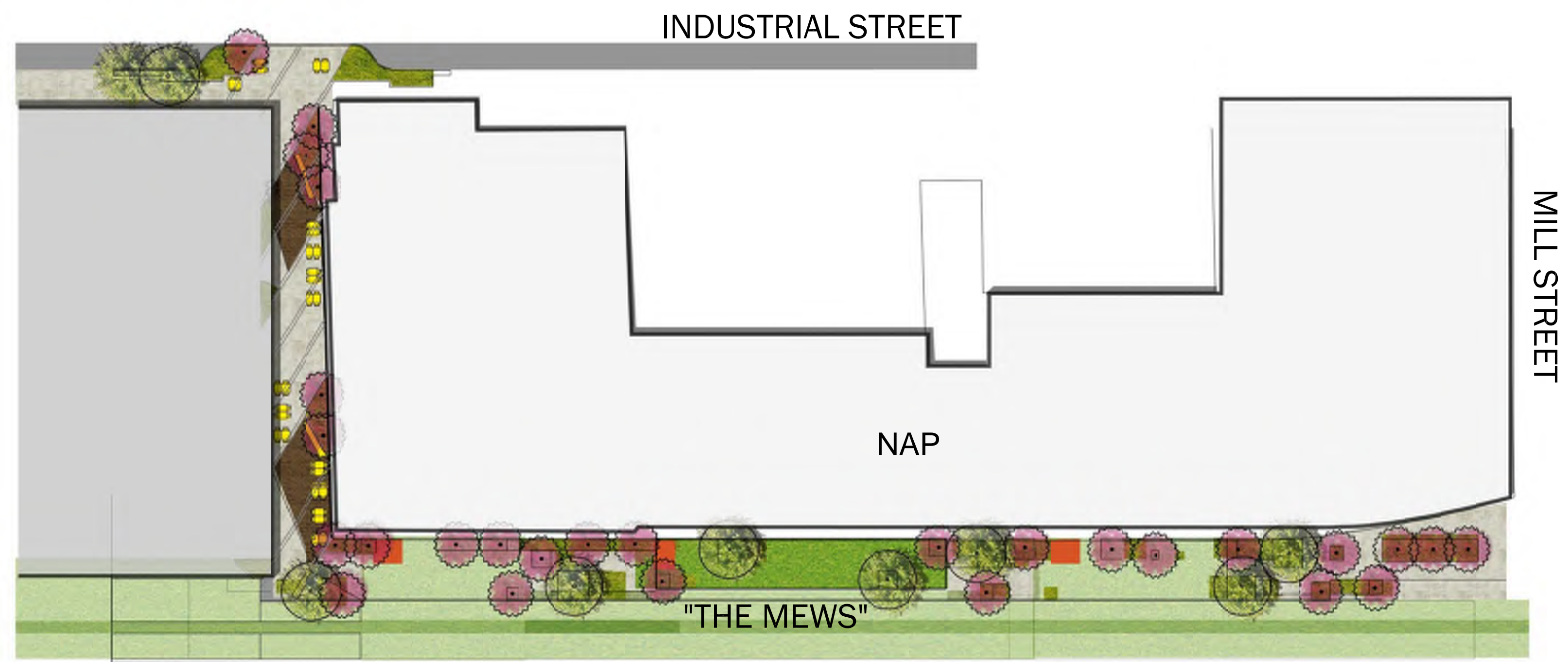
A804

AVA ARTS DISTRICT

668 S ALAMEDA ST
LOS ANGELES, CA 90021
PROJECT NO: 253



2 LEVEL 01 & LEVEL 02 OPEN SPACE
1/32" = 1'-0" RE: A201



1 LEVEL 01 - ALLEY
1/32" = 1'-0" RE: A201

OPEN SPACE CALCULATIONS

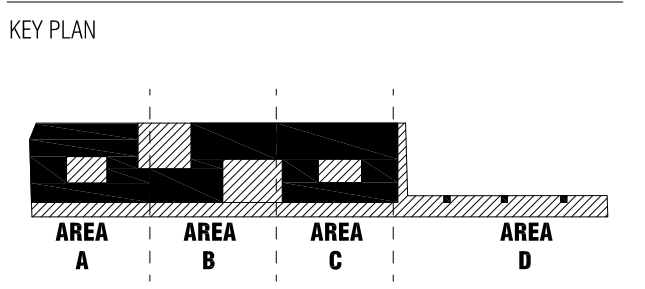
| | |
|---|-----------|
| RESIDENTIAL OPEN SPACE CALCULATION | |
| PER LAMC SECTION 12.21 G.2: | |
| 475 TOTAL UNITS | |
| 54 - STUDIO X 100 SF: | 5,400 SF |
| 167 - 1 BR X 100 SF: | 16,700 SF |
| 208 - 2 BR X 125 SF: | 26,000 SF |
| 44 - 3 BR X 175 SF: | 7,700 SF |
| 2 - 4 BR X 175 SF: | 700 SF |
| SUBTOTAL: | 56,500 SF |
| 20% REDUCTION** | 11,300 SF |
| TOTAL OPEN SPACE REQUIRED..... | 45,200 SF |
| COMMON OPEN SPACE REQUIRED (50% OF TOTAL OPEN SPACE) | 22,600 SF |
| OPEN SPACE PROVIDED | |
| COMMON OPEN SPACE | |
| LEVEL 1 PROPOSED | 14,537 SF |
| LEVEL 2 PROPOSED | 20,625 SF |
| RESIDENTIAL RECREATION ROOMS PROVIDED | 6,711 SF |
| LEVEL 4 PROPOSED | 582 SF |
| LEVEL 5 PROPOSED | 1,717 SF |
| LEVEL 6 PROPOSED | 1,242 SF |
| LEVEL 7 PROPOSED | 2,660 SF |
| TOTAL COMMON OPEN SPACE PROPOSED | 48,074 SF |
| PRIVATE OPEN SPACE | |
| PRIVATE TERRACES & PATIOS..... | 1,500 SF |
| TOTAL PRIVATE OPEN SPACE PROPOSED..... | 1,500 SF |
| TOTAL OPEN SPACE PROPOSED..... | 49,574 SF |
| PLANTING REQUIREMENT - 25% OF COMMON OPEN SPACE IS REQUIRED TO BE PLANTED | |
| COMMON OPEN SPACE PLANTING REQUIRED..... | 5,650 SF |
| COMMON OPEN SPACE PLANTING PROPOSED AT LEVEL 1 | 2,856 SF |
| COMMON OPEN SPACE PLANTING PROPOSED AT LEVEL 2 | 4,637 SF |
| TOTAL COMMON OPEN SPACE PLANTING PROPOSED | 7,493 SF |
| TREE CALCULATION | |
| PER LAMC SECTION 12.21 G.2 - MIN. 1 24" BOX TREE PER 4 UNITS REQUIRED | |
| TREES REQUIRED W/ 475 TOTAL UNITS..... | 119 TREES |
| TOTAL TREES PROPOSED ONSITE | 119 TREES |
| 2 TOTAL EXISTING STREET TREES TO BE REMOVED | |
| TOTAL PROPOSED REPLACEMENT TREES (@ 2:1 RATIO)..... | 4 TREES |
| ** 20% REDUCTION IS PER ON-MENU DENSITY BONUS INCENTIVE. | |

GENERAL NOTES

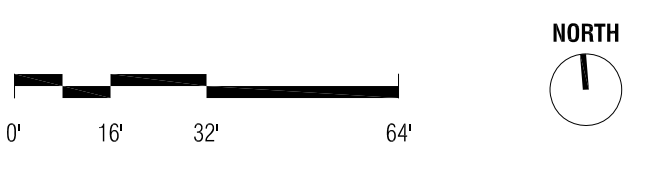
SHEET NOTES

LEGEND

| | |
|--|-------------------------------|
| CPC-2016-3575-GPA-VZC-HD-MCUP-DB-SPR-WD1 | |
| # | DESCRIPTION |
| 1 | ISSUE FOR PRELIMINARY PRICING |
| 2 | UPDATED ENTITLEMENT |
| 3 | CPC EXHIBIT A |



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CONSTRUCTION

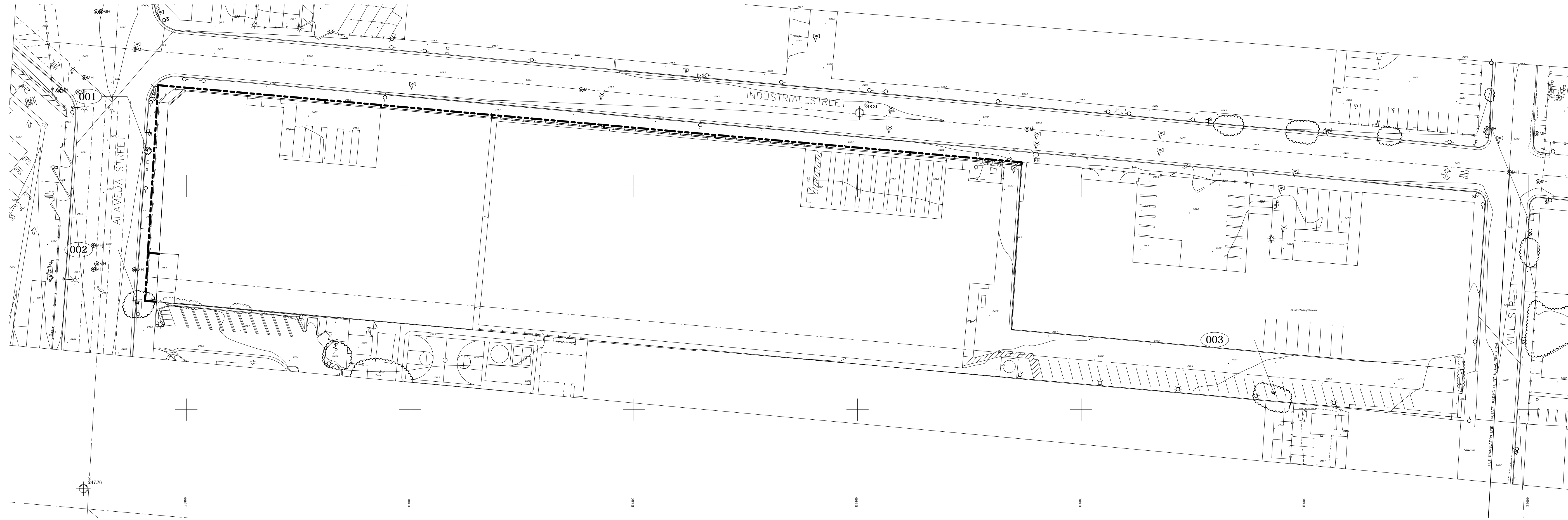


OPEN SPACE CALCULATIONS
L001

AVA ARTS DISTRICT

668 S ALAMEDA ST
LOS ANGELES, CA 90021

PROJECT NO: 253



1 SURVEY

N.T.S. RE: U/A/201

EXISTING TREE SCHEDULE

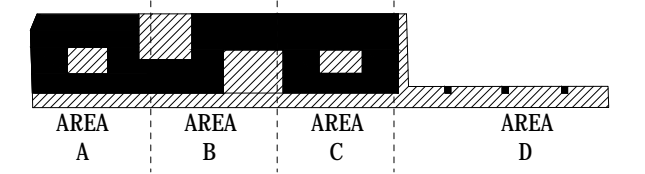
| KEY | BOTANICAL NAME | COMMON NAME | NOTES |
|-----|-----------------------------|-------------|---|
| 001 | <i>Podocarpus gracillor</i> | Fern Pine | Existing 6" caliper street tree to be replaced** |
| 002 | <i>Podocarpus gracillor</i> | Fern Pine | Existing 12" caliper street tree to be replaced** |
| 003 | <i>Ulmus parvifolia</i> | Chinese Elm | Existing 10" caliper tree to be removed |

** All street trees to be removed will be replaced w/ 2:1 ratio

CPC-2016-3575-GPA-VZC-HD-MCUP-DB-SPR-WD1

| # | DESCRIPTION | DATE ISSUED |
|---|-------------------------------|----------------|
| 1 | ISSUE FOR PRELIMINARY PRICING | SEPT. 29, 2017 |
| 2 | UPDATED ENTITLEMENT | MAY 22, 2018 |
| 3 | CPC EXHIBIT A | JULY 12, 2018 |

KEY PLAN



PRELIMINARY
NOT FOR
CONSTRUCTION



EXISTING TREE SURVEY

L002

GENERAL NOTES

SHEET NOTES

PER LAMC SECTION 12.21 SUBSECTION A,
SUBDIVISION 12, THERE ARE NO
PROTECTED TREE SPECIES CURRENTLY ON
SITE.

LEGEND

TAX THE RICH
GRAPHIC

MULTI-MODAL

GREEN ALLEY

PARKLETS

POP-UP AMENITIES

OUTDOOR DINING

- MULTI-MODAL
- URBAN GREEN STREET
- POST-INDUSTRIAL FRINGE
- FOUND, APPROPRIATED SPACE

- ASPHALT
- CONCRETE
- GRASSCRETE / URBAN COBBLE

668 S ALAMEDA ST
LOS ANGELES, CA 90021 PROJECT NO: 253

| # | DESCRIPTION | DATE ISSUED |
|---|-------------------------------|----------------|
| | ISSUE FOR PRELIMINARY PRICING | SEPT. 29, 2017 |
| | UPDATED ENTITLEMENT | MAY 22, 2018 |
| | CPC EXHIBIT A | JULY 12, 2018 |
| | | |
| | | |
| | | |
| | | |

Diagram illustrating a stepped profile with four areas labeled A, B, C, and D. The profile is composed of four rectangular blocks of different heights and widths, arranged in a descending staircase pattern. Area A is the first block, Area B is the second block, Area C is the third block, and Area D is the base area.

IRTH

L003

LEGEND

ENTRY PLAZAS - THE LANDINGS



CONCEPT

- ARRIVAL
- EXCHANGE POINTS
- COMMERCIAL ACTIVITY
- FLEXIBLE

MATERIALS

- UNIT PAVING
- WOOD
- GREEN FACADES / VINES

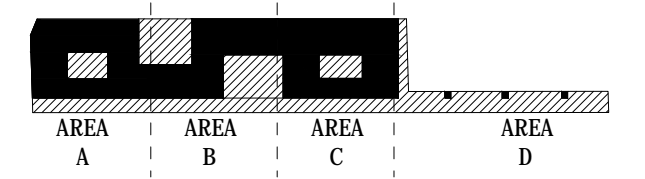
AVA ARTS DISTRICT

668 S ALAMEDA ST
LOS ANGELES, CA 90021
PROJECT NO: 253

CPC-2016-3575-GPA-VZC-HD-MCUP-DB-SPR-W01

| # | DESCRIPTION | DATE ISSUED |
|---|-------------------------------|----------------|
| 1 | ISSUE FOR PRELIMINARY PRICING | SEPT. 29, 2017 |
| 2 | UPDATED ENTITLEMENT | MAY 22, 2018 |
| 3 | CPC EXHIBIT A | JULY 12, 2018 |
| | | |
| | | |
| | | |

KEY PLAN



PRELIMINARY
NOT FOR
CONSTRUCTION



OPEN SPACE CONCEPTS - THE LANDINGS

L004

GENERAL NOTES

SHEET NOTES

LEGEND

COURTYARD 2 - THE LOOKOUT



BBQ / AMENITIES



SEATING



OVERLOOK



OUTDOOR DINING



OVERLOOK



WORK BAR

CONCEPT

- OVERLOOK
- SOCIAL SPACE
- PUBLIC INTERFACE & TRANSITION

MATERIALS

- WOOD
- CONC. / CMU PLANTERS
- UNIT PAVING

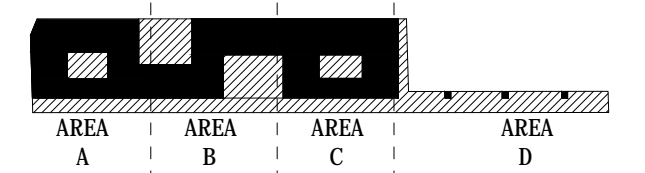
AVA ARTS DISTRICT

668 S ALAMEDA ST
LOS ANGELES, CA 90021
PROJECT NO: 253

CPC-2016-3575-GPA-VZC-HD-MCUP-DB-SPR-W01

| # | DESCRIPTION | DATE ISSUED |
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| 3 | CPC EXHIBIT A | JULY 12, 2018 |
| | | |
| | | |
| | | |

KEY PLAN



PRELIMINARY
NOT FOR
CONSTRUCTION



OPEN SPACE CONCEPTS - THE LOOKOUT

L005

GENERAL NOTES

SHEET NOTES

LEGEND

COURTYARD 3 - THE HUB



OUTDOOR ACTIVITY
ZONES



DINING GROVE



COMMUNITY



SOCIAL MEETING PLACE



URBAN RESORT

CONCEPT

- ASSEMBLY SPACE
- COMMUNITY GATHERING
- SOCIAL AMENITIES
- ACTIVE SPACE

MATERIALS

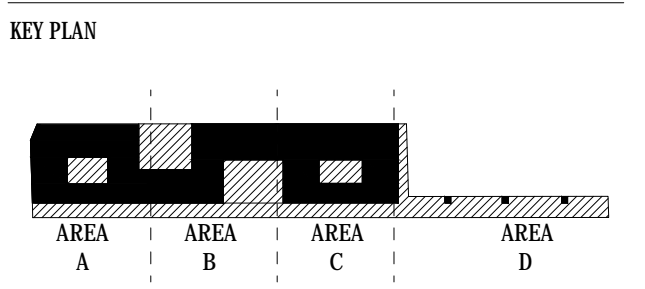
- PEDESTAL PAVERS
- BOARDFORM CONCRETE
- WOOD
- UNIT PAVING

AVA ARTS DISTRICT

668 S ALAMEDA ST
LOS ANGELES, CA 90021
PROJECT NO: 253

CPC-2016-3575-GPA-VZC-HD-MCUP-DB-SPR-W01

| # | DESCRIPTION | DATE ISSUED |
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| | | |
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| | | |



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CONSTRUCTION



OPEN SPACE CONCEPTS - THE HUB
L006

GENERAL NOTES

SHEET NOTES

LEGEND

COURTYARD 4 - THE FOUNDRY



CONCEPT

- GROUP LOUNGE
- FIREPITS
- SOCIAL SPACE

MATERIALS

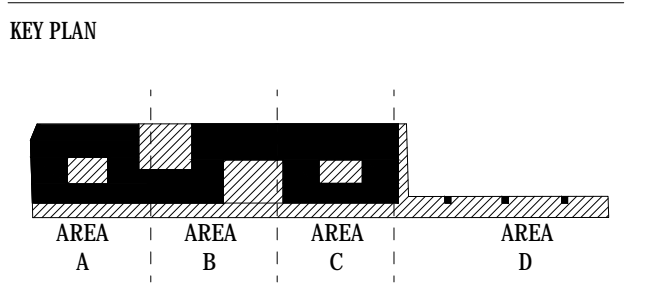
- BOARDFORM CONCRETE
- WOOD
- CORTEN
- VINE CABLING

AVA ARTS DISTRICT

668 S ALAMEDA ST
LOS ANGELES, CA 90021
PROJECT NO: 253

CPC-2016-3575-GPA-VZC-HD-MCUP-DB-SPR-WD1

| # | DESCRIPTION | DATE ISSUED |
|---|-------------------------------|----------------|
| 1 | ISSUE FOR PRELIMINARY PRICING | SEPT. 29, 2017 |
| 2 | UPDATED ENTITLEMENT | MAY 22, 2018 |
| 3 | CPC EXHIBIT A | JULY 12, 2018 |



PRELIMINARY
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CONSTRUCTION



OPEN SPACE CONCEPTS - THE FOUNDRY

L007

GENERAL NOTES

SHEET NOTES

LEGEND

COURTYARD 1 - THE WELL



CONCEPT

- RESTORATIVE
- WATER NOISE
- GARDEN-LIKE
- SMALLER GATHERINGS



MATERIALS

- BOARDFORM CONCRETE
- WOOD
- VINE CABLING
- MESH NETTING

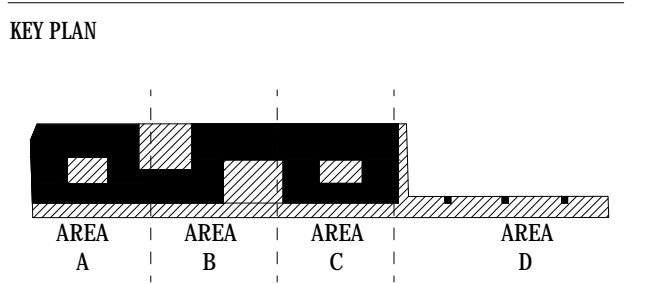


AVA ARTS DISTRICT

668 S ALAMEDA ST
LOS ANGELES, CA 90021
PROJECT NO: 253

CPC-2016-3575-GPA-VZC-HD-MCUP-DB-SPR-WD1

| # | DESCRIPTION | DATE ISSUED |
|---|-------------------------------|----------------|
| 1 | ISSUE FOR PRELIMINARY PRICING | SEPT. 29, 2017 |
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| 3 | CPC EXHIBIT A | JULY 12, 2018 |
| | | |
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| | | |



PRELIMINARY
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CONSTRUCTION



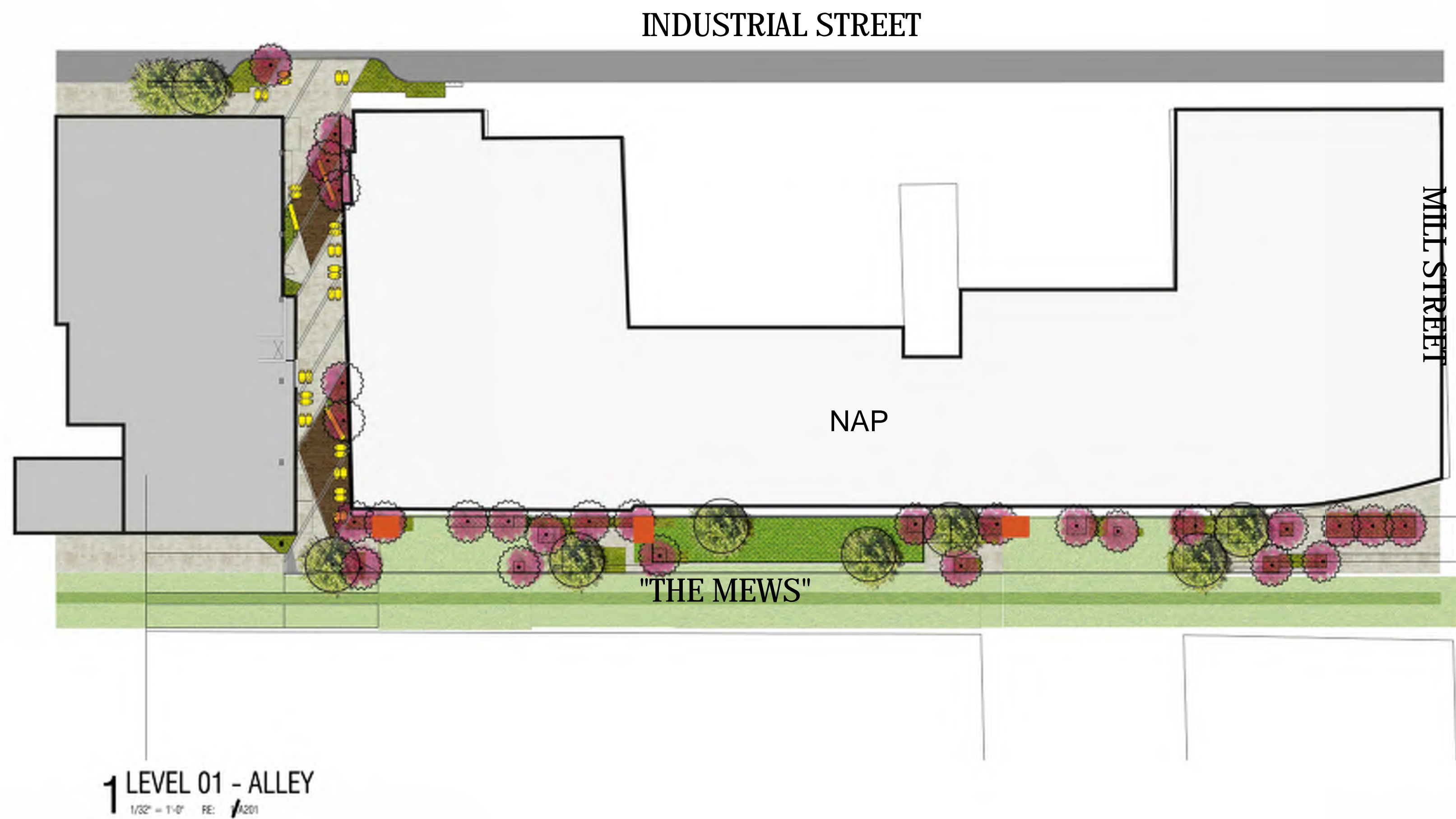
OPEN SPACE CONCEPTS - THE WELL

L008

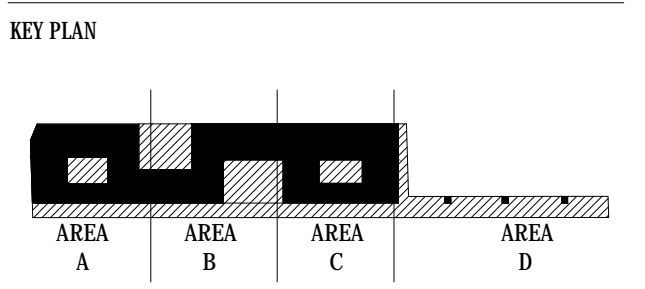
GENERAL NOTES

SHEET NOTES

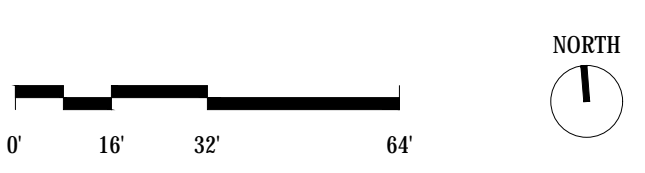
LEGEND



| CPC-2016-3575-GPA-VZC-HD-MCUP-DB-SPR-WD1 | | |
|--|-------------------------------|----------------|
| # | DESCRIPTION | DATE ISSUED |
| 1 | ISSUE FOR PRELIMINARY PRICING | SEPT. 28, 2017 |
| 2 | UPDATED ENTITLEMENT | MAY 22, 2018 |
| 3 | CPC EXHIBIT A | JULY 12, 2018 |
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| | | |
| | | |

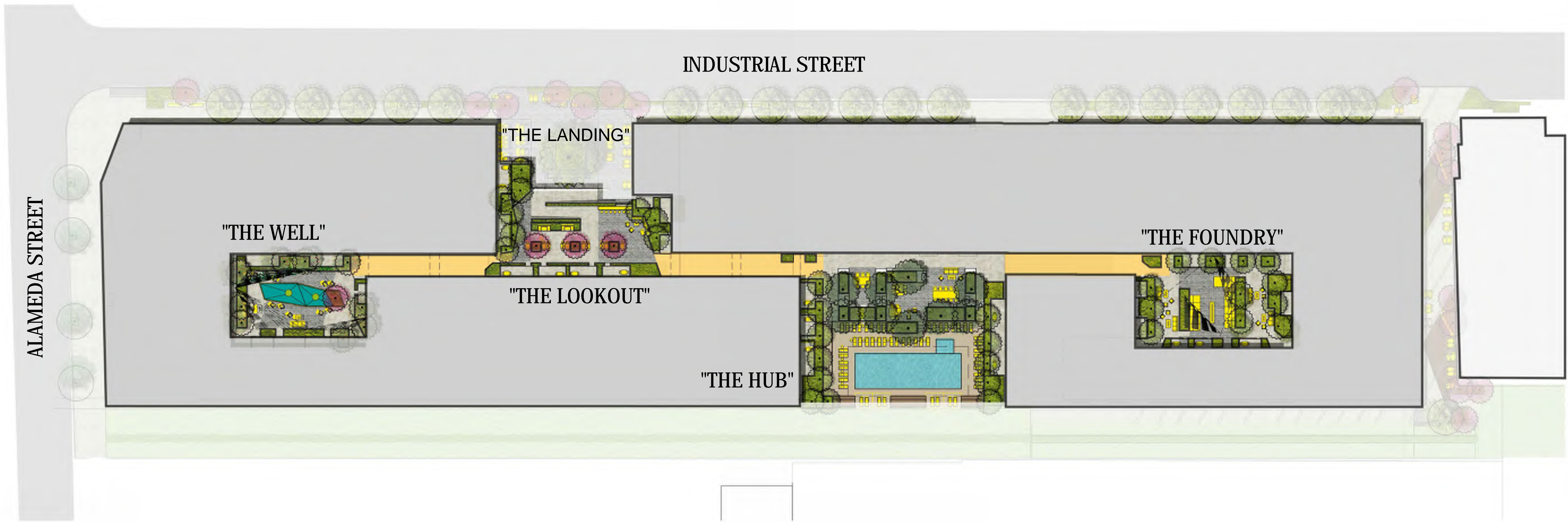


PRELIMINARY
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CONSTRUCTION



AVA ARTS DISTRICT

668 S ALAMEDA ST
LOS ANGELES, CA 90021
PROJECT NO: 253

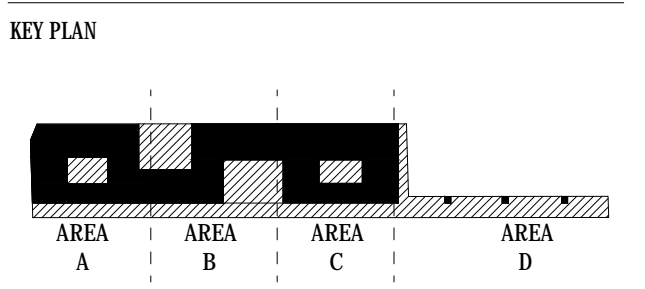


2 LEVEL 01 & LEVEL 02 OPEN SPACE

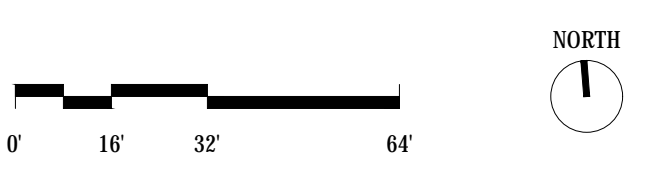
1/32" = 1'-0" RE: 1/201

CPC-2016-3575-GPA-VZC-HD-MCUP-DB-SPR-WD1

| # | DESCRIPTION | DATE ISSUED |
|---|-------------------------------|----------------|
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PRELIMINARY
NOT FOR
CONSTRUCTION



LEVEL 02 - LANDSCAPE PLAN

L111

GENERAL NOTES

SHEET NOTES

LEGEND

PRIVATE PATIOS

VINE STRUCTURE

HAMMOCK LOUNGES

CMU PLANTER
WITH PATIO TREES

FIRE PIT, TYP.

VINE STRUCTURE

PLANTING IN HAMMOCK BASE

SITE FURNISHINGS, TYP

UNIT PAVERS

VINE STRUCTURE

1 ENLARGED PLAN - "THE WELL"

1/8"=1'-0" RE: 1/A201

PRIVATE COURTYARDS - MATERIALS

TREES



Ulmus parviflora



Lagerstroemia indica

SHRUBS



Leonotis spp.



Polystichum minutum



Polystegia spp.



Heuchera spp.

GENERAL NOTES

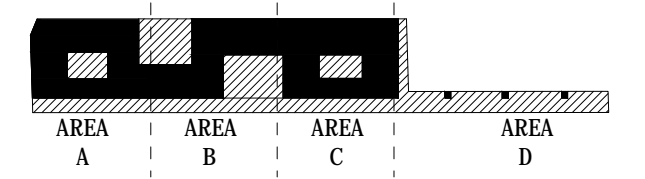
SHEET NOTES

LEGEND

CPC-2016-3575-GPA-VZC-HD-MCUP-DB-SPR-WD1

| # | DESCRIPTION | DATE ISSUED |
|---|-------------------------------|----------------|
| 1 | ISSUE FOR PRELIMINARY PRICING | SEPT. 29, 2017 |
| 2 | UPDATED ENTITLEMENT | MAY 22, 2018 |
| 3 | CPC EXHIBIT A | JULY 12, 2018 |
| | | |
| | | |
| | | |

KEY PLAN



PRELIMINARY
NOT FOR
CONSTRUCTION



LEVEL 02 - LANDSCAPE ENLARGED PLAN

L112



1/8" = 1'-0" RE: 1/A201

Achillea spp.

L113

LEGEND

AVA ARTS DISTRICT

668 S ALAMEDA ST
LOS ANGELES, CA 90021
PROJECT NO: 253

COMMUNAL TABLES

UNIT PAVERS

BARBEQUE

PRIVATE PATIOS

RAMP TO POOL
TERRACE

PEDESTAL PAVING

BUILT-IN WOOD
LOUNGE BENCHES

STAIR TO POOL TERRACE

CHAISE LOUNGE, TYP.

FITNESS ROOM PATIO

CABANAS WITH
RETRACTABLE AWNINGS

1 ENLARGED PLAN - "THE HUB"

1/8"=1'-0" RE: 1/A201

POOL DECK - MATERIALS



Lorostephon confertus



Olea europaea



Agave spp.



Grevillea spp.



Echeveria spp.



Salvia spp.

GENERAL NOTES

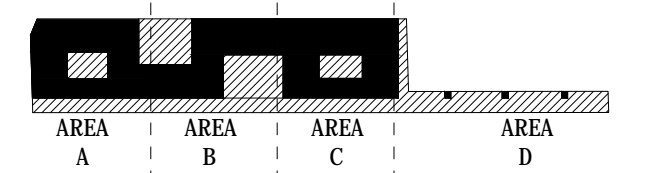
SHEET NOTES

LEGEND

CPC-2016-3575-GPA-VZC-HD-MCUP-DB-SPR-WD01

| # | DESCRIPTION | DATE ISSUED |
|---|-------------------------------|----------------|
| 1 | ISSUE FOR PRELIMINARY PRICING | SEPT. 28, 2017 |
| 2 | UPDATED ENTITLEMENT | MAY 22, 2018 |
| 3 | CPC EXHIBIT A | JULY 12, 2018 |
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| | | |
| | | |

KEY PLAN



PRELIMINARY
NOT FOR
CONSTRUCTION



LEVEL 02 - LANDSCAPE ENLARGED PLAN

L114



1 ENLARGED PLAN - "THE FOUNDRY"

1/8"=1'-0" RE: 1/A201

PRIVATE COURTYARDS - MATERIALS



Lorostephom confertus



Lagerstroemia 'Muskogee'



Echeveria spp.



Polystichum 'Lemon Button'



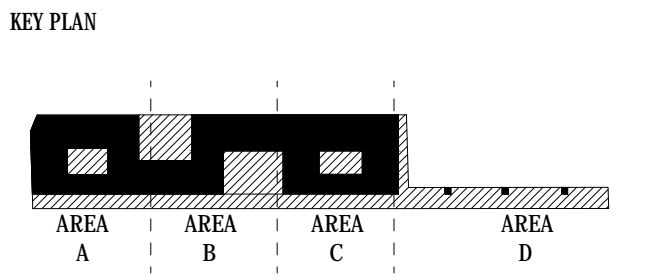
Solanum jasminoides



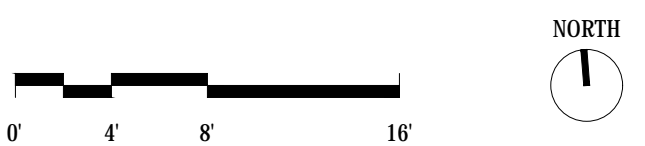
Heuchera spp.

CPC-2016-3575-GPA-VZC-HD-MCUP-DB-SPR-W01

| # | DESCRIPTION | DATE ISSUED |
|---|-------------------------------|----------------|
| 1 | ISSUE FOR PRELIMINARY PRICING | SEPT. 29, 2017 |
| 2 | UPDATED ENTITLEMENT | MAY 22, 2018 |
| 3 | CPC EXHIBIT A | JULY 12, 2018 |



PRELIMINARY
NOT FOR
CONSTRUCTION



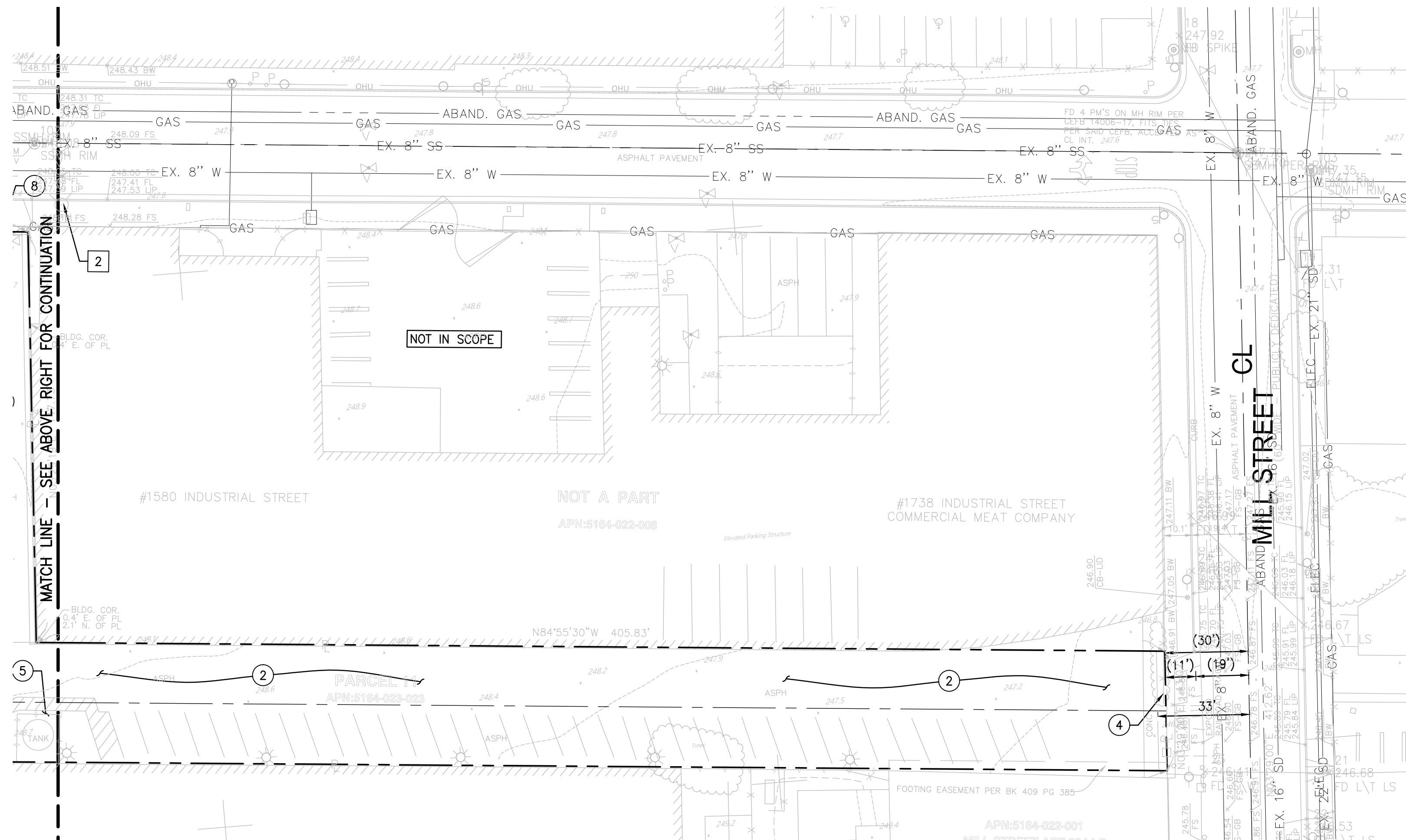
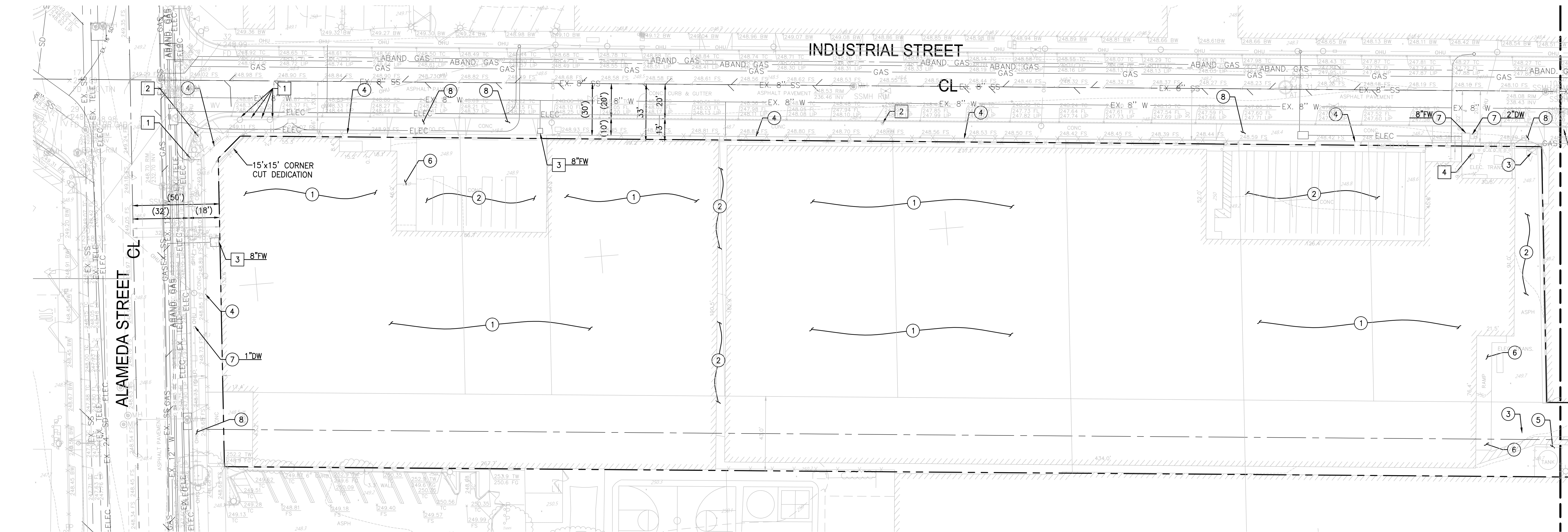
LEVEL 02 - ENLARGED LANDSCAPE PLAN

L115

AVA ARTS DISTRICT

668 S ALAMEDA ST
LOS ANGELES, CA 90021

PROJECT NO: 253



GENERAL NOTES

DEMOLITION NOTES

PROTECT-IN-PLACE

- 1 POWER POLE
- 2 FIRE HYDRANT
- 3 WATER METER
- 4 ELECTRICAL POLE

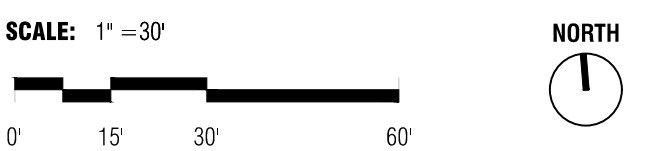
REMOVE & DEMOLISH

- 1 BUILDING
- 2 PAVEMENT
- 3 SEWER CLEANOUT
- 4 GATE AND FENCE
- 5 TANK
- 6 RAMP
- 7 WATER METER COORDINATE WITH LADWP
- 8 DRIVEWAY

LEGEND

LIMIT LINE OF DEMOLITION

PRELIMINARY
NOT FOR
CONSTRUCTION

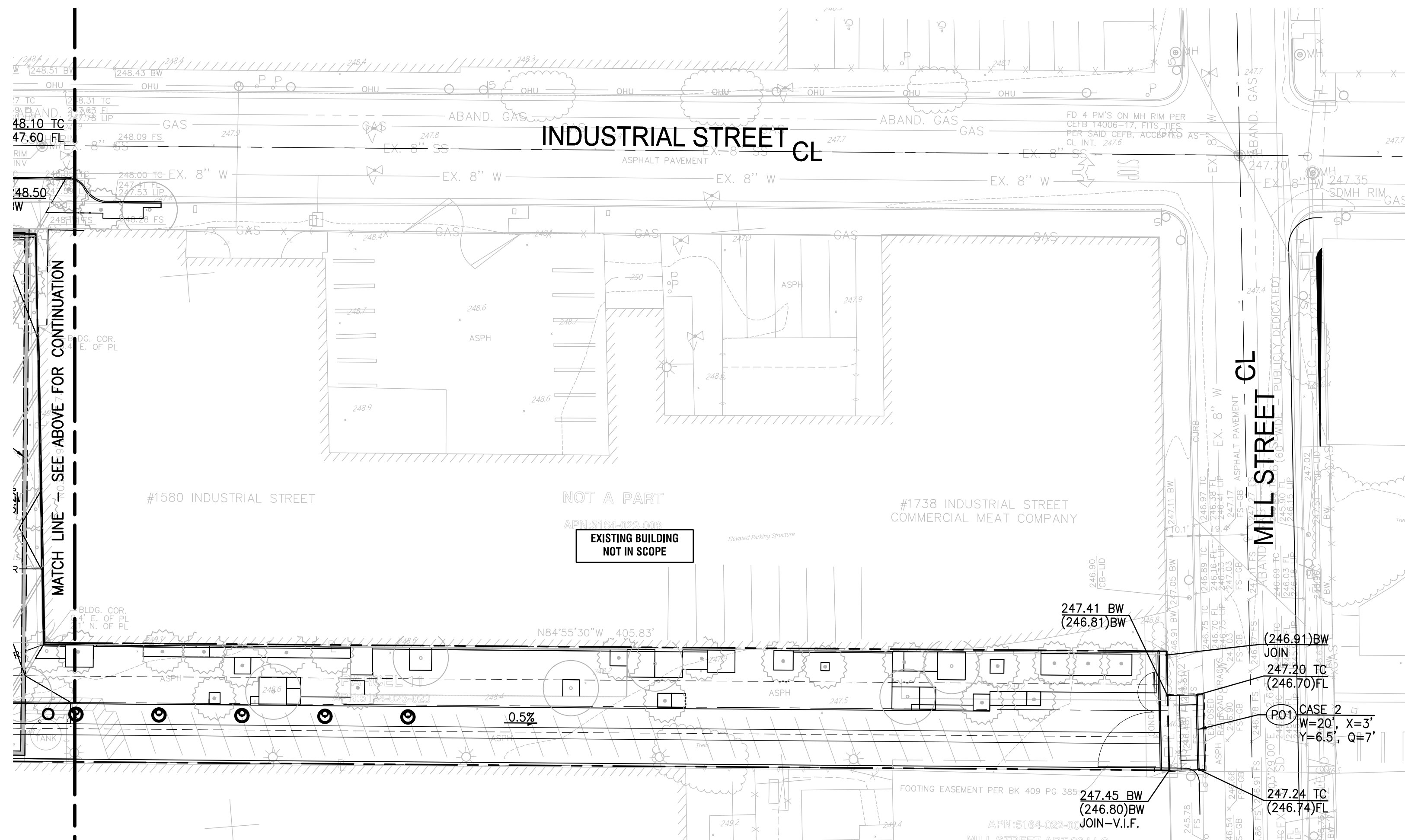
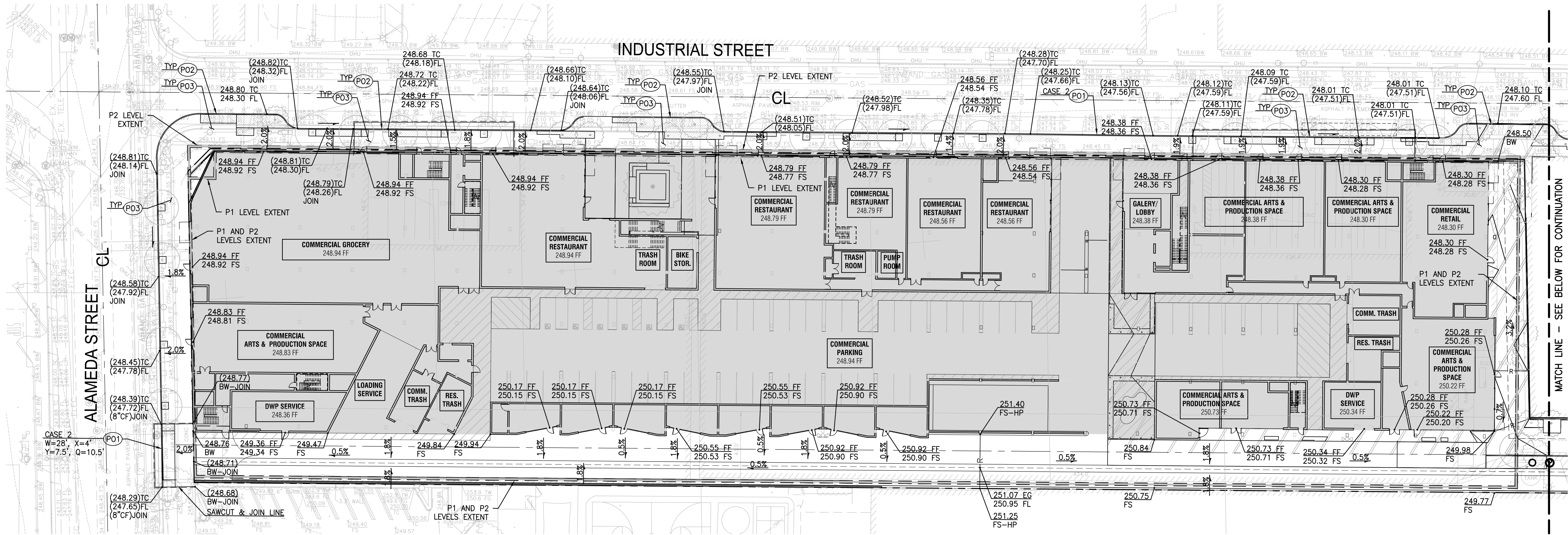


DEMOLITION PLAN

C110

AVA ARTS DISTRICT

668 S ALAMEDA ST
LOS ANGELES, CA 90021
PROJECT NO: 253



GENERAL NOTES

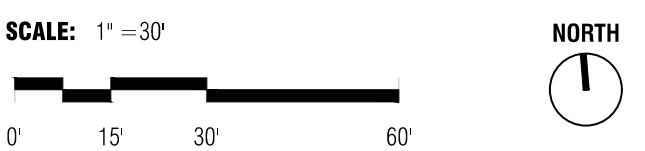
UTILITY CONSTRUCTION NOTES

- (P01) CONCRETE DRIVEWAY PER LA CITY STANDARD PLAN S-440-4.
- (P02) CONCRETE CURB AND GUTTER PER LA CITY STANDARD PLAN S-410-2. JOIN EXISTING.
- (P03) CONCRETE SIDEWALK PER LA CITY STANDARD PLAN S-440-0. JOIN EXISTING.

LEGEND

- LIMIT OF WORK
- - - EXISTING RIGHT OF WAY DEDICATION
- - - EXISTING PROPERTY LINE
- - - PROPOSED PROPERTY LINE
- == EXTENT OF UNDERGROUND LEVEL
- - - EXTENT OF BUILDING OVERHANG
- SURFACE FLOW DIRECTION
- PROPOSED BUILDING (REFER TO ARCHITECTURAL PLANS FOR DETAILS)

PRELIMINARY
NOT FOR
CONSTRUCTION



CONCEPTUAL GRADING PLAN

C130

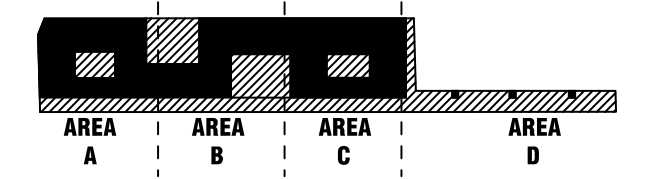
AVA ARTS DISTRICT

688 S ALAMEDA ST
LOS ANGELES, CA 90021

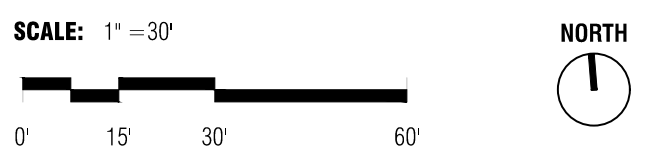
PROJECT NO: 253

| # | DESCRIPTION | DATE ISSUED |
|----|---------------------|--------------|
| 1 | ENTITLEMENT | FEB 01, 2017 |
| 2 | UPDATED ENTITLEMENT | MAY 22, 2018 |
| 3 | | |
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KEY PLAN

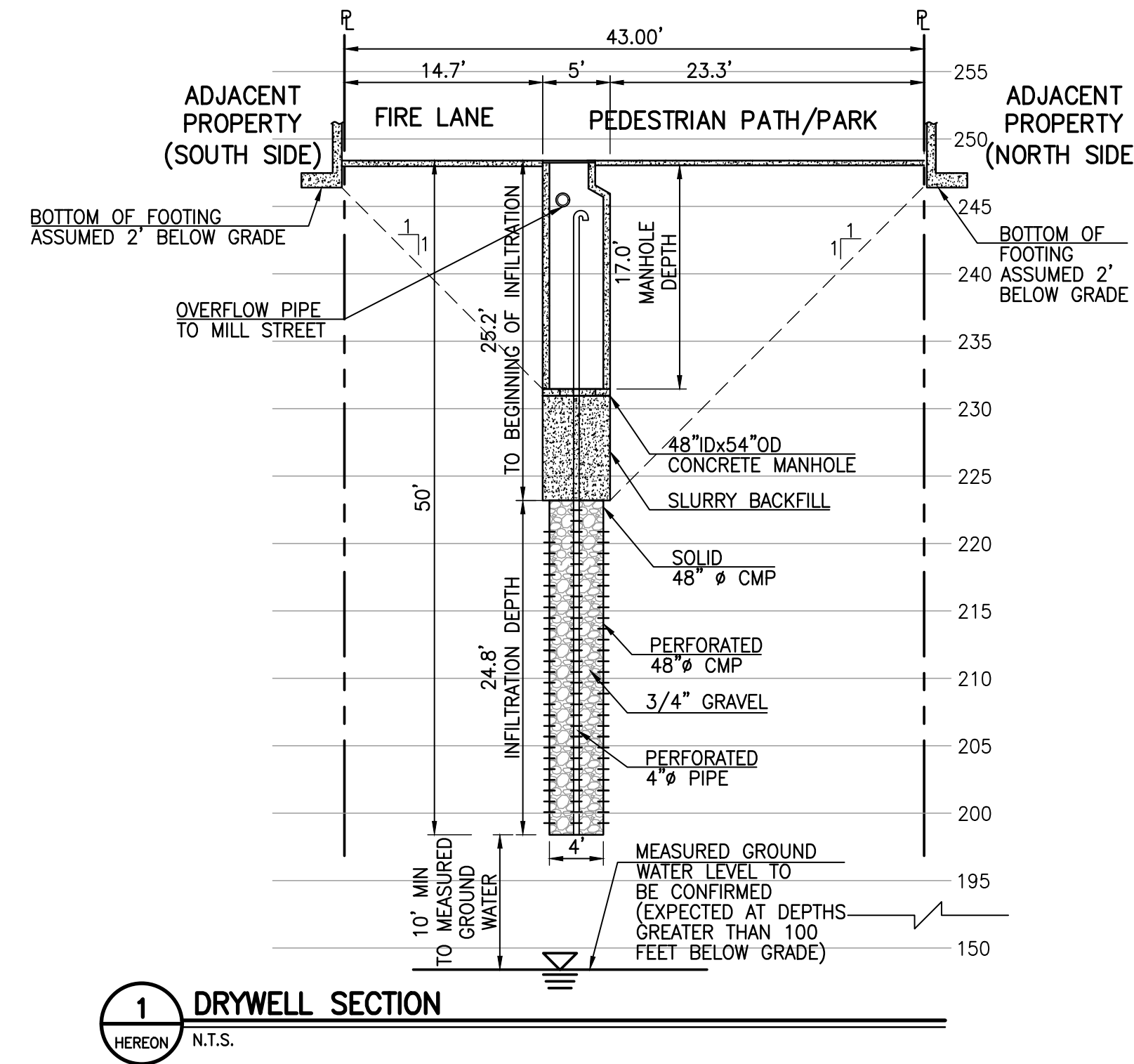
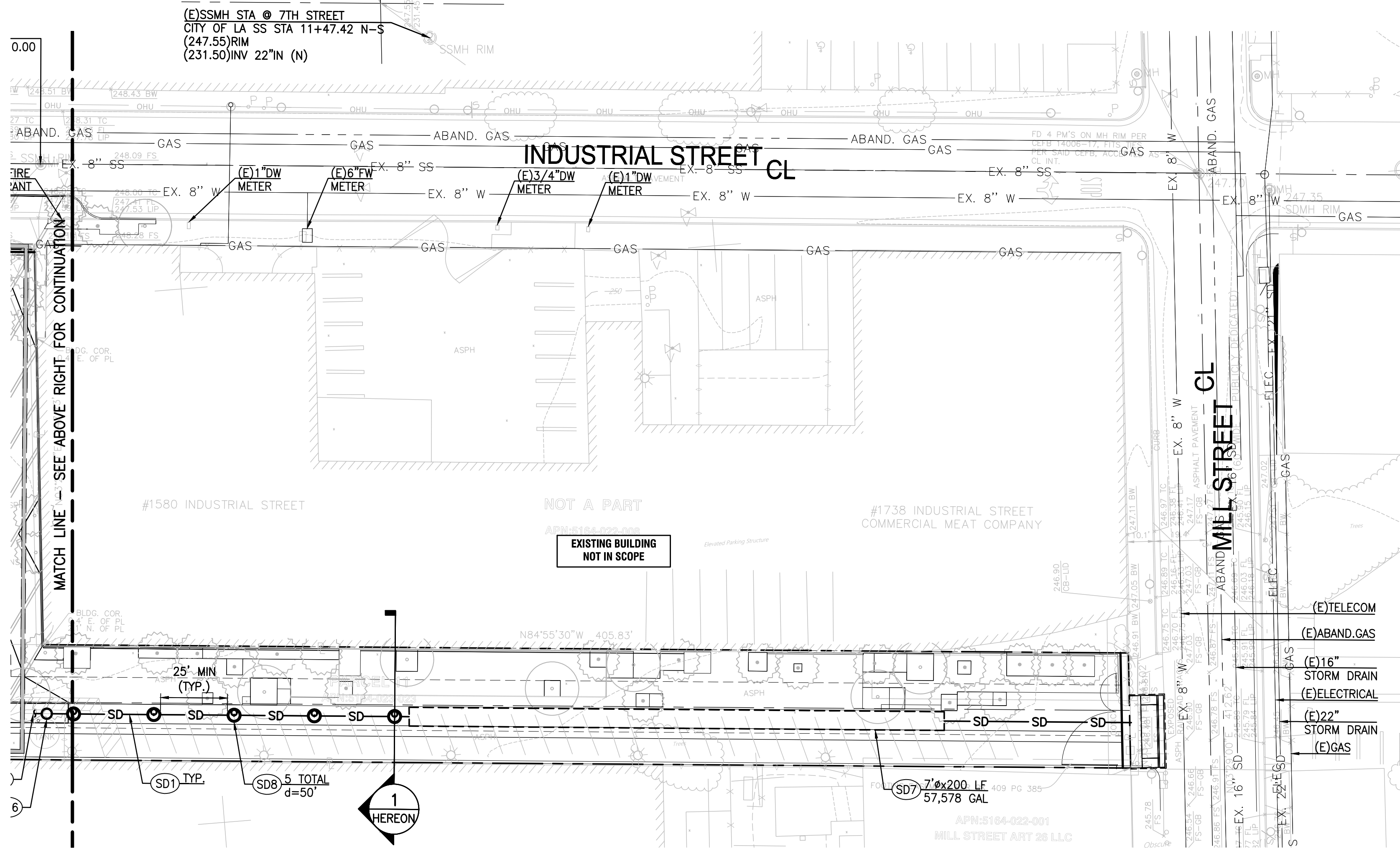
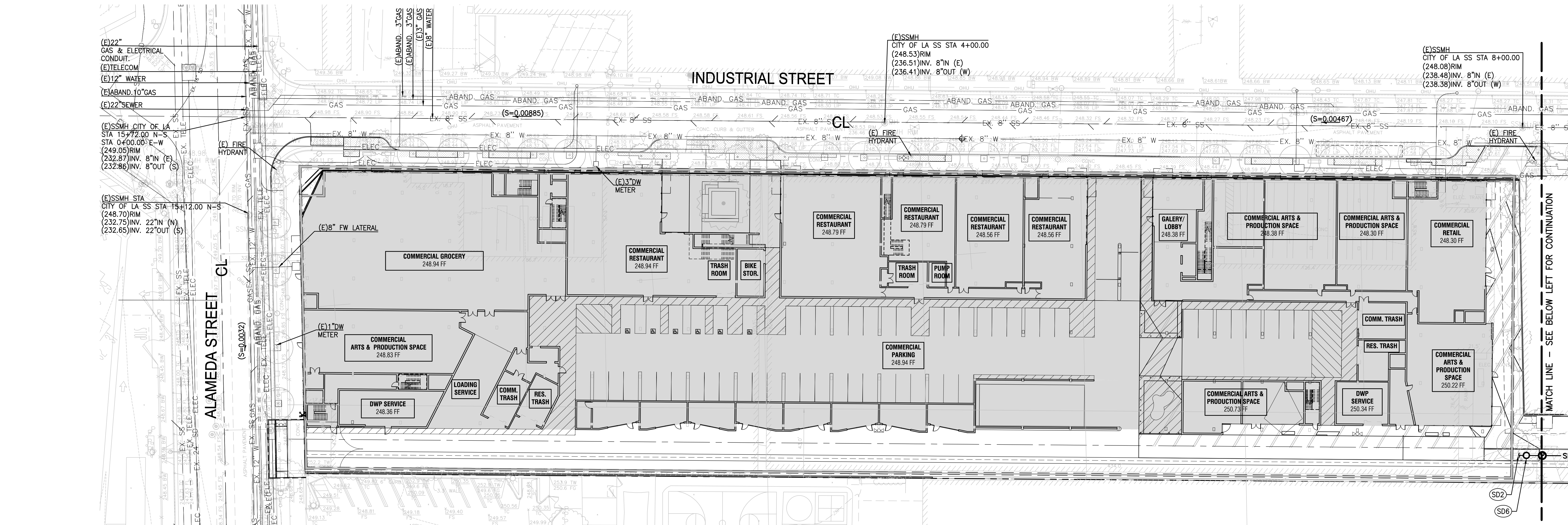


**PRELIMINARY
NOT FOR
CONSTRUCTION**



CONCEPTUAL LID PLAN

C140



GENERAL NOTES

UTILITY CONSTRUCTION NOTES

- STORM DRAIN**
- (SD1) PVC, SDR-35 STORM DRAIN PIPE. SIZE AND SLOPE PER PLAN.
 - (SD2) POINT OF CONNECTION 5 FEET FROM BUILDING FACE.
 - (SD3) CLEANOUT.
 - (SD4) AREA DRAIN.
 - (SD5) PRECAST CONCRETE CATCH BASIN. JENSEN PRECAST PRODUCTS OR APPROVED EQUIVALENT. SIZE AND GRATE BEARING TYPE PER PLAN.
 - (SD6) STORMWATER PRE-TREATMENT MANHOLE.
 - (SD7) STORM DRAIN CORRUGATED METAL STORAGE TANK. SIZE AND REQUIRED CAPACITY PER PLAN.
 - (SD8) 4' DIAMETER DRYWELL PER DETAIL 1, HEREON. SEE PLAN FOR DEPTH (d) AND QUANTITY.

LEGEND

- LIMIT OF WORK
- EXISTING RIGHT OF WAY DEDICATION
- EXISTING PROPERTY LINE
- PROPOSED PROPERTY LINE
- EXTENT OF UNDERGROUND LEVEL
- EXTENT OF BUILDING OVERHANG
- PROPOSED STORM DRAIN
- PROPOSED BUILDING (REFER TO ARCHITECTURAL PLANS FOR DETAILS)

CHAPTER 4

Mitigation Monitoring Program

4.1 Introduction

This Mitigation Monitoring Program (“MMP”) has been prepared pursuant to Public Resources Code Section 21081.6, which requires a Lead Agency to adopt a “reporting or monitoring program for changes to the project or conditions of project approval, adopted in order to mitigate or avoid significant effects on the environment.” In addition, Section 15097(a) of the State CEQA Guidelines requires that a public agency adopt a program for monitoring or reporting mitigation measures and project revisions, which it has required to mitigate or avoid significant environmental effects. This MMP has been prepared in compliance with the requirements of CEQA, Public Resources Code Section 21081.6 and Section 15097 of the CEQA Guidelines.

The City of Los Angeles is the Lead Agency for the Project and therefore is responsible for administering and implementing the MMP. A public agency may delegate reporting or monitoring responsibilities to another public agency or to a private entity that accepts the delegation; however, until mitigation measures have been completed, the lead agency remains responsible for ensuring that implementation of the mitigation measures occurs in accordance with the program.

An EIR has been prepared to address the potential environmental impacts of the Project. The evaluation of the Project’s impacts takes into consideration project design features and identifies mitigation measures to avoid or reduce potentially significant environmental impacts. This MMP is designed to monitor implementation of the project design features and mitigation measures identified for the Project.

4.2 Organization

As shown on the following pages, each required project design feature and mitigation measure for the Proposed Project is listed and categorized by impact area, with an accompanying identification of the following:

- **Enforcement Agency:** The agency with the power to enforce the project design feature or mitigation measure;
- **Monitoring Agency:** The agency to which reports involving feasibility, compliance, implementation and development are made;
- **Monitoring Phase:** The phase of the Proposed Project during which the project design feature or mitigation measure shall be monitored;

- **Monitoring Frequency:** The frequency at which the project design feature or mitigation measure shall be monitored; and
- **Action Indicating Compliance:** The action of which the Enforcement or Monitoring Agency indicates that compliance with the required project design feature or mitigation measure has been implemented.

4.3 Administrative Procedures and Enforcement

This MMP shall be enforced throughout all phases of the Project. The Applicant shall be responsible for implementing each project design feature and mitigation measure and shall be obligated to provide verification, as identified below, to the appropriate monitoring and enforcement agencies that each project design feature and mitigation measure has been implemented. The Applicant shall maintain records demonstrating compliance with each project design feature and mitigation measure listed below. Such records shall be made available to the City upon request.

During the construction phase and prior to the issuance of building permits, the applicant shall retain an independent Construction Monitor (either via the City or through a third-party consultant), approved by the City of Los Angeles Department of City Planning, who shall be responsible for monitoring implementation of project design features and mitigation measures during construction activities consistent with the monitoring phase and frequency set forth in this MMP.

The Construction Monitor shall also prepare documentation of the Applicant's compliance with the project design features and mitigation measures during construction every 90 days in a form satisfactory to the Department of City Planning. The documentation must be signed by the Applicant and Construction Monitor and be included as part of the Applicant's Compliance Report. The Construction Monitor shall be obligated to immediately report to the Enforcement Agency any non-compliance with mitigation measures and project design features within two businesses days if the Applicant does not correct the non-compliance within a reasonable time of notification to the Applicant by the monitor or if the non-compliance is repeated. Such non-compliance shall be appropriately addressed by the Enforcement Agency.

4.4 Program Modification

The Project shall be in substantial conformance with the project design features and mitigation measures contained in this Mitigation Monitoring Program. The enforcing departments or agencies may determine substantial conformance with project design features and mitigation measures in the MMP in their reasonable discretion. If the department or agency cannot find substantial conformance, a project design feature or mitigation measure may be modified or deleted as follows: the enforcing department or agency, or the decision maker for a subsequent discretionary project related approval, complies with CEQA guidelines, Sections 15162 and 15164, including by preparing an addendum or subsequent environmental clearance to analyze the impacts from the modification to or deletion of the project design features or mitigation measures. Any addendum or subsequent CEQA clearance shall explain why the project design feature or mitigation measure is no longer needed, not feasible, or the other basis for modifying or deleting the project design feature or mitigation measure. Under this process, the modification or deletion of a project design

feature or mitigation measure shall not require a modification to any project discretionary approval unless the Director of Planning also finds that the change to the project design features or mitigation measures results in a substantial change to the Project or the non-environmental conditions of approval.

4.5 Project Design Features, Mitigation Measures, and Implementation

Aesthetics

Project Design Features

PDF AES-1: Construction Fencing: The Applicant shall provide and maintain a construction fence for safety and to screen views to the Project Site during construction to the extent feasible. The fence shall be located along the north, south, east and west perimeters of the Project Site with a minimum height of 8 feet. The Applicant shall ensure through appropriate postings and regular visual inspections that no unauthorized materials are posted on temporary construction barriers or temporary pedestrian walkways, and that such temporary barriers and walkways are maintained in a reasonable manner throughout the construction period.

| | |
|--------------------------------------|--|
| Enforcement Agency: | Los Angeles Department of Building and Safety |
| Monitoring Agency: | Los Angeles Department of Building and Safety |
| Monitoring Phase: | Construction |
| Monitoring Frequency: | Periodic field inspections during construction |
| Action Indicating Compliance: | Field inspection sign-off; Compliance certification report by Project contractor |

PDF AES-2: Screening of Utilities and Loading Areas: The Project would visually screen utilities, such as rooftop and ground-level mechanical equipment and utilities (HVAC systems, antennas, satellite dishes, etc.) from public view. All loading areas will be conducted interior to the buildings or screened from public view.

| | |
|--------------------------------------|--|
| Enforcement Agency: | Los Angeles Department of Building and Safety |
| Monitoring Agency: | Los Angeles Department of Building and Safety |
| Monitoring Phase: | Construction |
| Monitoring Frequency: | Periodic field inspection(s) following construction |
| Action Indicating Compliance: | Field inspection sign-off; Compliance certification report by Project contractor |

PDF AES-3: Glare: Glass and other building materials used in exterior façades shall be low reflective and/or treated with a non-reflective coating in order to minimize glare. Prior to issuance of a building permit, the Department of Building and Safety shall review the exterior building

materials to confirm that they do not exceed the reflectivity of standard building materials, and would not cause significant glare impacts on motorists or nearby residential uses.

| | |
|--------------------------------------|--|
| Enforcement Agency: | Los Angeles Department of Building and Safety |
| Monitoring Agency: | Los Angeles Department of Building and Safety |
| Monitoring Phase: | Construction |
| Monitoring Frequency: | Once at Project plan check; Once during field inspection |
| Action Indicating Compliance: | Plan approval and issuance of applicable building permit; Issuance of Certificate of Occupancy |

PDF AES-4: Lighting: Construction and operational lighting will be shielded and directed downward (or on the specific on-site feature to be lit) in such a manner as to preclude light pollution or light trespass onto adjacent use that would cause more than two foot-candles of lighting intensity or generate direct glare onto exterior glazed windows or glass doors, elevated habitable porches, decks, or balconies of adjacent residential units.

| | |
|--------------------------------------|--|
| Enforcement Agency: | Los Angeles Department of Building and Safety |
| Monitoring Agency: | Los Angeles Department of Building and Safety |
| Monitoring Phase: | Construction |
| Monitoring Frequency: | Periodic field inspections during construction; Once at Project plan check; once during field inspection |
| Action Indicating Compliance: | Field inspection sign-off; Compliance certification report by Project contractor; Plan approval and issuance of applicable building permit; Issuance of Certificate of Occupancy |

PDF AES-5: Façade and Signage Materials: Prior to the issuance of building permits, the proposed types of Project façade and signage materials (e.g., glass, metal panels, etc.) will be submitted to the Department of Building and Safety for review and approval to ensure that highly reflective materials are not utilized.

| | |
|--------------------------------------|--|
| Enforcement Agency: | Los Angeles Department of Building and Safety |
| Monitoring Agency: | Los Angeles Department of Building and Safety |
| Monitoring Phase: | Construction |
| Monitoring Frequency: | Prior to issuance of building permits |
| Action Indicating Compliance: | Plan approval and issuance of applicable building permit; Issuance of Certificate of Occupancy |

Air Quality

Project Design Features

PDF AQ-1: Off-Road Construction Features: In order to reduce diesel particulate matter and NO_x emissions during construction activities all off-road diesel equipment greater than 50 horsepower (hp) used for the Project shall meet USEPA Tier 4 off-road emission standards. If Tier 4 equipment is not available, off-road diesel-powered equipment greater than 50 hp shall meet USEPA Tier 3 emissions standards, where available. All equipment shall be outfitted with BACT devices including a CARB-certified Level 3 Diesel Particulate Filter or equivalent.

| | |
|--------------------------------------|--|
| Enforcement Agency: | Los Angeles Department of Building and Safety |
| Monitoring Agency: | Los Angeles Department of Building and Safety |
| Monitoring Phase: | Construction |
| Monitoring Frequency: | Periodic field inspections during construction |
| Action Indicating Compliance: | Field inspection sign-off; Compliance report by Project contractor |

PDF AQ-2: On-Road Construction Features: All on-road excavation haul trucks exporting soil to the appropriate receiver facility shall be model year 2010 or newer or retrofitted to comply with USEPA Year 2010 on-road emissions standards. Documentation of all on-road trucks exporting soil shall be maintained and made available to SCAQMD for inspection upon request.

| | |
|--------------------------------------|--|
| Enforcement Agency: | Los Angeles Department of Building and Safety |
| Monitoring Agency: | Los Angeles Department of Building and Safety |
| Monitoring Phase: | Construction |
| Monitoring Frequency: | Periodic field inspections during construction |
| Action Indicating Compliance: | Field inspection sign-off; Compliance report by Project contractor |

Cultural Resources

Mitigation Measures

MM ARCH-1: Prior to the issuance of a demolition permit, the Applicant shall retain a qualified Archaeologist who meets the Secretary of the Interior's Professional Qualifications Standards (qualified Archaeologist) to oversee an archaeological monitor who shall be present during construction activities on the Project Site such as demolition, clearing/grubbing, grading, trenching, or any other construction excavation activity associated with the Project. The activities to be monitored shall also include off-site improvements in the vicinity of the Project site, such as utility, sidewalk, or road improvements. The monitor shall have the authority to direct the pace of construction equipment in areas of higher sensitivity. The frequency of monitoring shall be based on the rate of excavation and grading activities, the materials being excavated (younger sediments vs. older sediments), and the depth of excavation, and if found, the abundance and type of

archaeological resources encountered. Full-time monitoring may be reduced to part-time inspections, or ceased entirely, if determined adequate by the qualified Archaeologist. Prior to commencement of excavation activities, an Archaeological Sensitivity Training shall be given for construction personnel. The training session, shall be carried out by the qualified Archaeologist, will focus on how to identify archaeological resources that may be encountered during earthmoving activities, and the procedures to be followed in such an event.

| | |
|--------------------------------------|--|
| Enforcement Agency: | Los Angeles Department of City Planning |
| Monitoring Agency: | Los Angeles Department of City Planning; Los Angeles Department of Building and Safety |
| Monitoring Phase: | Construction |
| Monitoring Frequency: | Periodic per recommendations of archeologist |
| Action Indicating Compliance: | Compliance report by qualified archaeologist |

MM ARCH-2: In the event that historic (e.g., including, but not limited to, bottles, foundations, Zanja water system-related infrastructure, refuse dumps/privies, railroads, etc.) or prehistoric (e.g., hearths, burials, stone tools, shell and faunal bone remains, etc.) archaeological resources are unearthed, ground-disturbing activities shall be halted or diverted away from the vicinity of the find so that the find can be evaluated. An appropriate buffer area shall be established by the qualified Archaeologist around the find where construction activities shall not be allowed to continue. Work shall be allowed to continue outside of the buffer area. All archaeological resources unearthed by Project construction activities shall be evaluated by the qualified Archaeologist. If a resource is determined by the qualified Archaeologist to constitute a “historical resource” pursuant to CEQA Guidelines Section 15064.5(a) or a “unique archaeological resource” pursuant to Public Resources Code Section 21083.2(g), the qualified Archaeologist shall coordinate with the Applicant and the Department of City Planning to develop a formal treatment plan that would serve to reduce impacts to the resources. The treatment plan established for the resources shall be in accordance with CEQA Guidelines Section 15064.5(f) for historical resources and Public Resources Code Sections 21083.2(b) for unique archaeological resources. Preservation in place (i.e., avoidance) is the preferred manner of treatment. If in coordination with the City, it is determined that preservation in place is not feasible, appropriate treatment of the resource shall be developed by the qualified Archaeologist in coordination with and subject to final approval by the Department of City Planning. Treatment may include implementation of archaeological data recovery excavations to remove the resource along with subsequent laboratory processing and analysis. Any archaeological material collected may be curated at a public, non-profit institution with a research interest in the materials, such as the Fowler Museum, if such an institution agrees to accept the material. If no institution accepts the archaeological material, they shall be donated to a local school or historical society in the area for educational purposes.

| | |
|----------------------------|--|
| Enforcement Agency: | Los Angeles Department of City Planning; Los Angeles Department of Building and Safety |
| Monitoring Agency: | Los Angeles Department of Building and Safety |
| Monitoring Phase: | Construction |

| | |
|--------------------------------------|---|
| Monitoring Frequency: | At time of resource discovery, should it occur |
| Action Indicating Compliance: | If archaeological resources are unearthed, submittal of compliance certification report and treatment plan by a qualified archaeologist |

MM ARCH-3: Prior to the release of the grading bond, the qualified Archaeologist shall prepare a final report and appropriate California Department of Parks and Recreation Site Forms at the conclusion of archaeological monitoring. The report shall include a description of resources unearthed, if any, treatment of the resources, results of the artifact processing, analysis, and research, and evaluation of the resources with respect to the California Register of Historical Resources and CEQA. The report and the Site Forms shall be submitted by the Project applicant to the City, the South Central Coastal Information Center, and representatives of other appropriate or concerned agencies to signify the satisfactory completion of the development and required mitigation measures.

| | |
|--------------------------------------|--|
| Enforcement Agency: | Los Angeles Department of City Planning |
| Monitoring Agency: | Los Angeles Department of City Planning |
| Monitoring Phase: | Post-construction |
| Monitoring Frequency: | Once upon completion of excavation |
| Action Indicating Compliance: | Compliance report by qualified archaeologist |

MM ARCH-4: If human remains are encountered unexpectedly during implementation of the Project, State Health and Safety Code Section 7050.5 requires that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to PRC Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the NAHC. The NAHC shall then identify the person(s) thought to be the Most Likely Descendent (MLD). The MLD may, with the permission of the land owner, or his or her authorized representative, inspect the site of the discovery of the Native American remains and may recommend to the owner or the person responsible for the excavation work means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The MLD shall complete their inspection and make their recommendation within 48 hours of being granted access by the land owner to inspect the discovery. The recommendation may include the scientific removal and nondestructive analysis of human remains and items associated with Native American burials. Upon the discovery of the Native American remains, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this mitigation measure, with the MLD regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. The landowner shall discuss and confer with the descendants all reasonable options regarding the descendants' preferences for treatment.

Whenever the NAHC is unable to identify a MLD, or the MLD identified fails to make a recommendation, or the landowner or his or her authorized representative rejects the

recommendation of the descendants and the mediation provided for in Subdivision (k) of Section 5097.94, if invoked, fails to provide measures acceptable to the landowner, the landowner or his or her authorized representative shall inter the human remains and items associated with Native American human remains with appropriate dignity on the property in a location not subject to further and future subsurface disturbance.

| | |
|--------------------------------------|---|
| Enforcement Agency: | Los Angeles Department of Building and Safety |
| Monitoring Agency: | Los Angeles Department of Building and Safety |
| Monitoring Phase: | Construction |
| Monitoring Frequency: | To be determined by consultation with archaeologist in consultation with the Native American monitor upon discovery of resource(s) |
| Action Indicating Compliance: | If unanticipated discovered are found, submittal of written evidence of Compliance with Public Resources Code Section 5097.98 and Health and Safety Code Section 7050.5 |

MM PALEO-1: Prior to the issuance of a demolition permit, the Applicant shall retain a qualified Paleontologist to develop and implement a paleontological monitoring program for construction excavations that would encounter older Quaternary alluvial sediments (associated with sediments below 20 feet deep across the Project Site). The qualified Paleontologist shall carry out a pre-grading/excavation meeting to discuss the paleontological monitoring program. A qualified Paleontologist is defined as a paleontologist meeting the criteria established by the Society for Vertebrate Paleontology. The qualified Paleontologist shall supervise a paleontological monitor who shall be present at such times as required by the Paleontologist during construction excavations into older alluvial sediments. Monitoring shall consist of visually inspecting fresh exposures of rock for larger fossil remains and, where appropriate, collecting wet or dry screened sediment samples of promising horizons for smaller fossil remains. The frequency of monitoring inspections shall be determined by the qualified Paleontologist and shall be based on the rate of excavation and grading activities, the materials being excavated, and the depth of excavation, and if found, the abundance and type of fossils encountered. Full-time monitoring can be reduced to part-time inspections, or ceased entirely, if determined adequate by the qualified Paleontologist.

| | |
|--------------------------------------|---|
| Enforcement Agency: | Los Angeles Department of City Planning; Los Angeles Department of Building and Safety |
| Monitoring Agency: | Los Angeles Department of Building and Safety |
| Monitoring Phase: | Pre-construction; Construction |
| Monitoring Frequency: | Once prior to issuance of building permits for program approval; Periodic during excavation |
| Action Indicating Compliance: | Issuance of grading permit and development of paleontological resources monitoring program; Compliance report by qualified paleontologist |

MM PALEO-2: If a potential fossil is found, the paleontological monitor shall be allowed to temporarily divert or redirect grading and excavation activities in the area of the exposed fossil to facilitate evaluation of the discovery. An appropriate buffer area shall be established by the qualified Paleontologist around the find where construction activities shall not be allowed to continue. Work shall be allowed to continue outside of the buffer area. At the qualified Paleontologist's discretion, and to reduce any construction delay, the grading and excavation contractor shall assist in removing rock/sediment samples for initial processing and evaluation. If preservation in place is not feasible, the qualified Paleontologist shall implement a paleontological salvage program to remove the resources from their location. Any fossils encountered and recovered shall be prepared to the point of identification and catalogued before they are submitted to their final repository. Any fossils collected shall be curated at a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County, if such an institution agrees to accept the fossils. If no institution accepts the fossil collection, they shall be donated to a local school in the area for educational purposes. Accompanying notes, maps, and photographs shall also be filed at the repository and/or school.

| | |
|--------------------------------------|---|
| Enforcement Agency: | Los Angeles Department of Building and Safety |
| Monitoring Agency: | Los Angeles Department of Building and Safety |
| Monitoring Phase: | Construction |
| Monitoring Frequency: | At time of resource discovery, should it occur |
| Action Indicating Compliance: | If no unanticipated discovered are found and grading occurs within the older Quaternary Alluvium, compliance certification report by qualified paleontologist; if unanticipated discovers are found, submittal of a report and mitigation plan(s) by a qualified paleontologist |

MM PALEO-3: Prior to the release of the grading bond, the qualified Paleontologist shall prepare a report summarizing the results of the monitoring and salvaging efforts, the methodology used in these efforts, as well as a description of the fossils collected and their significance. The report shall be submitted by the Applicant to the City, the Natural History Museum of Los Angeles County, and representatives of other appropriate or concerned agencies to signify the satisfactory completion of the Project and required mitigation measures.

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| Enforcement Agency: | Los Angeles Department of Building and Safety |
| Monitoring Agency: | Los Angeles Department of Building and Safety |
| Monitoring Phase: | Construction |
| Monitoring Frequency: | Once upon the completion of excavation |
| Action Indicating Compliance: | If no unanticipated discovered are found and grading occurs within the older Quaternary Alluvium, compliance certification report by qualified paleontologist; if unanticipated discoveries are found, submittal of a report by a qualified paleontologist |

Greenhouse Gas Emissions

Project Design Features

PDF GHG-1: Green Building Features: The Project would be designed and operated to meet or exceed the applicable requirements of the California Green Building Standards Code and the City's Green Building Code. Green building measures would include, but are not limited to the following:

- The Project would implement a construction waste management plan to divert all mixed construction and demolition debris to City certified construction and demolition waste processors, consistent with the Los Angeles City Council approved Council File 09-3029.
- The Project would be designed to optimize energy performance and reduce building energy cost by installing energy efficient appliances that meet the USEPA ENERGY STAR rating standards or equivalent.
- The Project would include double-paned windows to keep heat out during summer months and keep heat inside during winter months.
- The Project would include lighting controls with occupancy sensors in indoor common areas to conserve energy and to take advantage of available natural light.
- The Project would not include built-in fireplaces in residential units.
- The Project would minimize outdoor potable water use through drought-tolerant/California native plant species selection, artificial turf, irrigation system efficiency, alternative water supplies (e.g., rainwater harvesting for use in landscaping), and/or smart irrigation systems (e.g., weather-based controls).
- The Project would reduce indoor potable water use by installing low-flow water fixtures that meet the USEPA WaterSense standards or equivalent.
- The Project would provide on-site recycling areas, consistent with City of Los Angeles strategies and ordinances, with the goal of achieving 70 percent waste diversion by 2020, and 90 percent by 2025.
- The Project would provide alternative transportation features, which would include bicycle storage, a changing room, and preferred parking for low-emitting and fuel efficient vehicles.
- The Project would include at least 20% of the total code required parking spaces provided for all types of parking facilities, shall be capable of supporting future electric vehicle supply equipment (EVSE). Of the 20% EV Ready spaces, 5% of the total code required parking spaces would be further provided with EV chargers to immediately accommodate electric vehicles within the parking areas.

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| Enforcement Agency: | Los Angeles Department of Building and S Los Angeles Department of City Planning (approval of measure and performance standards); Los Angeles Department of Building and Safety (Operation) |
| Monitoring Agency: | Los Angeles Department of City Planning (approval of measure and performance standards); Los Angeles Department of Building and Safety (Operation) |
| Monitoring Phase: | Pre-construction; Operation |

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| Monitoring Frequency: | Once at plan check prior to issuance of grading permit;
Annually during operation |
| Action Indicating Compliance: | Plan approval and issuance of Building Permit (Pre-construction); Annual compliance certification report submitted by Applicant (Operation) |

Hazards and Hazardous Materials

Mitigation Measures

MM HAZ-1: Additional Assessment/Remediation: Soil sampling underneath the existing on-site cold storage facility buildings and the Site's eastern perimeter along Alameda Street shall be conducted for volatile organic compounds (VOCs) [including tetrachlorethene (PCE)] per Environmental Protection Agency (EPA) Method 8260B, and for total petroleum hydrocarbons (TPH) per EPA Method 8015M, once the buildings are demolished. A minimum of fifteen (15) borings to depths between 15 and 25 feet bgs, with samples collected at 5-foot intervals, shall be undertaken. If the additional assessment reveals concentrations of VOCs (including PCE) and/or TPH above residential California Human Health Screening Levels (CHHSL), soil remediation and health and safety measures required by the applicable regulatory agencies [e.g., California Department of Toxic Substances (DTSC), Los Angeles Regional Water Quality Control Board (LARWQCB), etc.] shall be implemented by the Project Applicant during construction, which will be included in a Soils Management Plan and a Health and Safety Plan, as applicable (refer to Mitigation Measures HAZ-2 and HAZ-3).

The additional assessment shall also include an underground storage tank (UST) survey of the former on-site gas station. If USTs are identified in the geophysical survey, they shall be removed by the Applicant, under City of Los Angeles Fire Department (LAFD) requirements, during construction.

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| Enforcement Agency: | Los Angeles Department of Building and Safety; Los Angeles Fire Department; Los Angeles Regional Water Quality Control Board |
| Monitoring Agency: | Los Angeles Department of Building and Safety; Los Angeles Fire Department |
| Monitoring Phase: | Pre-construction; Construction |
| Monitoring Frequency: | Once at Project plan check prior to issuance of grading or building permit; once during field inspection |
| Action Indicating Compliance: | Field inspection sign-off by Los Angeles Fire Department |

MM HAZ-2: Soil Management Plan (SMP): Should the assessments required under MM HAZ-1 above reveal chemicals of concern above applicable clean-up goals, the Project Applicant shall retain a qualified environmental consultant to prepare a SMP, which will be submitted to the City of Los Angeles Department of Building and Safety (LADBS) for review and approval prior to the commencement of excavation and grading activities. The SMP shall be implemented during

excavation and grading activities on the Project Site to ensure that any contaminated soils are properly identified, excavated, and disposed of off-site, as follows:

- The SMP shall be prepared and executed in accordance with South Coast Air Quality Management District (SCAQMD) Rule 1166, Volatile Organic Compound Emissions from Decontamination of Soil. The SMP shall require the timely testing and sampling of soils so that contaminated soils can be separated from inert soils for proper disposal. The SMP shall specify the testing parameters and sampling frequency. Anticipated testing includes TPH, VOCs, and semi-volatile organic compounds (SVOCs). During excavation, Rule 1166 requires that soils identified as contaminated shall be sprayed with water or another approved vapor suppressant, or covered with sheeting during periods of inactivity of greater than an hour, to prevent contaminated soils from becoming airborne. Under Rule 1166, contaminated soils shall be transported from the Project Site by a licensed transporter and disposed of at a licensed storage/treatment facility to prevent contaminated soils from becoming airborne or otherwise released into the environment.
- Prior to the commencement of grading and excavation, the findings of the Phase I/II Environmental Site Assessment (ESA) for the Project and additional assessment conducted per Mitigation Measure HAZ-1, shall be reported to the County of Los Angeles Fire Department Health and Hazardous Materials Division (HHMD), Site Mitigation Unit (SMU) (323-890-4045) and LAFD for review and comment. The recommendations of the HHMD and LAFD shall be incorporated in the SMP.
- A qualified environmental consultant shall be present on the Project Site during grading and excavation activities in the known or suspected locations of contaminated soils or the UST, and shall be on call at other times as necessary, to monitor compliance with the SMP and to actively monitor the soils and excavations for evidence of contamination.
- If a UST is discovered, it shall be removed in accordance with Los Angeles Municipal Code (LAMC) Section 57.31.52 (Abandonment of Underground Storage Tanks). As required by LAMC Section 57.31.52, the Applicant shall notify the LAFD prior to tank removal, inert (remove or neutralize any flammable materials and vapors) the UST prior to transport, and establish to the satisfaction of the LAFD that no release of hazardous materials has occurred. The UST shall be properly disposed of by a licensed contractor in accordance with applicable regulations.
- During the Project's excavation phase, the Applicant shall remove and properly dispose of impacted materials in accordance with the provisions of the SMP. If soil is stockpiled prior to disposal, it will be managed in accordance with the Project's Storm Water Pollution Prevention Plan, prior to its transfer for treatment and/or disposal. All impacted soils would be properly treated and disposed of in accordance with SCAQMD Rule 1166, Volatile Organic Compound Emissions from Decontamination of Soil, as well as applicable requirements of DTSC and LARWQCB

Enforcement Agency:

Los Angeles Department of Building and Safety; Los Angeles Fire Department; South Coast Air Quality Management District; Department of Toxic Substances Control; Los Angeles Regional Water Quality Control Board

Monitoring Agency:

Los Angeles Department of Building and Safety; Los Angeles Fire Department

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| Monitoring Phase: | Pre-construction; Construction |
| Monitoring Frequency: | Once prior to issuance of grading permit; Ongoing with periodic field inspections during construction for plan implementation |
| Action Indicating Compliance: | Approval of Soil Management Plan by regulatory agency (Pre-construction); written compliance report by a qualified environmental consultant (Construction) |

MM HAZ-3: Health and Safety Plan (HASP): Should the assessments required under MM HAZ-1 above reveal chemicals of concern above applicable clean-up goals, the Applicant shall commission a HASP to be prepared in compliance with Occupational Safety and Health Administration (OSHA) Safety and Health Standards (29 Code of Federal Regulations 1910.120) and Cal-OSHA requirements (CCR Title 8, General Industry Safety Orders and California Labor Code, Division 5, Part 1, Sections 6300-6719) and submitted for review by the Department of Building and Safety. The HASP would address, as appropriate, safety requirements that would serve to avoid significant impacts or risks to workers or the public in the event that elevated levels of subsurface gases are encountered during grading and excavation. The HASP would also address potential vapor encroachment from the soil contamination into the subterranean levels of the building. As necessary, gas monitoring devices would be in place to alert workers in the event elevated gas or other vapor concentrations occur when basement slab demolition or soil excavation is being performed. Contingency procedures would be in place in the event elevated gas concentrations are detected, such as the mandatory use of personal protective equipment, evacuation of the area, and/or increasing ventilation within the immediate work area. Workers would be trained to identify exposure symptoms and implement alarm response. Construction fencing would be installed around development areas to restrict public access from surrounding properties and other phases of the Project Site, further reduce the potential for contaminated soils to become airborne, and provide additional distance between the public and excavation activities to allow for gas and vapor dilution. Vapor suppression measures also would be identified consistent with the SMP, as necessary, to avoid health hazards to adjacent properties. The HASP would have emergency contact numbers, maps to the nearest hospital, gas monitoring action levels, gas response actions, allowable worker exposure times, and mandatory personal protective equipment requirements. The HASP would be signed by all workers involved in the demolition and excavation of on-site soils to demonstrate their understanding of the risks of excavation.

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| Enforcement Agency: | Los Angeles Department of Building and Safety |
| Monitoring Agency: | Los Angeles Department of Building and Safety |
| Monitoring Phase: | Pre-construction; Construction |
| Monitoring Frequency: | Once prior to issuance of grading permits; Ongoing with periodic field inspections during construction for plan implementation |
| Action Indicating Compliance: | Issuance of grading permit (Pre-construction); Approval of Health and Safety Plan (Pre-construction); Field inspection sign-off (Construction); compliance |

certification report submitted by Project contractor
(Construction)

Noise

Project Design Features

PDF NOISE-1: Equipment Noise Control: The Project contractor(s) shall equip construction equipment, fixed or mobile, with properly operating and maintained noise mufflers, consistent with manufacturers' standards.

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| Enforcement Agency: | Los Angeles Department of City Planning; Los Angeles Department of Building and Safety |
| Monitoring Agency: | Los Angeles Department of Building and Safety |
| Monitoring Phase: | Construction |
| Monitoring Frequency: | Periodic field inspections |
| Action Indicating Compliance: | Field inspection sign-off within compliance report |

PDF NOISE-2: Prohibition of Idling: The Project shall not allow any delivery truck idling in the loading area. Signs shall be posted prohibiting idling.

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| Enforcement Agency: | Los Angeles Department of Building and Safety |
| Monitoring Agency: | Los Angeles Department of Building and Safety |
| Monitoring Phase: | Construction |
| Monitoring Frequency: | Periodic field inspections |
| Action Indicating Compliance: | Field inspection sign-off; Compliance certification report submitted by Project contractor |

PDF NOISE-3: Prohibition of Amplified Music: The Project shall not allow amplified music in the outdoor common areas of The Hub during school hours and in The Lookout areas between 10 p.m. and 7:00 a.m.

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| Enforcement Agency: | Los Angeles Department of City Planning; Los Angeles Department of Building and Safety |
| Monitoring Agency: | Los Angeles Department of City Planning; Los Angeles Department of Building and Safety |
| Monitoring Phase: | Operation |
| Monitoring Frequency: | Annually |
| Action Indicating Compliance: | Documentation of noise management activities in annual compliance reports |

Mitigation Measures

MM NOISE-1: The Project shall provide a temporary 20-foot tall construction noise barrier (i.e., wood, sound blanket) between the Project construction site and the Para Los Niños Charter School along the south boundary of the Project Site, with a performance standard of achieving a 20 dBA noise level reduction. The noise barrier shall have a minimum sound transmission class (STC) of 25 and noise reduction coefficient (NRC) of 0.75. The temporary noise barriers shall be used during early Project construction phases (up to the start of framing) when the use of heavy equipment is prevalent.

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| Enforcement Agency: | Los Angeles Department of Building and Safety |
| Monitoring Agency: | Los Angeles Department of Building and Safety |
| Monitoring Phase: | Construction |
| Monitoring Frequency: | Periodic field inspections |
| Action Indicating Compliance: | Field inspection sign-off; compliance certificate report submitted by Project contractor |

MM-NOISE-2: The operation of construction equipment that generates high levels of vibration, such as large bulldozers and loaded trucks, shall be prohibited within 50 feet of the Para Los Niños Charter School during school hours of the Para Los Niños Charter School located to the south of the Project Site. Instead, small bulldozers not exceeding 310 horsepower shall be used within this area during demolition, grading, and excavation operations. The use of smaller bulldozers would result in vibration levels of 65 VdB at the Para Los Niños Charter School, which would not exceed the 83 VdB significance threshold for human perception.

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| Enforcement Agency: | Los Angeles Department of Building and Safety |
| Monitoring Agency: | Los Angeles Department of Building and Safety |
| Monitoring Phase: | Construction |
| Monitoring Frequency: | Ongoing during construction |
| Action Indicating Compliance: | Compliance certificate report by qualified consultant (Construction) |

MM-NOISE-3: The Applicant shall designate a construction relations officer to serve as a liaison with Para Los Niños Charter School. The liaison shall be responsible for responding to concerns regarding construction noise or vibration. The liaison shall coordinate with the school administration in advance of, and throughout Project construction to reduce disruption of classroom activities. The liaison shall work with the School administration to identify opportunities to reduce conflicts with school activities through work scheduling and the arrangement of construction activities on the Project Site.

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| Enforcement Agency: | Los Angeles Department of Building and Safety |
| Monitoring Agency: | Los Angeles Department of Building and Safety |
| Monitoring Phase: | Construction |

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| Monitoring Frequency: | Ongoing during construction |
| Action Indicating Compliance: | Field inspection sign-off; compliance certificate report submitted by Project contractor |

Police Protection

Project Design Features

PDF POL-1: Security Features During Construction: Private security personnel would monitor vehicle and pedestrian access to the construction areas and patrol the Project Site, construction fencing with gated and locked entry would be installed around the perimeter of the construction site, and security lighting would be provided in and around the construction site.

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| Enforcement Agency: | Los Angeles Police Department; Los Angeles Department of Building and Safety |
| Monitoring Agency: | Los Angeles Department of Building and Safety |
| Monitoring Phase: | Construction |
| Monitoring Frequency: | Once during field inspection |
| Action Indicating Compliance: | Field inspection sign-off |

PDF POL-2: Security Features During Operation: The following security features would be implemented during Project operation:

- Buildings would include controlled access to the live/work units and common open space areas.
- Access to commercial and restaurant uses, publicly-accessible open space areas, and paseos would be unrestricted during business hours, but public access would be discontinued after businesses have closed.
- Facility operations would include staff training and building access/design to assist in crime prevention efforts and to reduce the demand for police protection services.
- Project Site security would include provision of 24-hour video surveillance and full-time security personnel.
- Duties of the security personnel would include, but would not be limited to, assisting residents and visitors with site access; monitoring entrances and exits of buildings; managing and monitoring fire/life/safety systems; and patrolling the property.
- Security lighting would be provided in Project entryways, publicly-accessible areas, common building and open space areas, and parking areas

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| Enforcement Agency: | Los Angeles Police Department; Los Angeles Department of Building and Safety |
| Monitoring Agency: | Los Angeles Department of Building and Safety |
| Monitoring Phase: | Operation |
| Monitoring Frequency: | Annually |

Action Indicating Compliance: Documentation in annual compliance report

Mitigation Measures

MM POL-1: Prior to the occupancy of the Project, the Project applicant shall provide the Central Area Commanding Officer with a diagram of each portion of the property, including access routes, and additional information to facilitate potential LAPD responses.

Enforcement Agency: Los Angeles Police Department

Monitoring Agency: Los Angeles Police Department

Monitoring Phase: Construction

Monitoring Frequency: Once, prior to certificate of occupancy

Action Indicating Compliance: Sign-off on Los Angeles Police Department reviewed diagrams; Certificate of Occupancy

Libraries

Mitigation Measures

MM LIB-1: The Applicant shall pay a fair share mitigation fee of \$200 per capita, based on the estimated residential population stated in the Project's Draft EIR, to the Los Angeles Public Library to offset impacts on library services.

Enforcement Agency: Los Angeles Public Library

Monitoring Agency: Los Angeles Public Library

Monitoring Phase: Operation

Monitoring Frequency: Once, prior to certificate of occupancy.

Action Indicating Compliance: Sign-off on fees by Los Angeles Public Library
Certificate of Occupancy

Transportation and Traffic

Project Design Features

PDF TRAF-1: Construction Management Plan: Prior to the issuance of a building permit for the Project, a detailed Construction Management Plan including street closure information, a detour plan, haul routes, and a staging plan, would be prepared and submitted to the City for review and approval. The Construction Management Plan would formalize how construction would be carried out and identify specific actions that would be required to reduce effects on the surrounding community. The Construction Management Plan shall be based on the nature and timing of the specific construction activities and other projects in the vicinity of the Project Site. Construction management meetings with City Staff and other surrounding construction related project representatives (i.e., construction contractors) whose projects will potentially be under construction at around the same time as the Project shall be conducted bimonthly, or as otherwise determined appropriate by City Staff. This coordination shall ensure construction activities of the concurrent

related projects and associated hauling activities are managed in collaboration with one another and the Project. The Construction Management Plan shall include, but not be limited to, the following elements as appropriate:

- Advance notification of adjacent property owners and occupants, as well as nearby schools, of upcoming construction activities, including durations and daily hours of construction.
- Prohibition of construction worker parking on adjacent residential streets.
- Temporary pedestrian and vehicular traffic controls during all construction activities adjacent to Industrial Street and Alameda Street to ensure traffic safety on public right of ways. These controls shall include, but are not limited to: flag people trained in pedestrian and student safety; use of directional signage; maintaining continuous and unobstructed pedestrian paths, and/or providing overhead covering.
- Temporary traffic control during all construction activities adjacent to public rights-of-way to improve traffic flow on public roadways (e.g., flag men).
- Scheduling of construction activities to reduce the effect on traffic flow on surrounding arterial streets.
- Construction-related vehicles shall not park on surrounding public streets.
- Safety precautions for pedestrians and bicyclists through such measures as alternate routing and protection barriers as appropriate, including along all identified Los Angeles Unified School District (LAUSD) pedestrian routes to nearby schools.
- Scheduling of construction-related deliveries, haul trips, etc., so as to occur outside the commuter peak hours to the extent feasible, and so as to not impede school drop-off and pick-up activities and students using LAUSD's identified pedestrian routes to nearby schools.
- Coordination with public transit agencies to provide advanced notifications of stop relocations and durations.
- Provide advanced notification of temporary parking removals and duration of removals.
- Provide detour plans to address temporary road closures during construction.

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| Enforcement Agency: | Los Angeles Department of Transportation |
| Monitoring Agency: | Los Angeles Department of Transportation |
| Monitoring Phase: | Pre-construction; Construction |
| Monitoring Frequency: | Once prior to issuance of Building Permit; Periodic field inspections during construction |
| Action Indicating Compliance: | Approval of Construction Management Plan from the Los Angeles Department of Transportation prior to issuance of Building Permit (Pre-construction); compliance certification report submitted by Project contractor (Construction) |

PDF TRAF-2: Downtown/Arts District TMO: The Applicant will contribute to the Arts District TMO/Arts District portion of a Downtown TMO following approval of the Project by becoming a member, participating in, and contributing to TMO operations and marketing efforts. The purpose of the TMO is to encourage the use of alternative modes of transportation, including walking and bicycling, carpooling and vanpooling, use of public transit, short-term automobile rentals, etc.; and to help alleviate current and future traffic congestion throughout the area. The TMO services would be available to anyone within the general Arts District community, not just residents and tenants of the proposed Project.:

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| Enforcement Agency: | Los Angeles Department of Transportation |
| Monitoring Agency: | Los Angeles Department of Transportation; Los Angeles Department of Public Works |
| Monitoring Phase: | Pre-operation; Operation |
| Monitoring Frequency: | Once prior to issuance of final certificate of occupancy; Annually during first three years of operations |
| Action Indicating Compliance: | Annual consistency review |

Mitigation Measures

MM-TRAF-1: The Project Applicant shall implement a comprehensive Transportation Demand Management (TDM) Program to promote non-auto travel and reduce single-occupant vehicle trips by a minimum of ten percent. The TDM Program shall adhere to the requirements of LAMC Section 12.26-J (Ordinance 168,700). A draft of the TDM Program shall be prepared by a registered traffic engineer and submitted to LADOT for review prior to the issuance of the first building permit for the Project. The TDM Program must be approved by LADOT prior to the issuance of the first Certificate of Occupancy. The TDM Program could include, but would not be limited to, the following strategies:

- Transportation Information Center, educational programs, kiosks and/or other measures.
- Promotion and support of carpools and rideshare.
- Bicycle amenities such as racks and showers.
- Incentives for using alternative travel modes.
- Parking incentives and administrative support for formation of carpools/vanpools
- On-Site TDM Coordinator.
- Contribution to the City's Bicycle Plan Trust Fund for implementation of bicycle improvements in the Project area.
- Mobility hub providing amenities for transit, bike share, shared vehicles, etc.

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| Enforcement Agency: | Los Angeles Department of Transportation |
| Monitoring Agency: | Los Angeles Department of Transportation |
| Monitoring Phase: | Prior to operation |

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| Monitoring Frequency: | Once prior to issuance of applicable Certificate of Occupancy |
| Action Indicating Compliance: | Approval of TDM program from Los Angeles Department of Transportation; annual Compliance report; issuance of Certificate of Occupancy |

Water Supply

PDF WS-1: Water Conservation Features: The Project shall provide the following specific water efficiency features:

- High Efficiency Toilets with a flush volume of 1.0 gallons of water per flush;
- ENERGY STAR Certified Residential Clothes Washers – integrated water factor of 3.2, frontloading, with a capacity of 4.3 cubic feet;
- ENERGY STAR Certified Commercial Clothes Washers – water factor of 4.0 or less;
- Showerheads with a flow rate of 1.5 gpm or less;
- Domestic Water Heating System located close proximity to point(s) of use;
- Individual metering and billing for water use for every residential dwelling unit and commercial unit;
- Water-Saving Pool Filter;
- Leak Detection System for swimming pools and Jacuzzi;
- Drip/Subsurface Irrigation (Micro-Irrigation);
- Proper Hydro-zoning (group plants with similar water requirements together);
- Zoned Irrigation; and
- Landscaping contouring to minimize precipitation runoff.

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| Enforcement Agency: | Los Angeles Department of City Planning; Los Angeles Department of Building and Safety |
| Monitoring Agency: | Los Angeles Department of City Planning; Los Angeles Department of Building and Safety |
| Monitoring Phase: | Construction |
| Monitoring Frequency: | Once prior to issuance of final Certificate of Occupancy |
| Action Indicating Compliance: | Issuance of final Certificate of Occupancy |

Appendix L

Transportation and Traffic


L-1 Traffic Study and LADOT Approval Letter

CITY OF LOS ANGELES
INTER-DEPARTMENTAL CORRESPONDENCE

668 S. Alameda Street
DOT Case No. CEN 16-44914

Date: June 15, 2017

To: Nicholas Hendricks, Senior City Planner
Department of City Planning

From: 
Wes Pringle, Transportation Engineer
Department of Transportation

Subject: **TRAFFIC IMPACT ASSESSMENT FOR THE PROPOSED MIXED-USE
DEVELOPMENT PROJECT AT 668 S ALAMEDA STREET**

The Department of Transportation (DOT) has reviewed the traffic analysis prepared by Gibson Transportation Consultant Inc., dated June 2017, for the proposed mixed-use project located at 668 S. Alameda Street in the Central City North Community Plan area, also known as the Arts District of Los Angeles, California. In order to evaluate the effects of the project's traffic on the available transportation infrastructure, the significance of the project's traffic impacts is measured in terms of change to the volume-to-capacity (V/C) ratio between the "future no project" and the "future with project" scenarios. This change in the V/C ratio is compared to DOT's established threshold standards to assess the project-related traffic impacts. The transportation impact analysis included the detailed analysis of 18 signalized intersections and three un-signalized intersections. Based on DOT's traffic impact criteria¹, six (6) of the study signalized intersections in the transportation impact analysis is expected to be significantly impacted by the project-related traffic, and is summarized in **Attachment 1**. The results of the transportation impact analysis which accounted for other known development projects in evaluating potential cumulative impacts, adequately evaluated the project's traffic impacts on the surrounding community.

DISCUSSION AND FINDINGS

A. Project Description

The proposed Project is bounded by Industrial Street to the north, Mill Street to the east (Driveway access only), commercial uses to the south, and Alameda Street to the west. The Project proposes to demolish approximately 131,350 square feet (sf) of existing warehouse building and replace with a new mixed-use development consisting of 475 live-work units and 61,200 sf of commercial space. 168 of the 475 live-work units would be 1000 sf or more and these units are assumed to have adequate space to accommodate non-resident employees or visitors. Each of these live-work units would constitute approximately 150sf for office space or a total of 25,200 sf for the Project. The commercial space would be allocated as follows: 7,500 sf for retail, 7,900 sf for arts and production, 16,300 sf for restaurants, 15,300

¹ Per the DOT Transportation Impact Analysis Policies and Procedures, a significant impact is identified as an increase in the Critical Movement Analysis (CMA) value, due to project related traffic, of 0.01 or more when the final ("with project") Level of Service (LOS) is LOS E or F; an increase of 0.020 or more when the final LOS is LOS D; or an increase of 0.040 or more when the final LOS is LOS C.

sf for a supermarket, and 4,200 sf for parking and bicycle storage facilities ancillary to the Project. The Project would provide 842 automobile parking spaces and 581 bicycle parking spaces on-site. Vehicular access to the multi-level parking garage would be provided through one driveway along Industrial Street, with ancillary accesses via driveways along Mill Street and Alameda Street. This Project is expected to be completed by 2022.

B. Trip Generation

The Project is estimated to generate a net increase of approximately 4,002 daily trips, a net increase of 289 trips in the a.m. peak hour and a net increase of 361 trips in the p.m. peak hour. DOT's traffic study guidelines allow projects to reduce their total trip generation to account for potential transit usage to and from the site, and for the internal-trip making opportunities that are afforded by mixed-use projects. Consistent with DOT's guidelines, the estimated trip generation includes trip credits to account for the existing uses, the mixed-use nature of the project, and for the expected transit mode share. These estimates were derived using trip generation rates from the Institute of Transportation Engineers (ITE) Trip Generation, 9th Edition, 2012. A copy of the trip generation estimates table from the transportation study is attached and identified as **Attachments 2**

C. Traffic Impacts

The Project is anticipated to result in significant traffic impacts under Future with Project (Year 2022) conditions, before mitigation, at the following intersections:

3. Alameda Street & 6th Street (afternoon peak hour)
6. Central Avenue & 7th Street (afternoon peak hour)
7. Alameda Street & 7th Street (morning and afternoon peak hours)
8. Mateo Street & 7th Street (morning and afternoon peak hours)
9. Santa Fe Avenue & 7th Street (morning and afternoon peak hours)
18. Alameda Street & Olympic Boulevard (morning and afternoon peak hours)

The transportation mitigation program (discussed in the "Project Requirements" section) would fully reduce the impacts identified at three intersections (Intersection #6, 9, & 18) below the level of significance. However, significant impacts would remain at the intersections of Alameda street/6th Street, Alameda Street/7th Street, and Mateo Street/7th Street under Future with Project with Mitigation (Year 2022).

With the recent adoption of Vision Zero, Mobility Plan 2035 and Complete Streets Design Guide, the roadway width has been set along the majority of arterials in the Downtown/Arts District. Street widening is neither practical nor desirable under the new standards since it would come at the expense of reduced sidewalk widths or the loss of on-street parking spaces.

D. Freeway Analysis

The transportation impact analysis included a freeway impact analysis that was prepared in accordance with the State-mandated Congestion Management Program (CMP) administered by the Los Angeles County Metropolitan Transportation Authority (MTA). According to this analysis, the project would not result in significant

traffic impacts on any of the evaluated freeway mainline segments. To comply with the Freeway Impact Analysis Agreement executed between Caltrans and DOT in October 2013, the study also included a screening analysis to determine if additional evaluation of freeway mainline and ramp segments was necessary beyond the CMP requirements. The project did not meet or exceed any of the four thresholds defined in the latest agreement, updated in December 2015. Exceeding one of the four screening criteria would require the applicant to work directly with Caltrans to prepare more detailed freeway analyses. No additional freeway analysis was required.

PROJECT REQUIREMENTS

A. Construction Impacts

DOT recommends that a construction work site traffic control plan be submitted to DOT for review and approval prior to the start of any construction work. The plan should show the location of any roadway or sidewalk closures, traffic detours, haul routes, hours of operation, protective devices, warning signs and access to abutting properties. DOT also recommends that all construction related traffic be restricted to off-peak hours.

B. Traffic Mitigation Programs

Consistent with City policies on sustainability and smart growth and with DOT's trip reduction and multi-modal transportation goals, the project's mitigation program first focuses on developing a trip reduction program and on solutions that promote other modes of travel. The traffic mitigation program includes the following improvements:

1. **Transportation Demand Management (TDM) Program**

The purpose of a TDM plan is to reduce the use of single occupant vehicles (SOV) by increasing the number of trips by walking, bicycle, carpool, vanpool and transit. A TDM plan should include design features, transportation services, education, and incentives intended to reduce the amount of SOV during commute hours. Through strategic building design and orientation, this project can facilitate access to transit, can provide a pedestrian-friendly environment, can promote non-automobile travel and can support the goals of a trip-reduction program.

A preliminary TDM program shall be prepared and provided for DOT review prior to the issuance of the first building permit for this project and a final TDM program approved by DOT is required prior to the issuance of the first certificate of occupancy for the project. The TDM program should include, but not be limited to, the following strategies:

- Provide an internal Transportation Management Coordination Program with an on-site transportation coordinator;
- Participate as a member of a future Transportation Management Organization, if applicable;
- Design the project to ensure a bicycle, transit, and pedestrian friendly environment;

- Provide unbundled parking that separates the cost of obtaining assigned parking spaces from the cost of purchasing or renting residential units;
- Accommodate flexible/alternative work schedules and telecommuting programs;
- A provision requiring compliance with the State Parking Cash-out Law in all leases;
- Coordinate with DOT to determine if the project location is eligible for a future Integrated Mobility Hub (which can include space for a bike share kiosk, and/or parking spaces on-site for car-share vehicles);
- Provide on-site transit routing and schedule information;
- Provide a program to discount transit passes for residents/employees possibly through negotiated bulk purchasing of passes with transit providers;
- Provide rideshare matching services;
- Preferential rideshare loading/unloading or parking location;
- Contribute a one-time fixed fee contribution of **\$50,000** to be deposited into the City's Bicycle Plan Trust Fund to implement bicycle improvements in the vicinity of the project.

In addition to these TDM measures, DOT also recommends that the applicant explore the implementation of an on-demand van, shuttle or tram service that connects the project employees to off-site transit stops (such as the Metro Line stations) based on the transportation needs of the project's employees. Such a service can be included as an additional measure in the TDM program if it is deemed feasible and effective by the applicant.

1. **Downtown/Arts District Transportation Management Organization**

The project proposes to initiate, fund and market an Arts District Transportation Management Organization (TMO). The TMO would offer similar services to those described above but would have a much wider reach than the project's local TDM plan and can result in much greater trip reduction benefits. TMO's in other major employment centers of Los Angeles County have proved beneficial in reducing traffic and improving air quality. A TMO in the Arts District can be instrumental in promoting the use of transit and the City's bike share and car share programs that will be installed in the coming years within the Arts District Area. The TMO's activities would help augment or implement some of the strategies described above for the project-specific TDM plan. TMO's typically implement and promote TDM strategies such as the following:

- employee flex time and modified work schedules;
- vanpool and carpool programs;
- provide information on rail, bus and shuttle services;
- satellite parking;
- non-vehicular commuting;
- parking management strategies;
- telecommuting programs;
- matching services for multi-employer carpools, multi-employer vanpools

- (to serve areas that are identified as under-served by transit);
- promotion and implementation of pedestrian, bicycle and transit stop enhancements (such as transit/bicycle lanes).

The applicant agreed to provide contribution to the formation and annual maintenance/operation of the Arts District TMO. The required contribution amount will be determined by the Arts District TMO operator.

It is anticipated that approximately 30 new projects will be developed within the Arts District and some of the major projects will join/participate the TMO in the trip-reducing program of the Organization. DOT is currently working with applicants of other proposed developments in the Arts District area to encourage participation in this new TMO that would be available to the general public and employees of participating companies within the Arts District area. Should other employers join the TMO, then the applicant's annual financial commitment will likely be reduced.

2. Intersection Improvements

- Alameda Street and 6th Street
The transportation impact at this intersection could be mitigated to less than significant level by widening and restriping along Alameda Street to provide an exclusive northbound right-turn lane. The resulting northbound approach would consist of one left-turn lane, two through lanes, and one right-turn lane. However, this mitigation measure would not be feasible due to the lack of available roadway width and the constraints of the existing physical conditions. Thus, the impact would be considered significant and unavoidable.
- Alameda Street and 7th Street
The transportation impact at this intersection could be mitigated to less than significant level by widening and restriping along Alameda Street to provide an exclusive northbound right-turn lane and along 7th Street to provide an exclusive westbound right-turn lane. The resulting northbound and westbound approaches would consist of one left-turn lane, two through lanes, and one right-turn lane. However, this mitigation measure would not be feasible due to the lack of available roadway width and the constraints of the existing physical conditions. Thus, the impact would be considered significant and unavoidable.
- Mateo Street and 7th Street
The transportation impact at this intersection could be mitigated to less than significant level by restriping along the south leg of Mateo Street to provide an exclusive northbound left-turn lane. The resulting northbound approach would consist of one left-turn lane and one shared through/right-turn lane. However, this mitigation measure would not be feasible due to the loss of public on-street unmetered parking spaces, the lack of available roadway width, and the constraints of the existing physical conditions. Thus, the impact would be considered significant and

unavoidable.

C. Highway Dedication and Street Widening Requirements

On January 20, 2016, the City Council adopted the Mobility Plan 2035 which represents the new Mobility Element of the General Plan. A key feature of the updated plan is to revise street standards in an effort to provide a more enhanced balance between traffic flow and other important street functions including transit routes and stops, pedestrian environments, bicycle routes, building design and site access, etc. Per the new Mobility Element, **Alameda Street** is designated as an Avenue I which would require a 35-foot half-width roadway within a 50-foot half-width right-of-way. **Industrial Street and Mill Street** are designated as a Collector which would require a 20-foot half-width roadway within a 33-foot half-width right-of-way. The applicant should check with BOE's Land Development Group to determine the specific highway dedication, street widening and/or sidewalk requirements for this project.

D. Parking Requirements

As referenced in the Project Description section above, the traffic study indicated that the Project would provide 842 automobile parking spaces and 581 bicycle parking spaces on-site (504 long-term and 77 short-term spaces). The applicant should check with the Department of Building and Safety on the number of Code-required parking spaces needed for this project.

E. Driveway Access and Circulations

The conceptual site plan found in **Attachment 3** is acceptable to DOT. However, the review of this study does not constitute approval of the driveway dimensions, access and circulation scheme. Those require separate review and approval and should be coordinated with DOT's Citywide Planning Coordination Section (201 N. Figueroa Street, 4th Floor, Station 3, at 213-482-7024). In order to minimize and prevent last minute building design changes, the applicant should contact DOT for driveway width and internal circulation requirements so that such traffic flow considerations are designed and incorporated early into the building and parking layout plans. All driveways should be Case 2 driveways and 30 feet wide for two-way operations. Any security gates should be a minimum of 40 feet from the property line or to the satisfaction of DOT. All truck loading and unloading should take place on site with no vehicles having to back into the project via any of the project driveways.

F. Development Review Fees

An ordinance adding Section 19.15 to the Los Angeles Municipal Code relative to application fees paid to DOT for permit issuance activities was adopted by the Los Angeles City Council in 2009 and updated in 2014. This ordinance identifies specific fees for traffic study review, condition clearance, and permit issuance. The applicant shall comply with any applicable fees per this ordinance.

If you have any questions, please contact me at (213) 972-8482.

Attachments

J:\Letters\2016\CEN16-44914 668 S. Alameda Street Project_ltr.doc

c: Shawn Kuk, Council District No. 14
 Mehrdad Moshksar, Central District Office, DOT
 Taimour Tanavoli, Citywide Planning Coordination Section, DOT
 Carl Mills, Central District, BOE
 Casey Le, Gibson Transportation Consulting, Inc.

ATTACHMENT 1

TABLE 13
FUTURE WITH PROJECT CONDITIONS (YEAR 2022)
SIGNALIZED INTERSECTION PEAK HOUR LEVELS OF SERVICE

| No. | Signalized Intersection | Peak Hour | Future without Project Conditions | | | Future with Project Conditions | | | | Future with Project with Mitigation Conditions | | | |
|-----|---------------------------------------|-----------|-----------------------------------|--------|--|--------------------------------|--------|----------------|--------------------|--|--------|------------------|--------------------|
| | | | V/C | LOS | | V/C | LOS | Change in V/C | Significant Impact | V/C | LOS | Change in V/C | Significant Impact |
| 1. | Alameda Street & 4th Street | AM PM | 0.547
0.922 | A
E | | 0.557
0.931 | A
E | 0.010
0.009 | NO
NO | 0.547
0.920 | A
E | 0.000
-0.002 | NO
NO |
| 2. | Central Avenue & 6th Street | AM PM | 0.618
0.927 | B
E | | 0.622
0.935 | B
E | 0.004
0.008 | NO
NO | 0.611
0.924 | B
E | -0.007
-0.003 | NO
NO |
| 3. | Alameda Street & 6th Street | AM PM | 0.842
1.144 | D
F | | 0.859
1.172 | D
F | 0.017
0.028 | NO
YES | 0.846
1.159 | D
F | 0.004
0.015 | NO
YES |
| 4. | Mateo Street & 6th Street | AM PM | 0.505
0.575 | A
A | | 0.512
0.577 | A
A | 0.007
0.002 | NO
NO | 0.501
0.567 | A
A | -0.004
-0.008 | NO
NO |
| 5. | San Pedro Street & 7th Street | AM PM | 0.619
0.733 | B
C | | 0.625
0.737 | B
C | 0.006
0.004 | NO
NO | 0.615
0.727 | B
C | -0.004
-0.006 | NO
NO |
| 6. | Central Avenue & 7th Street | AM PM | 0.883
0.925 | D
E | | 0.889
0.944 | D
E | 0.006
0.019 | NO
YES | 0.878
0.931 | D
E | -0.005
0.006 | NO
NO |
| 7. | Alameda Street & 7th Street | AM PM | 0.953
1.095 | E
F | | 0.983
1.118 | E
F | 0.030
0.023 | YES
YES | 0.969
1.105 | E
F | 0.016
0.010 | YES
YES |
| 8. | Mateo Street & 7th Street | AM PM | 1.195
1.409 | F
F | | 1.221
1.445 | F
F | 0.026
0.036 | YES
YES | 1.209
1.431 | F
F | 0.014
0.022 | YES
YES |
| 9. | Santa Fe Avenue & 7th Street | AM PM | 1.114
1.543 | F
F | | 1.128
1.559 | F
F | 0.014
0.016 | YES
YES | 1.116
1.547 | F
F | 0.002
0.004 | NO
NO |
| 10. | Anderson Street & 7th Street | AM PM | 1.062
0.833 | F
D | | 1.066
0.839 | F
D | 0.004
0.006 | NO
NO | 1.055
0.828 | F
D | -0.007
-0.005 | NO
NO |
| 12. | Boyle Avenue & 7th Street | AM PM | 0.676
0.957 | B
E | | 0.677
0.962 | B
E | 0.001
0.005 | NO
NO | 0.667
0.951 | B
E | -0.009
-0.006 | NO
NO |
| 14. | Santa Fe Avenue & 8th Street | AM PM | 0.999
1.019 | E
F | | 1.002
1.021 | F
F | 0.003
0.002 | NO
NO | 0.991
1.011 | E
F | -0.008
-0.008 | NO
NO |
| 16. | Santa Fe Avenue & Porter Street | AM PM | 0.835
1.008 | D
F | | 0.838
1.010 | D
F | 0.003
0.002 | NO
NO | 0.828
1.000 | D
E | -0.007
-0.008 | NO
NO |
| 17. | Central Avenue & Olympic Boulevard | AM PM | 0.671
0.955 | B
E | | 0.674
0.962 | B
E | 0.003
0.007 | NO
NO | 0.663
0.952 | B
E | -0.008
-0.003 | NO
NO |
| 18. | Alameda Street & Olympic Boulevard | AM PM | 0.922
0.944 | E
E | | 0.939
0.956 | E
E | 0.017
0.012 | YES
YES | 0.927
0.943 | E
E | 0.005
-0.001 | NO
NO |
| 19. | Santa Fe Avenue & Olympic Boulevard | AM PM | 0.955
1.047 | E
F | | 0.959
1.053 | E
F | 0.004
0.006 | NO
NO | 0.948
1.041 | E
F | -0.007
-0.006 | NO
NO |
| 20. | Alameda Street & 14th Street | AM PM | 0.706
0.733 | C
C | | 0.712
0.737 | C
C | 0.006
0.004 | NO
NO | 0.701
0.727 | C
C | -0.005
-0.006 | NO
NO |
| 21. | Alameda Street & I-10 Eastbound Ramps | AM PM | 0.792
0.865 | C
D | | 0.797
0.872 | C
D | 0.005
0.007 | NO
NO | 0.787
0.861 | C
D | -0.005
-0.004 | NO
NO |

**TABLE 8
PROJECT TRIP GENERATION ESTIMATES**

ATTACHMENT 2

| TRIP GENERATION RATES [a] | | | | | | | | | |
|-----------------------------|--------------|---------|--------|----------------|-----|-------|----------------|-----|-------|
| Land Use | ITE Land Use | Rate | Daily | A.M. Peak Hour | | | P.M. Peak Hour | | |
| | | | | In | Out | Total | In | Out | Total |
| Warehouse | 150 | per ksf | 3.56 | 79% | 21% | 0.30 | 25% | 75% | 0.32 |
| Apartment | 220 | per du | 6.65 | 20% | 80% | 0.51 | 65% | 35% | 0.62 |
| Specialty Retail Center [b] | 826 | per ksf | 44.32 | 62% | 38% | 0.96 | 44% | 56% | 2.71 |
| General Office Building | 710 | per ksf | 11.03 | 88% | 12% | 1.56 | 17% | 83% | 1.49 |
| Restaurant | 932 | per ksf | 127.15 | 55% | 45% | 10.81 | 60% | 40% | 9.85 |
| Supermarket | 850 | per ksf | 102.24 | 62% | 38% | 3.40 | 51% | 49% | 9.48 |

| TRIP GENERATION ESTIMATES | | | | | | | | | |
|-------------------------------------|--------------|------------|-------|----------------|------|-------|----------------|------|-------|
| Land Use | ITE Land Use | Size | Daily | A.M. Peak Hour | | | P.M. Peak Hour | | |
| | | | | In | Out | Total | In | Out | Total |
| <u>Existing Uses</u> | | | | | | | | | |
| Warehouse | 150 | 131.35 ksf | 468 | 31 | 8 | 39 | 11 | 31 | 42 |
| TOTAL - EXISTING | | | 468 | 31 | 8 | 39 | 11 | 31 | 42 |
| <u>Proposed Uses</u> | | | | | | | | | |
| Live-Work Apartment [c] | 220 | 475 du | 3,159 | 48 | 194 | 242 | 192 | 103 | 295 |
| Transit/Walk-In Credit- 15% [d] | | | (474) | (7) | (29) | (36) | (29) | (15) | (44) |
| Internal Capture - 20% [e] | | | (537) | (8) | (33) | (41) | (33) | (17) | (50) |
| Live-Work Office [f] | 710 | 25.2 ksf | 278 | 34 | 5 | 39 | 6 | 32 | 38 |
| Transit/Walk-In Credit- 15% [d] | | | (42) | (5) | (1) | (6) | (1) | (5) | (6) |
| Live-Work Subtotal | | | 2,384 | 62 | 136 | 198 | 135 | 98 | 233 |
| Retail | 826 | 17.5 ksf | 777 | 11 | 6 | 17 | 21 | 27 | 48 |
| Transit/Walk-In Credit- 15% [d] | | | (117) | (2) | (1) | (3) | (3) | (4) | (7) |
| Internal Capture - 20% [e] | | | (132) | (2) | (1) | (3) | (4) | (4) | (8) |
| Passby Credit - 50% [g] | | | (264) | (4) | (2) | (6) | (7) | (10) | (17) |
| Office | 710 | 7.9 ksf | 87 | 11 | 1 | 12 | 2 | 10 | 12 |
| Transit/Walk-In Credit- 15% [d] | | | (13) | (2) | 0 | (2) | 0 | (2) | (2) |
| Internal Capture - 20% [e] | | | (15) | (2) | 0 | (2) | 0 | (2) | (2) |
| Restaurant | 932 | 16.3 ksf | 2,070 | 97 | 79 | 176 | 96 | 64 | 160 |
| Transit/Walk-In Credit- 15% [d] | | | (311) | (15) | (11) | (26) | (14) | (10) | (24) |
| Internal Capture - 20% [e] | | | (352) | (16) | (14) | (30) | (16) | (11) | (27) |
| Passby Credit - 20% [g] | | | (281) | (13) | (11) | (24) | (13) | (9) | (22) |
| Supermarket | 850 | 15.3 ksf | 1,561 | 32 | 20 | 52 | 74 | 71 | 145 |
| Transit/Walk-In Credit- 15% [d] | | | (234) | (5) | (3) | (8) | (11) | (11) | (22) |
| Internal Capture - 20% [e] | | | (265) | (5) | (4) | (9) | (13) | (12) | (25) |
| Passby Credit - 40% [g] | | | (425) | (9) | (5) | (14) | (20) | (19) | (39) |
| Ground Floor Commercial Subtotal | | | 2,086 | 76 | 54 | 130 | 92 | 78 | 170 |
| TOTAL - PROPOSED | | | 4,470 | 138 | 190 | 328 | 227 | 176 | 403 |
| NET NEW TRIPS (PROPOSED - EXISTING) | | | 4,002 | 107 | 182 | 289 | 216 | 145 | 361 |

Notes:

ksf: 1,000 square feet

du: dwelling units

[a] Source: *Trip Generation, 9th Edition*, Institute of Transportation Engineers, 2012.

[b] AM rate for specialty retail is not provided in *Trip Generation, 9th Edition*, thus the AM rate for retail shopping center (ITE 820) was used.

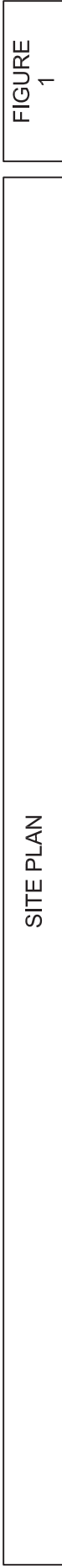
[c] Live-work units include residents living and working in conjunction and thus do not generate traditional AM outbound and PM inbound trips. Therefore, use of the apartment rates applied to all 475 live-work units provide a conservative analysis.

[d] Per LADOT's *Transportation Impact Study Guidelines* (LADOT, December 2016), the Project Site is located within 1/4 mile of a Metro RapidBus stop (Metro 760), therefore a 15% transit adjustment was applied to account for transit usage and walking visitor arrivals from the surrounding neighborhoods and adjacent commercial developments, and for arrivals via taxi, tour bus, and carpool services.

[e] Internal capture adjustments account for person trips made between distinct land uses within a mixed-use development without using an off-site road system. Based on the NCHRP 8-51 Internal Trip Capture Estimation Tool (*National Cooperative Highway Research Program Report 684 – Enhancing Internal Trip Capture Estimation for Mixed-Use Developments*, Transportation Research Board and National Research Council, 2011), the Project trips can potentially be adjusted for over 25% internal capture adjustments. A conservative 20% internal capture adjustment was applied to the live-work apartments and ground floor commercial uses.

[f] Live-work units may include external trips to/from the office portion of the live-work units. Based on the minimum size requirement of the work portion in a live-work unit (150 sf) 168 units, of which can provide sufficient office space within the live-work units (greater than 1,000 sf, excluding outside balcony space), can be assumed to generate external office trips (e.g. employees).

[g] Pass-by adjustments account for Project trips made as an intermediate stop on the way from an origin to a primary trip destination without route diversion.



**TRANSPORTATION IMPACT STUDY
FOR THE
668 SOUTH ALAMEDA STREET
MIXED-USE PROJECT**

LOS ANGELES, CALIFORNIA

The Arts District
HISTORY AND ARCHITECTURE IN DOWNTOWN L.A.

JUNE 2017

PREPARED FOR
AVALONBAY COMMUNITIES, INC.

PREPARED BY



**TRANSPORTATION IMPACT STUDY
FOR THE
668 SOUTH ALAMEDA STREET
MIXED-USE PROJECT
LOS ANGELES, CALIFORNIA**

June 2017

Prepared for:

AVALONBAY COMMUNITIES, INC.

Prepared by:

GIBSON TRANSPORTATION CONSULTING, INC.

555 W. 5th Street, Suite 3375
Los Angeles, California 90013
(213) 683-0088

Ref: J1419

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Executive Summary

This study was undertaken to analyze the potential transportation impacts of the proposed 668 S. Alameda Street mixed-use project (Project) proposed by AvalonBay Communities, Inc. (the Applicant). The following summarizes the results of the analysis.

PROJECT DESCRIPTION AND STUDY AREA

The Project, located at 668 S. Alameda Street in the Arts District of Downtown Los Angeles, proposes the construction of a mixed-use development consisting of 475 live-work units with approximately 61,200 square feet (sf) of commercial space. Of the 61,200 sf of commercial space, 57,000 sf includes retail, arts and production space, supermarket and restaurant uses. The remaining 4,200 sf includes parking and bicycle storage facilities ancillary to the Project. The Project would replace approximately 131,350 sf of existing warehouse space. Detailed transportation analyses were conducted at 21 key intersections, including 18 signalized intersections and three unsignalized intersections, within the Study Area according to the methodology described in *Transportation Impact Study Guidelines* (LADOT, December 2016).

PROJECT TRIP GENERATION AND TRIP DISTRIBUTION

The Project is estimated to generate 4,002 new trips on a typical weekday, including 289 new morning peak hour trips (107 inbound, 182 outbound) and 361 new afternoon peak hour trips (216 inbound, 145 outbound). The Project traffic was distributed through the street network as described in Chapter 3.

EXISTING WITHOUT AND WITH PROJECT (YEAR 2016) CONDITIONS

Under Existing without and with Project (Year 2016) Conditions, all 18 signalized study intersections currently operate at LOS D or better during both the morning and afternoon peak

hours. The Project is not anticipated to result in a significant impact at any of the 18 signalized study intersections.

FUTURE WITHOUT AND WITH PROJECT (YEAR 2022) CONDITIONS

Under Future without Project (Year 2022) Conditions, five of the 18 signalized study intersections are projected to operate at LOS D or better during both the morning and afternoon peak hours. The remaining 13 intersections would operate at LOS E or F during at least one of the analyzed peak hours. Under Future with Project (Year 2022) Conditions, four of the 18 signalized study intersections are anticipated to continue to operate at LOS D or better during both the morning and afternoon peak hours. The remaining 14 intersections would operate at LOS E or F during at least one of the analyzed peak hours.

The Project is anticipated to result in significant impacts under Future with Project (Year 2022) Conditions, before mitigation, at the following six signalized intersections:

3. Alameda Street & 6th Street (afternoon peak hour)
6. Central Avenue & 7th Street (afternoon peak hour)
7. Alameda Street & 7th Street (morning and afternoon peak hours)
8. Mateo Street & 7th Street (morning and afternoon peak hours)
9. Santa Fe Avenue & 7th Street (morning and afternoon peak hours)
18. Alameda Street & Olympic Boulevard (morning and afternoon peak hours)

TRANSPORTATION MITIGATION PROGRAM

A comprehensive package of transportation improvements and mitigation measures to be implemented has been proposed to mitigate the identified significant impacts. Transportation improvements would include support for the Mobility Hub, implementation of a Transportation Demand Management (TDM) program, and contribution towards an areawide Transportation Management Organization (TMO). The transportation mitigation program is further discussed in Chapter 8.

REMAINING SIGNIFICANT INTERSECTION IMPACTS AFTER MITIGATION

Intersection impacts were again measured for the Project, after mitigation, as compared to without project conditions in years 2016 and 2022. Under Future with Project with Mitigation (Year 2022) Conditions, the following intersections would remain significantly impacted and unavoidable:

3. Alameda Street & 6th Street
7. Alameda Street & 7th Street
8. Mateo Street & 7th Street

CONGESTION MANAGEMENT PROGRAM (CMP) ANALYSIS

Analysis of potential impacts on the regional transportation system conducted in accordance with CMP guidelines determined that the Project would not have a significant impact on the regional freeway, arterial, or transit system.

SITE ACCESS, CIRCULATION, AND PARKING

Primary vehicular access to the multi-level parking garage would be provided via one full-access driveway located along Industrial Street.

Per *Los Angeles Municipal Code* (City of Los Angeles, October 24, 2016), the Project is required to provide 842 parking spaces, which is satisfied by the 842 automobile parking spaces provided on-site. In addition, the Project is required to provide 504 long-term and 77 short-term bicycle parking spaces, which is satisfied by the 581 (504 long-term and 77 short-term) bicycle parking spaces on-site.

CONSTRUCTION IMPACTS

It is anticipated that construction of the Project would commence in year 2019 and continue through year 2022. No impacts on the study intersections are expected to occur as a result of this level of construction traffic. The use of the public right-of-way along Industrial Street and Alameda

Street would require temporary rerouting of pedestrian traffic as the sidewalks fronting the Project Site would be closed. To the extent possible, these and other potential impacts as a result of construction would be minimized by implementation of a construction traffic management plan.

Chapter 1

Introduction

This study presents the transportation impact analysis for the proposed mixed-use project (Project) at 668 S. Alameda Street (Project Site) in the *Central City North Community Plan* (Los Angeles Department of City Planning, 2009) area of Los Angeles, California. The methodology and base assumptions used in the analysis were established in conjunction with the Los Angeles Department of Transportation (LADOT).

PROJECT DESCRIPTION

The Project proposes the construction of a mixed-use development consisting of 475 live-work units with approximately 61,200 square feet (sf) of commercial space. Of the 61,200 sf of commercial space, 57,000 sf includes retail, arts and production space, supermarket and restaurant uses. The remaining 4,200 sf includes parking and bicycle storage facilities ancillary to the Project. The Project would replace approximately 131,350 sf of existing warehouse space.

The Project would include vehicular and bicycle parking spaces within the multi-level parking garage. Primary vehicular access would be provided via a driveway along Industrial Street, with ancillary accesses via driveways along Mill Street and Alameda Street.

The conceptual Project site plan is shown in Figure 1.

PROJECT LOCATION AND TRANSPORTATION ANALYSIS STUDY AREA

The Project Site is located within the Arts District, an area generally bounded by 1st Street to the north, the Los Angeles River and train tracks to the east, 7th Street to the south, and Alameda Street to the west. The Project Site is bounded by Industrial Street to the north, adjacent

commercial and industrial uses to the east and south, and Alameda Street to the west. The Project area includes commercial, restaurant, office, and warehouse uses.

The Project Site is located approximately three-quarters of a mile north of the Santa Monica Freeway (I-10) and approximately one mile west of the Golden State Freeway (I-5) and Santa Ana Freeway (US 101). In the vicinity of the Project Site, the area is served by major arterial streets such as Olympic Boulevard, Central Avenue and Alameda Street and secondary arterial streets such as 4th Street, 6th Street/Whittier Boulevard, 7th Street, San Pedro Street, Santa Fe Avenue and Boyle Avenue.

As shown in Figure 2, the transportation analysis Study Area includes a geographic area bounded by 4th Street to the north, US 101 and I-5 to the east, I-10 to the south, and San Pedro Street to the west. Detailed transportation analyses were conducted at key intersections within the Study Area.

The Project is served by multiple bus and shuttle lines along 4th Street, 6th Street/Whittier Boulevard, 7th Street, Olympic Boulevard, San Pedro Street, Central Avenue, Alameda Street, Santa Fe Avenue, and Boyle Avenue.

TRANSPORTATION ANALYSIS METHODOLOGY

Study Scope and Analysis Conditions

The scope of analysis for this study was developed in consultation with LADOT. The base assumptions and technical methodologies (i.e., trip generation, study locations, analysis methodology, etc.) were identified as part of the study approach and were outlined in a Memorandum of Understanding (MOU) dated September 22, 2016, which was reviewed and approved by LADOT. As part of the MOU, a review of the freeway impact analysis screening criteria on the California Department of Transportation (Caltrans) facilities (i.e., ramps and freeway segments) was prepared pursuant to the *First Amendment to the Agreement between LADOT and Caltrans District 7 on Freeway Impact Analysis Procedures* (State of California and City of Los Angeles, December 15, 2015) ("Caltrans Agreement"). A copy of the signed MOU is provided in Appendix A and the Caltrans Agreement is provided in Appendix B.

This study analyzed the potential Project-generated transportation impacts on the street system in the vicinity of the Project Site as compared to existing conditions and projected future conditions at the time the Project is expected to be occupied (Year 2022). Potential intersection impacts were evaluated for typical weekday morning (7:00 AM to 10:00 AM) and afternoon (3:00 PM to 6:00 PM) peak periods. Consistent with *Transportation Impact Study Guidelines* (LADOT, December 2016), the following traffic conditions were developed and analyzed as part of this study:

- Existing Conditions: The analysis of existing traffic conditions provides a basis for the assessment of future traffic conditions. The Existing Conditions analysis includes a description of key area streets and highways, traffic volumes and current operating conditions, and transit service in the Study Area. For the purposes of this analysis, the Existing Conditions in this transportation study reflect conditions as of the time the MOU and Notice of Preparation (NOP) were issued in 2016. Fieldwork (lane configurations and signal phasing) for the analyzed intersections is provided in Appendix C, traffic count worksheets in Appendix D, and level of service (LOS) worksheets in Appendix E.
- Existing with Project Conditions: This analysis condition projects the potential intersection operating conditions that could be expected if the Project were built under existing conditions. This analysis evaluates the potential Project-related transportation impacts as compared to Existing Conditions.
- Existing with Project with Mitigation Conditions (Year 2016) – This analysis condition projects the potential intersection operating conditions that could be expected if the Project were built under existing conditions, including the effect of any mitigation. In this analysis condition, the Project-generated traffic with mitigation incorporated is added to the Existing Conditions.
- Future without Project Conditions (Year 2022): This analysis condition projects the potential intersection operating conditions that could be expected as a result of regional growth and cumulative project traffic in the Study Area by Year 2022. This analysis provides the conditions by which the Project impacts are evaluated in the future at completion of the Project.
- Future with Project Conditions (Year 2022): This analysis condition projects the potential intersection operating conditions that could be expected if the Project were occupied in the projected buildout year. In this analysis, the Project-generated traffic is added to Future without Project Conditions (Year 2022).
- Future with Project with Mitigation Conditions (Year 2022) – This analysis projects the potential intersection operating conditions that could be expected if the Project were built in the projected buildout year, including the effect of any mitigation. In this analysis condition, the Project-generated traffic with mitigation incorporated is added to the Future without Project Conditions.

Signalized Intersection Analysis Methodology

Intersection capacity has been analyzed using the “Critical Movement Analysis (CMA) – Planning” (*Transportation Research Circular No. 212, Interim Materials on Highway Capacity*, Transportation Research Board, 1980) methodology in accordance with *Transportation Impact Study Guidelines*. The CMA methodology was implemented using LADOT’s CalcaDB Lite spreadsheet application to analyze intersection operating conditions. The methodology calculates the volume-to-capacity (V/C) ratio, which is used to determine the intersection LOS according to the LOS definitions provided in Table 1. LOS worksheets for each scenario are provided in Appendix E.

The Automated Traffic Surveillance and Control (ATSAC) system represents an advanced system in computer control of traffic signals. It was first put into operation in June 1984 in the Coliseum area of the City to anticipate the expected increase in traffic due to the Summer Olympic Games, and has since been expanded to other parts of the City. The advantages of ATSAC-controlled traffic signals are substantial, including real-time adjustment of signal timing plans to reflect changing traffic conditions, identification of unusual traffic conditions caused by incidents, the ability to implement special purpose short-term signal timing changes in response to incidents, and the ability to identify signal equipment malfunctions quickly. LADOT estimates that implementation of this system improves intersection capacity by an average of 7%.

In addition to ATSAC, the Adaptive Traffic Control System (ATCS) has been implemented in the City. ATCS is a computer-based traffic signal control program that provides fully responsive traffic signal control based on real-time traffic conditions. It automatically adjusts and optimizes traffic signal timing in response to current traffic demands on the entire signal network such that the number of stops and the amount of delay is minimized along with improved traffic signal coordination throughout the network. LADOT estimates that implementation of this system improves intersection capacity by an additional 3% over those operating under the ATSAC system alone.

Each of the signalized study intersections is equipped with both ATSAC and ATCS. In accordance with standard LADOT procedures, a capacity increase of 10% (0.10 V/C adjustment) was applied to each intersection to reflect the benefits of ATSAC and ATCS control.

The capacity increases are applied within the CalcaDB Lite software and, therefore, are inherent in the analysis results.

Unsignalized Intersection Analysis Methodology

Based on *Transportation Impact Study Guidelines*, the unsignalized intersections in the Study Area were evaluated to determine the need for the installation of a traffic signal. The unsignalized intersections were analyzed using *2010 Highway Capacity Manual* (Transportation Research Board, 2010) (HCM) methodology to determine the overall intersection delay. The HCM methodology calculates the average delay, in seconds, of a vehicle passing through the intersection in any direction. The average delay is used to determine the intersection LOS according to the LOS definitions provided in Table 1. The analysis worksheets for each scenario are provided in Appendix E.

Pursuant to *Transportation Impact Study Guidelines*, if, based on the estimated delay, the resultant LOS is E or F in the Future with Project Conditions, the intersection should be evaluated for the potential installation of a new traffic signal through a traffic signal warrant analysis. It should be noted that the determination that an unsignalized intersection meets the criteria of a traffic signal warrant does not in itself require the installation of a signal. Rather, the decision on whether a traffic signal should be installed is made by the governing jurisdiction's taking into consideration other factors such as distance to adjacent signalized intersections and interruption to traffic flow along the major street.

IMPACT CRITERIA AND SIGNIFICANCE THRESHOLDS

Signalized Intersections

The significance of the potential impacts of Project-generated traffic at the signalized study intersections was determined using criteria identified in *Transportation Impact Study Guidelines*. LADOT guidelines indicate that a project is considered to have a significant transportation impact on a signalized intersection if the increase in the V/C ratio attributable to the project exceeds a specific threshold depending on the final intersection LOS. LADOT has developed a

sliding scale methodology in which the minimum allowable increase in the V/C ratio attributable to a project decreases as the V/C ratio of the intersection increases:

| Intersection Conditions
with Project Traffic | | Significant Impact Threshold
for Project-related Increase
in V/C Ratio |
|---|---------------|--|
| LOS | V/C | |
| C | 0.701 – 0.800 | Equal to or greater than 0.04 |
| D | 0.801 – 0.900 | Equal to or greater than 0.02 |
| E, F | > 0.900 | Equal to or greater than 0.01 |

Source: City of Los Angeles.

The relative impact of the added traffic volumes to be generated by the Project was evaluated based on analysis of existing and future operating conditions at the study intersections, with and without the Project.

ADDITIONAL TRANSPORTATION ANALYSES

Congestion Management Program

An analysis also was conducted according to *2010 Los Angeles County Congestion Management Program*, Los Angeles County Metropolitan Transportation Authority (Metro, 2010) (CMP) guidelines. The CMP is a State-mandated program that serves as the monitoring and analytical basis for transportation funding decisions in the County made through the Regional Transportation Improvement Program and State Transportation Improvement Program processes. The CMP requires that a Traffic Impact Analysis (TIA) be performed (1) for all CMP arterial monitoring intersections where a project would add 50 or more trips during either the morning or afternoon weekday peak hours and (2) all mainline freeway monitoring locations where a project would add 150 or more trips (in either direction) during the morning or afternoon weekday peak hours. In addition, it requires a review of potential impacts to the regional transit system.

The required CMP analyses were performed, as detailed in Chapter 10, in accordance with the TIA guidelines referenced in the CMP.

Caltrans

Caltrans facilities were evaluated according to the requirements of the Caltrans Agreement, which identifies a series of screening criteria that, if any are met by the Project, require a more detailed analysis of Caltrans facilities. As detailed in the approved MOU provided in Appendix A, the Project-related increases on the freeway segments and off-ramps do not meet the screening criteria and thus, no further analysis is required. During the public comment period, Caltrans issued a letter in response to the NOP for the Project's Draft Environmental Impact Report, which is also included in Appendix B. Although the Project-related traffic does not meet the criteria for additional focused analysis of the Caltrans facilities, a supplemental analysis was conducted for informational purposes based on the methodology detailed in *Guide for the Preparation of Traffic Impact Studies* (Caltrans, December 2002) (Caltrans TIS Guide) as requested in the Caltrans NOP response letter and is provided in Appendix F.

State of California Senate Bill No. 743

State of California Senate Bill 743 (Steinberg, 2013) (SB 743), made effective in January 2014, requires the Governor's Office of Planning and Research to change the California Environmental Quality Act (CEQA) guidelines regarding the analysis of transportation impacts. Under SB 743, the focus of transportation analysis will shift from driver delay to reduction of greenhouse gas emissions (GHG), creation of multimodal networks and promotion mixed-use developments. Although originally scheduled to be fully implemented in guidelines by January 1, 2016, an extension has allowed cities more time to establish an analysis methodology. The City is currently in the process of updating its travel demand model and transportation impact thresholds based on vehicle miles travelled (VMT). To better align with the State's multimodal transportation and environmental action goals, Caltrans is also pursuing VMT as a metric of Project impacts, which is outlined in *Local Development – Intergovernmental Review Program Interim Guide* (Caltrans, Approved September 2016).

In addition, SB 743 adds Public Resources Code Section 21099, which provides that "aesthetic and parking impacts of a residential, mixed-use residential, or employment center project on an infill site within a transit priority area shall not be considered significant impacts on the environment." A transit priority area is defined as an area within one-half mile of an existing or

planned major transit stop. Public Resources Code Section 21064.3 defines a major transit stop as a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon commute periods. The Project is located in a transit priority area as it is within one-half mile of Union Station and within one-quarter mile of frequent Metro bus services at the intersection of Alameda Street & 7th Street.

The Project characteristics (e.g., its location, access to other nearby destinations, bicycle amenities, etc.) would encourage non-auto modes of transportation such as walking, bicycling, carpool, vanpool, transit, etc. and, therefore, would reduce VMT to the Project Site and associated transportation-related GHG emissions.

The Project Site represents an urban/compact infill location within the Arts District of Downtown Los Angeles and within an area that offers access to other nearby commercial destinations. Downtown Los Angeles is also a primary job center. The Project would provide an internal pedestrian network that links to the existing off-site pedestrian network including existing off-site sidewalks. The combined effects of these factors would reduce the Project's anticipated vehicle trips and VMTs and encourage walking and non-auto forms of transportation, which results in corresponding reductions in transportation-related emissions.

Future Proposed Roadway and Transit System Changes

The Arts District is a rapidly growing section of Downtown Los Angeles and numerous transportation improvements are being discussed for the area. However, many of these proposals are in the formative stages and are not yet fully funded or scheduled for implementation. As such, it is difficult to consider all of these proposals as guaranteed improvements that are certain to be implemented. Therefore, this report discusses these improvements and summarizes an analysis of the impacts of the Project if these improvements were in place by Project buildout year 2022.

Additional Review and Analysis

In addition to the various intersection, CMP, and Caltrans analyses discussed above, this study includes a review of various other features and conditions related to the Project. These include a review of Project access and circulation and an analysis of potential transportation impacts associated with the Project's construction.

ORGANIZATION OF REPORT

This report is divided into 12 chapters, including this introduction. Chapter 2 describes the existing circulation system, traffic volumes, and traffic conditions in the Study Area. Chapter 3 forecasts the Future without Project Conditions. Chapter 4 describes the procedure used to forecast Project traffic volumes and distribution through the Study Area. Chapter 5 presents the intersection operating conditions associated with operation of the Project on top of Existing Conditions. Chapter 6 presents the intersection operating conditions associated with operation of the Project on top of Future without Project Conditions (Year 2022). Chapter 7 identifies the potential significant transportation impacts, prior to mitigation, of the proposed Project under Existing with Project and Future with Project Conditions. Chapter 8 describes the transportation improvement and mitigation program designed to reduce the impacts of the Project to the extent possible. Chapter 9 presents the operating conditions of the unsignalized intersections and the signal warrant analysis. Chapter 10 presents the regional CMP analysis, while Chapter 11 describes site access and internal circulation. Chapter 12 presents the parking analysis and Chapter 13 presents the impacts associated with the construction phase of the Project. The appendices contain supporting documentation, including the MOU that outlines the study scope and assumptions, and additional details supporting the technical analyses.




N
Not to Scale

FIGURE
1

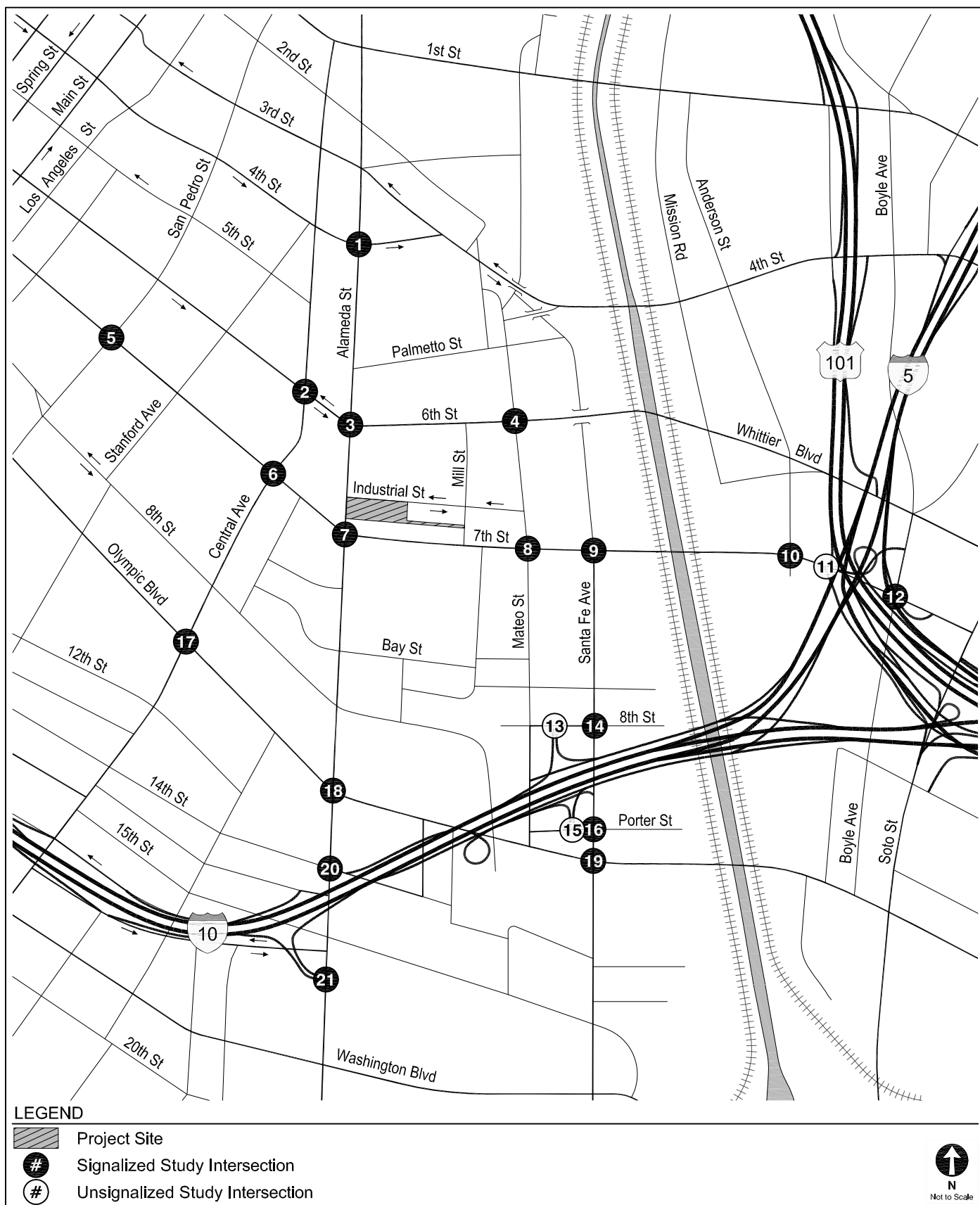


TABLE 1
LEVEL OF SERVICE DEFINITIONS

| Level of Service | V/C Ratio | Unsignalized Delay | Definition |
|------------------|---------------|--------------------|---|
| A | 0.000 - 0.600 | 0.0 - 10.0 | EXCELLENT. No vehicle waits longer than one red light and no approach phase is fully used. |
| B | 0.601 - 0.700 | 10.1 - 15.0 | VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles. |
| C | 0.701 - 0.800 | 15.1 - 25.0 | GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles. |
| D | 0.801 - 0.900 | 25.1 - 35.0 | FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups. |
| E | 0.901 - 1.000 | 35.1 - 50 | POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles. |
| F | > 1.000 | > 50.0 | FAILURE. Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Tremendous delays with continuously increasing queue lengths. |

Source: *Transportation Research Circular No. 212, Interim Materials on Highway Capacity* (Transportation Research Board, 1980); *2010 Highway Capacity Manual* (Transportation Research Board, 2010).

Chapter 2

Existing Conditions

A comprehensive data collection effort was undertaken to develop a detailed description of existing conditions in the Project Study Area. The Existing Conditions analysis includes an assessment of the existing freeway and street systems, an analysis of traffic volumes and current operating conditions, and an assessment of the existing public transit service, as well as pedestrian and bicycle circulation at the time the MOU and NOP were issued in late 2016.

STUDY AREA

The Project's transportation analysis Study Area, shown in Figure 2, is generally bounded by 4th Street to the north, US 101 and I-5 to the east, I-10 to the south, and San Pedro Street to the west.

A transportation analysis Study Area generally comprises those intersections with the greatest potential to experience significant transportation impacts due to the project, as defined by the City of Los Angeles, including intersections that are:

1. Immediately adjacent or in close proximity to the project site
2. In the vicinity of the project site that are documented to have current or projected future adverse operational issues
3. In the vicinity of the project site that are forecast to experience a relatively greater percentage of project-related vehicular turning movements (e.g., at freeway ramp intersections)

The Project's Study Area was established in consultation with LADOT, based on the above criteria, as well as peak hour Project trip generation, the anticipated distribution of Project traffic, and the existing intersections/corridor operations. It contains those intersections with a reasonable potential to experience significant transportation impacts due to the Project.

The results of the transportation impact analysis detailed in this study were reviewed to ensure that all potentially significantly impacted intersections, prior to mitigation, were analyzed, and that the boundary of the Study Area was extended, as necessary, to confirm that there were no significant impacts at or beyond the Study Area periphery. As detailed in later chapters, the study intersections on the Study Area periphery are not anticipated to be significantly impacted by the Project and, thus, the analyzed locations are considered to be adequate such that no additional significant impacts are anticipated to occur beyond the transportation analysis Study Area. The 21 intersections identified for detailed analysis of the above conditions are listed in Table 2.

Figure 2 illustrates the location of the Project Site in relation to the surrounding street system and the study intersections. The existing lane configurations at the analyzed intersections are provided in Appendix C.

EXISTING STREET SYSTEM

The existing street system in the Study Area consists of a regional roadway system including freeways, primary and secondary arterials, and collector and local streets which provide regional, sub-regional, or local access and circulation within the Study Area. These transportation facilities generally provide two to six travel lanes and usually allow parking on either side of the street. Typically, the speed limits range between 25 and 35 miles per hour (mph) on the streets and between 55 and 65 mph on freeways.

Street classifications are designated in *Mobility Plan 2035, An Element of the General Plan* (Los Angeles Department of City Planning, January 2016) (the “Mobility Plan”) and the former *City of Los Angeles Transportation Element of the General Plan* (Los Angeles Department of City Planning, 1999) (the “General Plan Transportation Element”). The Mobility Plan has revised street standards in an effort to provide a more enhanced balance between traffic flow and other important street functions including transit routes and stops, pedestrian environments, bicycle routes, building design and site access, etc. The available facilities in the Study Area are defined by the following in the Mobility Plan:

-
- Freeways are high-volume, high-speed roadways with limited access provided by interchanges that carry regional traffic through and do not provide local access to adjacent land uses.
 - Arterial Streets are major streets that serve through traffic, as well as provide access to major commercial activity centers. Arterials are divided into two categories:
 - Boulevards represent the widest streets that typically provide regional access to major destinations and include two categories:
 - Boulevard I provides up to four travel lanes in each direction with a target operating speed of 40 mph
 - Boulevard II provides up to three travel lanes in each direction with a target operating speed of 35 mph
 - Avenues pass through both residential and commercial areas and include three categories:
 - Avenue I provides up to two travel lanes in each direction with a target operating speed of 35 mph
 - Avenue II provides up to two travel lanes in each direction with a target operating speed of 30 mph
 - Avenue III provides up to two travel lanes in each direction with a target operating speed of 25 mph
 - Collector Streets are generally located in residential neighborhoods and provide access to and from arterial streets for local traffic and are not intended for cut-through traffic. They provide one travel lane in each direction with operating speed of 25 mph.
 - Local Streets are intended to accommodate lower volumes of vehicle traffic and provide parking on both sides of the street. They provide one travel lane in each direction with a target operating speed of 15 to 20 mph. Local streets include two categories:
 - Continuous local streets connect to other streets at both ends
 - Non-continuous local streets lead to a dead-end

The Mobility Plan is currently under litigation that could potentially result in its nullification. In that scenario, the General Plan Transportation Element would once more be in effect. The General Plan Transportation Element designates the following arterial streets rather than the “Avenues” and “Boulevards” designated in Mobility Plan:

- Arterial Streets are major streets that serve through traffic, as well as provide access to major commercial activity centers. Arterials are divided into three categories: Major Class Highway I, Major Class Highway II, and Secondary Highway.

-
- Major Highway Class I has average daily traffic (ADT) of more than 50,000.
 - Major Highway Class II is typically spaced one mile apart in a grid system, with an ADT of 30,000 to 50,000.
 - Secondary Highway supplements the through-traffic characteristics of major highways and typically located one mile apart midway between major highways, with an ADT of 20,000 to 30,000.

Primary regional access to the Project Site is provided by US 101, I-5, and I-10. The major arterials providing regional and sub-regional access to the Project vicinity include Olympic Boulevard, Central Avenue and Alameda Street. The following is a brief description of the major roadways in the Study Area, including their classifications under both the Mobility Plan and the General Plan Transportation Element:

Freeways

- US 101 – US 101 generally runs in the north-south direction and is located less than one mile east of the Project Site. In the vicinity of the Project Site, US 101 provides three travel lanes in each direction. Access to and from US 101 is available via interchanges at 4th Street, Whittier Boulevard and 7th Street.
- I-5 – I-5 generally runs in the north-south direction and is located less than one mile east of the Project Site. In the vicinity of the Project Site, I-5 provides five travel lanes in each direction. Access to and from I-5 is available via interchanges at 4th Street and 7th Street.
- I-10 – I-10 generally runs in the east-west direction and is located 1.50 miles south of the Project Site. In the vicinity of the Project Site, I-10 provides three to five travel lanes in each direction. Access to and from I-10 is available via interchanges at Alameda Street, Olympic Boulevard and Porter Street.

Roadways

- 4th Street – 4th Street is generally a designated Avenue II in the Mobility Plan and a designated Secondary Highway west of Hewitt Street and a designated Major Highway Class II east of Hewitt Street in the General Plan Transportation Element. It generally travels in the east-west direction and is located north of the Project Site. It provides five travel lanes, two in each direction and a bi-directional lane in the center. Parking is generally not available within the Study Area.
- 6th Street/Whittier Boulevard – 6th Street is a designated Avenue II in the Mobility Plan and a designated Secondary Highway in the General Plan Transportation Element. It travels in the east-west direction and is located south of the Project Site. It provides four travel

lanes, two in each direction, with left-turn lanes at intersections. Parking is generally available on the north side of the street between Alameda Street and Mateo Street.

- 7th Street – 7th Street is a designated Avenue II in the Mobility Plan and a designated Secondary Highway in the General Plan Transportation Element. It travels in the east-west direction and is located south of the Project Site. It provides four travel lanes, two in each direction, with left-turn lanes at intersections. Parking is generally available on the north side of the street west of Santa Fe Avenue.
- 8th Street – 8th Street is a designated Collector in the Mobility Plan and an undivided designated Secondary Highway west of Central Avenue and a designated Collector Street east of Alameda Street in the General Plan Transportation Element. It travels in the east-west direction. It is located south of the Project Site and provides two travel lanes, one in each direction. Parking is generally available on the north side of the street east of Alameda Street.
- Porter Street – Porter Street is a designated Collector in the Mobility Plan and a designated Collector Street in the General Plan Transportation Element. It travels in the east-west direction. It is located south of the Project Site and provides two travel lanes, one in each direction. Parking is generally available on both sides of the street within the Study Area.
- Olympic Boulevard – Olympic Boulevard is a designated Modified Avenue I in the Mobility Plan and a designated Modified Major Highway Class II in the General Plan Transportation Element. It travels in the east-west direction and is located south of the Project Site. It provides four travel lanes, two in each direction, with left-turn lanes at intersections. Parking is generally available on both sides of the street west of Alameda Street.
- 14th Street – 14th Street is a designated Avenue III west of Alameda Street and a designated Collector east of Alameda Street in the Mobility Plan and is a designated Secondary Highway west of Alameda Street and a designated Collector Street east of Alameda Street in the General Plan Transportation Element. It travels in the east-west direction. It is located south of the Project Site and provides two travel lanes, one in each direction. Parking is generally available on both sides of the street within the Study Area.
- San Pedro Street – San Pedro Street is a designated Avenue II in the Mobility Plan and is a designated Major Highway Class II in the General Plan Transportation Element. It travels in the north-south direction, and is located west of the Project Site. It provides four travel lanes, two in each direction, with left-turn lanes provided at intersections. Metered parking is generally available on both sides of the street within the Study Area.
- Central Avenue – Central Avenue is a designated Avenue I in the Mobility Plan and is a designated Major Highway Class II in the General Plan Transportation Element. It travels in the north-south direction and is located west of the Project Site. It provides four travel lanes, two in each direction, with left-turn lanes provided at intersections. Parking is generally available on the west side of the street within the Study Area.
- Alameda Street – Alameda Street is a designated Avenue I in the Mobility Plan and a designated Major Highway Class II in the General Plan Transportation Element. It travels

in the north-south direction and is located west of the Project Site. It provides four travel lanes, two in each direction, with left-turn lanes at intersections. Parking is generally not available within the Study Area.

- Mateo Street – Mateo Street is a designated Avenue III in the Mobility Plan and a designated Secondary Highway north of Olympic Boulevard and a designated Collector Street south of Olympic Boulevard in the General Plan Transportation Element. It travels in the north-south direction and is located east of the Project Site. It provides two travel lanes, one in each direction. Parking is generally available on both sides of the street within the Study Area.
- Santa Fe Avenue – Santa Fe Avenue is a designated Avenue II in the Mobility Plan and a designated Secondary Highway in the General Plan Transportation Element. It travels in the north-south direction, and is located east of the Project Site. It provides four travel lanes, two in each direction, with left-turn lanes at major intersections. Parking is generally available on both sides of the street within the Study Area.
- Anderson Street – Anderson Street is a designated Collector in the Mobility Plan and a designated Collector Street in the General Plan Transportation Element. It travels in the north-south direction. It is located east of the Project Site and provides two travel lanes, one in each direction. Parking is generally available on both sides of the street within the Study Area.
- Boyle Avenue – Boyle Ave is a designated Avenue II in the Mobility Plan and a designated Secondary Highway in the General Plan Transportation Element south of 6th Street. It travels in the north-south direction and is located east of the Project Site. It provides four travel lanes, two in each direction, with left-turn lanes at intersections. Parking is generally not available within the Study Area.

EXISTING TRANSIT SYSTEM

The Study Area is served by bus lines operated by Metro and Montebello Bus Lines.

Bus transit service in the Project vicinity is available along the following streets:

- 4th Street
- 6th Street/Whittier Boulevard
- 7th Street
- Olympic Boulevard
- San Pedro Street
- Central Avenue
- Alameda Street

-
- Santa Fe Avenue
 - Boyle Avenue

Figure 3 illustrates the existing transit service in the vicinity of the Project Site. Table 3 summarizes the various transit lines operating in the Study Area for each of the service providers in the region, the type of service (peak vs. off-peak, express vs. local), and frequency of service. The following provides a brief description of the bus lines providing service in the Project vicinity:

- Metro Local 18 – Route 18 is a local line that travels from Wilshire Center to Montebello through Downtown Los Angeles via 6th Street and Whittier Boulevard, with average headways of approximately 10 to 15 minutes during the morning and afternoon peak hours. It provides service to East Los Angeles, Boyle Heights, and Westlake. This line travels along 6th Street in the vicinity of the Project Site.
- Metro Local 51 – Route 51 is a local line that travels from Wilshire Center to Harbor Gateway Transit Center through Martin Luther King Jr. Transit Center/Compton Station via Avalon Boulevard, with average headways of five minutes during the morning and afternoon peak hours. It provides service to Westlake and Downtown Los Angeles. This line travels along 7th Street and San Pedro Street in the vicinity of the Project Site.
- Metro Local 52 – Route 52 is a local line that travels from Wilshire Center to Harbor Gateway Transit Center through Martin Luther King Jr. Transit Center/Compton Station via Avalon Boulevard, with average headways of five minutes during the morning and afternoon peak hours. It provides service to Westlake and Downtown Los Angeles. This line travels along 7th Street and San Pedro Street in the vicinity of the Project Site.
- Metro Local 53 – Route 53 is a local line that travels from Downtown Los Angeles to California State University, Dominguez Hills via Central Avenue, with average headways of approximately 10 to 15 minutes during the morning and afternoon peak hours. It provides service to South Los Angeles, Willowbrook, and Compton. This line travels along 6th Street and Central Avenue in the vicinity of the Project Site.
- Metro Local 60 – Route 60 is a local line that travels from Downtown Los Angeles to the Artesia Station via Long Beach Boulevard, with average headways of approximately 10 minutes during the morning and afternoon peak hours. It provides service to Vernon, Lynwood, and Compton. The line travels along 7th Street and Santa Fe Avenue in the vicinity of the Project Site.
- Metro Local 62 – Route 62 is a local line that travels from Downtown Los Angeles to Hawaiian Gardens via Telegraph Road, with average headways of approximately 25 to 30 minutes during the morning and afternoon peak hours. It provides service to East Los Angeles, Santa Fe Springs, and Norwalk. The line travels along 7th Street and Boyle Avenue in the vicinity of the Project Site.
- Metro Local 66 – Route 66 is a local line that travels from Wilshire Center to Montebello through Downtown Los Angeles via 8th Street and Olympic Boulevard, with average headways of approximately 15 to 20 minutes during the morning and afternoon peak

hours. It provides service to Boyle Heights, East Los Angeles, and City of Commerce. This line travels along Olympic Boulevard in the vicinity of the Project Site.

- Metro Local 106 – Route 106 is a local line that travels from East LA College Transit Center to USC Medical Center via State Street, Whittier Boulevard, and 1st Street, with average headways of 60 minutes during the morning and afternoon peak hours. It provides service to Boyle Heights, East Los Angeles, and Monterey Park. The line travels along Boyle Avenue and Whittier Boulevard in the vicinity of the Project Site.
- Metro Local 251 – Route 251 is a local line that travels from Cypress Park to Lynwood via Soto Street, with average headways of approximately 15 to 20 minutes during the morning and afternoon peak hours. It provides service to Cypress Park, Vernon, and Huntington Park. The line travels along Soto Street in the vicinity of the Project Site.
- Metro Local 252 – Route 252 is a local line that travels from Cypress Park to Lynwood via Soto Street, with average headways of 25 minutes during the morning and afternoon peak hours. It provides service to Boyle Heights, Vernon and Huntington Park. The line travels along Soto Street in the vicinity of the Project Site.
- Metro Local 352 – Route 352 is a limited line that travels from Wilshire Center to Harbor Gateway Transit Center through Martin Luther King Jr. Transit Center/Compton Station via Avalon Boulevard, with average headways of five minutes during the morning and afternoon peak hours. It provides service to Westlake and Downtown Los Angeles. This line travels along 7th Street and San Pedro Street in the vicinity of the Project Site.
- Metro Local 620 – Route 620 is a shuttle service that travels within Boyle Heights with average headways of 60 minutes during the morning and afternoon peak hours. This line travels along Boyle Avenue and Whittier Boulevard in the vicinity of the Project Site.
- Metro Local 665 – Route 665 is a shuttle service that travels within City Terrace and California State University, Los Angeles via Olympic Boulevard, with average headways of 40 minutes during the morning peak hours and 50 minutes during the afternoon peak hours. This line travels along Olympic Boulevard in the vicinity of the Project Site.
- Metro Rapid Line 720 – Route 720 is a rapid line that travels from Santa Monica to the Commerce Center via Wilshire Boulevard and Whittier Boulevard, with average headways of approximately five to 15 minutes during morning and afternoon peak hours. It provides service to Downtown Los Angeles, Beverly Hills, and Century City. The line travels along 6th Street and 7th Street in the vicinity of the Project Site.
- Metro Rapid Line 751 – Route 751 is a rapid line that travels from Huntington Park to Cypress Park via Soto Street, with average headways of approximately 15 to 20 minutes during the morning and afternoon peak hours. It provides service to Lincoln Heights, Boyle Heights, and Vernon. The line travels along Soto Street in the vicinity of the Project Site.
- Metro Rapid Line 760 – Route 760 is a rapid line that travels from Long Beach Boulevard Green Line Station to Downtown Los Angeles via Long Beach Boulevard, with average headways of approximately 15 to 20 minutes during the morning and afternoon

peak hours. It provides service to Vernon, Huntington Park, and South Gate. The line travels along 7th Street and Santa Fe Avenue in the vicinity of the Project Site.

- Montebello Bus Lines M40 – Route M40 is a local line that travels from Downtown Los Angeles to Whittier through Montebello via Beverly Boulevard, with average headways of approximately 10 to 15 minutes during morning and afternoon peak hours. It provides service to East Los Angeles. The line travels along 4th Street in the vicinity of the Project Site.
- Montebello Bus Lines M90 – Route M90 is an express line that travels from Downtown Los Angeles to Whittier through Montebello via Beverly Boulevard, with average headways of approximately 20 to 30 minutes during the morning and afternoon peak hours. The line travels along 4th Street in the vicinity of the Project Site.

Table 3 summarizes the transit lines operating in the Study Area for each of the service providers in the region, the type of service (peak vs. off-peak, express vs. local), and frequency of service, as described above. The average frequency of transit service during the peak hour was derived from the number of peak period stops made at the stop nearest the Project Site.

Table 4 summarizes the total residual capacity of the transit lines in the periphery of the Project Site during the morning and afternoon peak hours based on the frequency of service of each line and the maximum seated and standing capacity of each bus. As shown in Table 4, the transit lines in the Project periphery currently have residual capacity for 1,036 transit trips during the morning peak hour and 979 transit trips during the afternoon peak hour.

BICYCLE AND PEDESTRIAN NETWORK

Existing Bicycle System

Based on *2010 Bicycle Plan, A Component of the City of Los Angeles Transportation Element* (Los Angeles Department of City Planning, adopted March 1, 2011) (2010 Bicycle Plan), the existing bicycle system consists of a limited network of bicycle lanes (Class II) and bicycle routes (Class III). Bicycle lanes are a component of street design with dedicated striping, separating vehicular traffic from bicycle traffic. These facilities offer a safer environment for both cyclists and motorists. Bicycle routes and bicycle-friendly streets are those where motorists and cyclists share the roadway and there is no dedicated striping of a bicycle lane. Bicycle routes and bicycle-friendly streets are preferably located on collector and lower volume arterial streets.

Bicycle routes with shared lane markings, or “sharrows”, remind bicyclists to ride farther from parked cars to prevent collisions, makes motorists aware of bicycles potentially in the travel lane, and shows bicyclists the correct direction of travel. Bicycle lanes are currently provided on 6th Street east of Central Avenue, 7th Street, Olympic Boulevard, and Central Avenue and bicycle routes are currently located along Stanford Avenue.

Similar to the street designations of the General Plan Transportation Element, the bicycle facilities of the 2010 Bicycle Plan have also been re-designated with the adoption of the Mobility Plan. The components of the 2010 Bicycle Plan have been incorporated into the bicycle network of the Mobility Plan. The Mobility Plan consists of a Low-Stress Bikeway System and a Bicycle Lane Network. The Low-Stress Bikeway System is comprised of the Bicycle Enhanced Network, the Neighborhood Enhanced Network, and Bike Paths. The Bicycle Enhanced Network includes protected bicycle lanes and neighborhood streets. Bicycle lanes provide infrastructure including cycle tracks, bicycle signals, and demarcated areas to facilitate turns at intersections. Neighborhood streets would typically provide mini-roundabouts, cross-street stop signs, crossing islands at major intersection crossings, improved street lighting, bicycle boxed, and bicycle-only left-turn pockets. The Neighborhood Enhanced Network and Bicycle Paths are relatively unchanged from the 2010 Bicycle Plan.

Existing Pedestrian Facilities

The walkability of existing facilities is based on the availability of pedestrian routes necessary to accomplish daily tasks without the use of an automobile; these attributes are quantified by WalkScore.com, an online tool that measures the walkability of communities, and assigned a score out of 100 points. With the various commercial businesses and cultural facilities adjacent to residential neighborhoods, the walkability of the Study Area is approximately 81 points¹; comparable to the citywide score of 79 points, as shown in Appendix G.

The sidewalks that serve as routes to the Project Site provide proper connectivity and adequate widths for a comfortable and safe pedestrian environment. The sidewalks provide connectivity to

¹ WalkScore.com rates the Project Site (668 S. Alameda Street) with a score of 81 out of 100 possible points (scores accessed on February 16, 2017). Walk Score calculates the walkability of specific addresses by taking into account the ease of living in the neighborhood with a reduced reliance on automobile travel.

pedestrian crossings at study intersections. The following signalized intersections provide pedestrian facilities that would limit mid-block crossings to the Project Site (all intersections have marked pedestrian crossings on all approaches):

1. Alameda Street & 6th Street
2. Mateo Street & 6th Street
5. Alameda Street & 7th Street
6. Mateo Street & 7th Street

Each of the listed signalized intersections provides pedestrian phasing, crosswalk striping, and Americans with Disabilities Act (ADA) wheelchair ramps.

Vision Zero

As described in *Vision Zero: Eliminating Traffic Deaths in Los Angeles by 2025* (City of Los Angeles, August 2015), Vision Zero is a traffic safety policy that promotes strategies to eliminate collisions that result in severe injury or death. Vision Zero has identified the High Injury Network, a network of streets based on the collision data from the last five years, where strategic investments will have the biggest impact in reducing death and severe injury. The Project Site is not located along the High Injury Network; however, the following streets located in proximity to the Project Site have been identified in the High Injury Network:

- 4th Street between San Pedro Street and Alameda Street and east of Gless Street
- 5th Street west of Stanford Avenue
- 6th Street west of Stanford Avenue and between Alameda Street and Mateo Street
- 7th Street west of Mateo Street
- Olympic Boulevard
- Los Angeles Street north of 6th Street
- San Pedro Street
- Central Avenue
- Alameda Street north of 6th Street and south of Olympic Boulevard
- Santa Fe Avenue between Hunter Street and Olympic Boulevard

EXISTING TRAFFIC VOLUMES AND LEVELS OF SERVICE

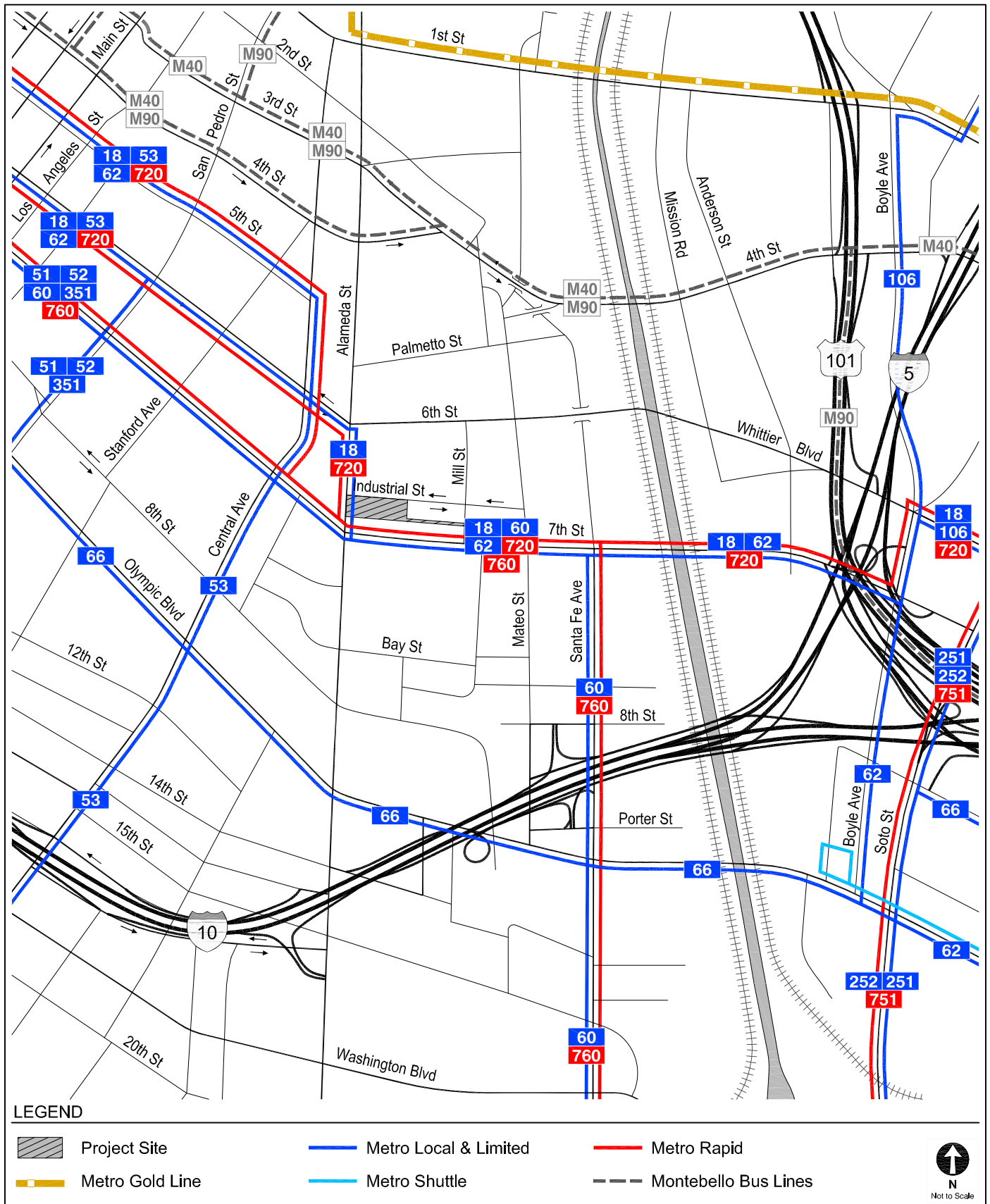
This section presents the existing peak hour turning movement traffic volumes for the intersections analyzed in the study, describes the methodology used to assess the traffic conditions at each intersection, and analyzes the resulting operating conditions at each intersection indicating V/C ratios or delay and LOS.

Existing Traffic Volumes

The recent demolition of the 6th Street Viaduct and the resulting closure of 6th Street between Mateo Street and US 101 have shifted traffic to detour routes, specifically 4th Street and 7th Street. Based on discussions with LADOT staff, the collection of new traffic counts was not recommended, as new traffic counts would not reflect typical traffic patterns within the Study Area. Therefore, historical traffic count data from years 2009 to 2014 were utilized. Counts were conducted in 2015 and 2016 for intersections with no historical traffic count data. An ambient growth rate of 1% was applied to the traffic counts to reflect regional growth and development between the year of the traffic count and existing year 2016. Although the turning movement counts were conducted during different days and months of the year, a review of the data and existing conditions indicated that the traffic volumes were consistent. It is GTC's professional opinion that this methodology provides an appropriate and conservative analysis. Thus, for the purposes of this analysis, the Existing Conditions traffic volumes represent conditions as of the issuance of the Project's MOU. Local schools were in session when the traffic counts were conducted. The existing intersection peak hour traffic volumes are illustrated in Figure 4. Traffic count worksheets are provided in Appendix D.

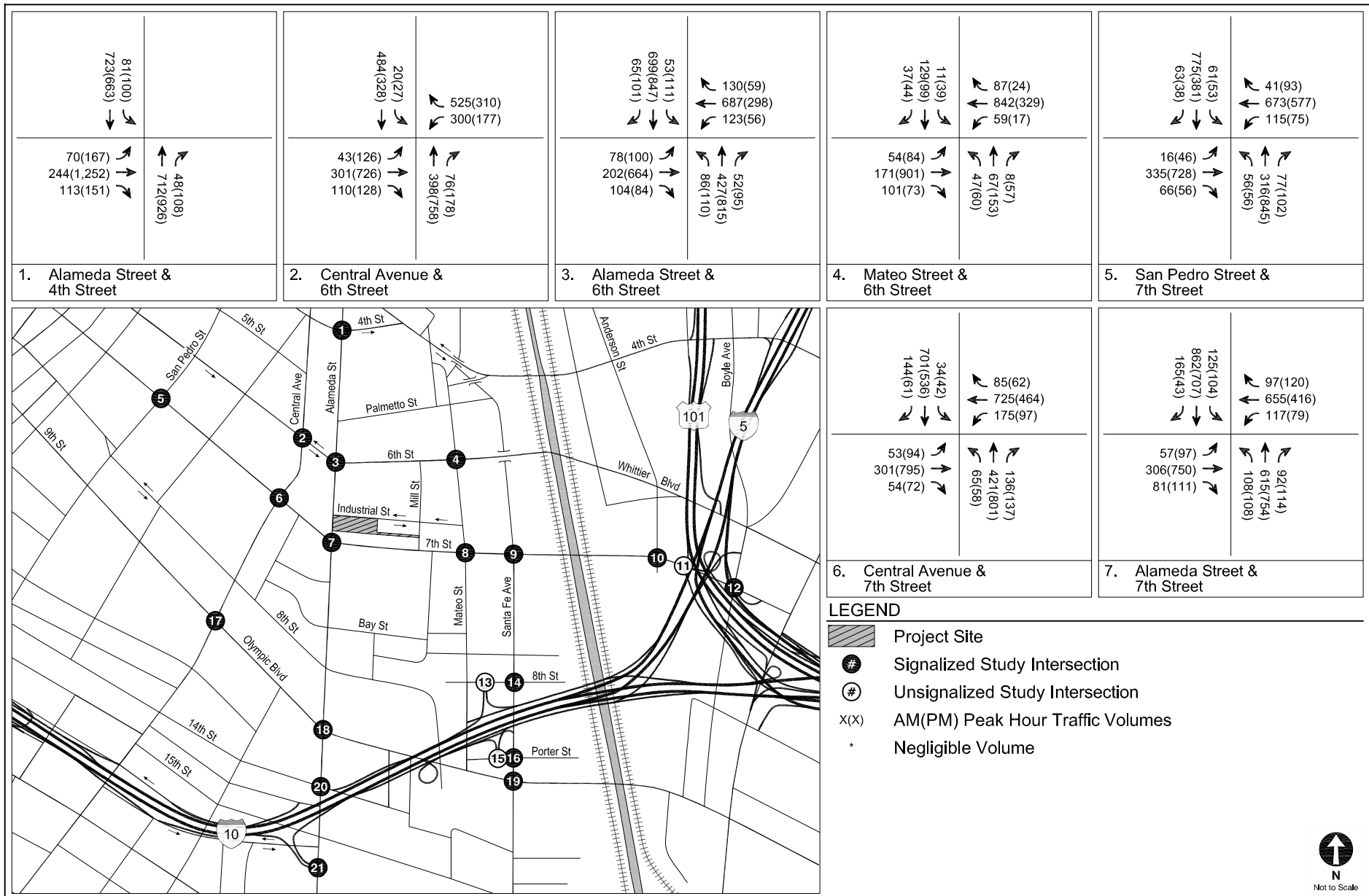
Existing Intersection Levels of Service

Table 5 summarizes the weekday morning and afternoon peak hour LOS results for each of the signalized study intersections under Existing Conditions, accounting for the 10% capacity increase to reflect ATSAC and ATCS control. Table 5 indicates that all 18 signalized study intersections currently operate at LOS D or better during both the morning and afternoon peak hours. The LOS calculation worksheets are provided in Appendix E.



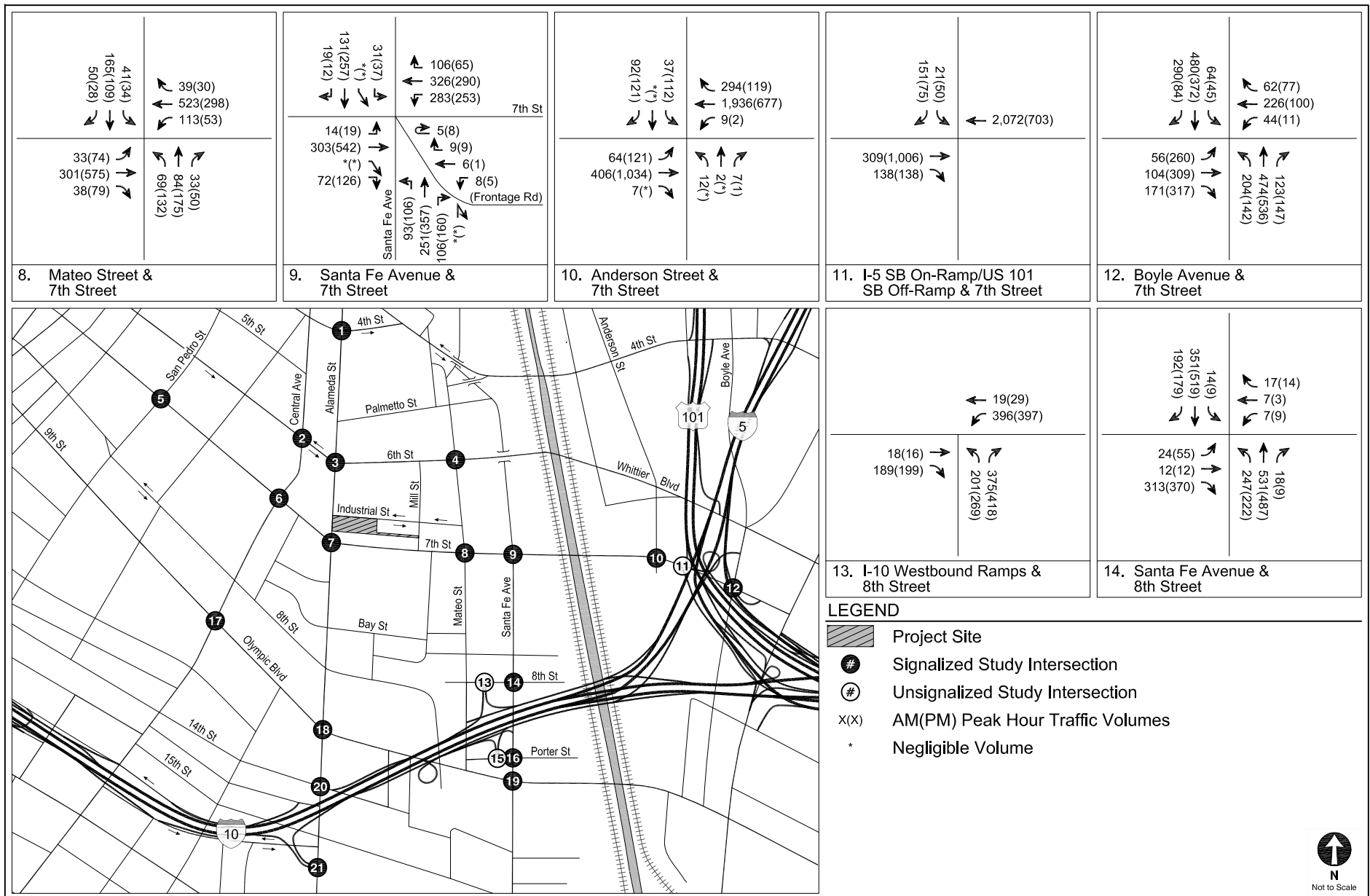
EXISTING TRANSIT SERVICE

FIGURE
3



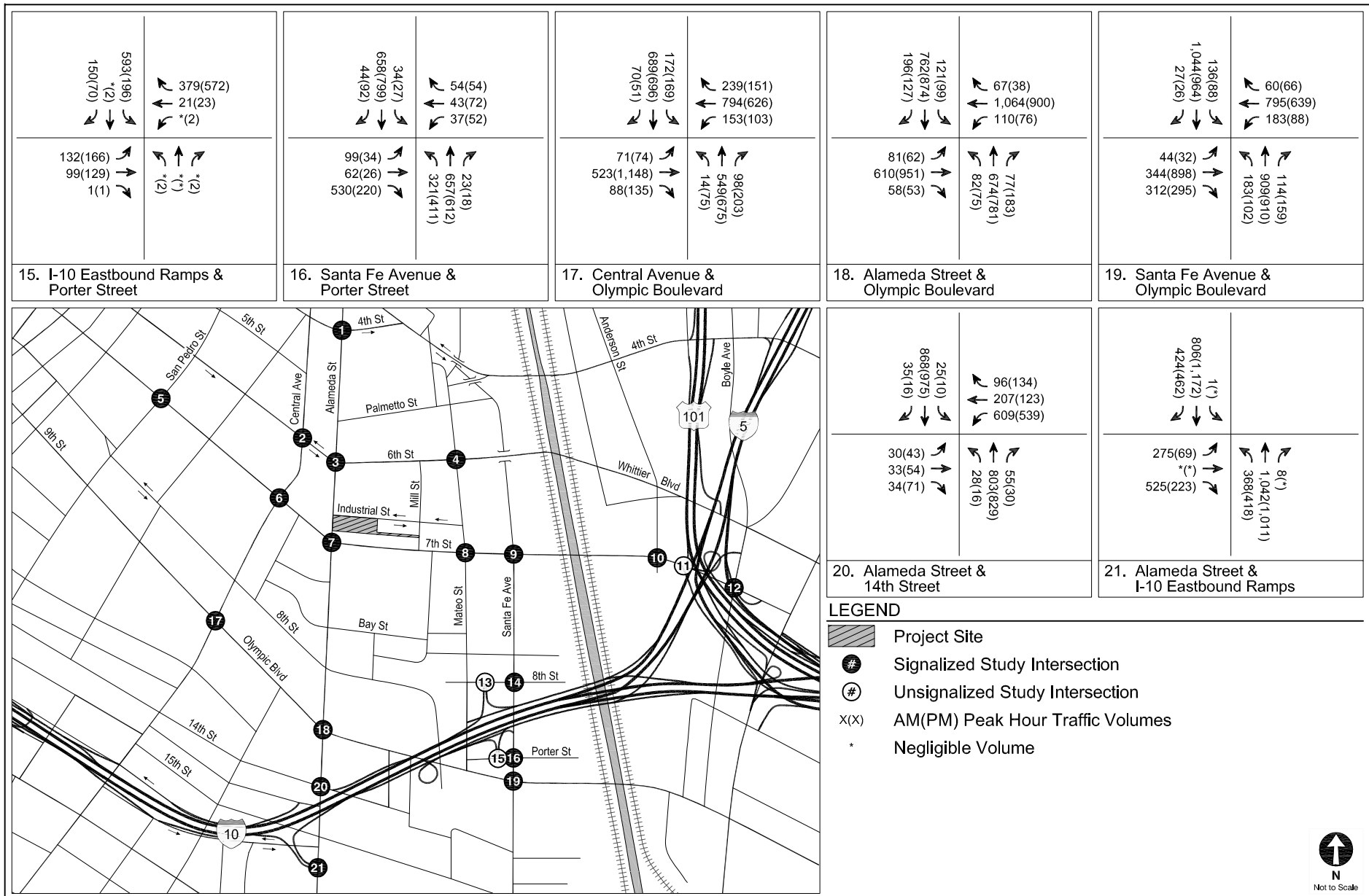
EXISTING CONDITIONS (YEAR 2016)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
4



EXISTING CONDITIONS (YEAR 2016)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
4 (CONT.)



EXISTING CONDITIONS (YEAR 2016)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
4 (CONT.)

**TABLE 2
STUDY INTERSECTION LIST**

| No | Intersection | Jurisdiction |
|-----------|--|------------------------------|
| 1. | Alameda Street & 4th Street | City of Los Angeles |
| 2. | Central Avenue & 6th Street | City of Los Angeles |
| 3. | Alameda Street & 6th Street | City of Los Angeles |
| 4. | Mateo Street & 6th Street | City of Los Angeles |
| 5. | San Pedro Street & 7th Street | City of Los Angeles |
| 6. | Central Avenue & 7th Street | City of Los Angeles |
| 7. | Alameda Street & 7th Street | City of Los Angeles |
| 8. | Mateo Street & 7th Street | City of Los Angeles |
| 9. | Santa Fe Avenue & 7th Street | City of Los Angeles |
| 10. | Anderson Street & 7th Street | City of Los Angeles |
| 11. [a] | I-5 Southbound On-Ramp/US 101 Southbound Off-Ramp & 7th Street | City of Los Angeles/Caltrans |
| 12. | Boyle Avenue & 7th Street | City of Los Angeles |
| 13. [a] | I-10 Westbound Ramps & 8th Street | City of Los Angeles/Caltrans |
| 14. | Santa Fe Avenue & 8th Street | City of Los Angeles |
| 15. [a] | I-10 Eastbound Ramps & Porter Street | City of Los Angeles/Caltrans |
| 16. | Santa Fe Avenue & Porter Street | City of Los Angeles |
| 17. | Central Avenue & Olympic Boulevard | City of Los Angeles |
| 18. | Alameda Street & Olympic Boulevard | City of Los Angeles |
| 19. | Santa Fe Avenue & Olympic Boulevard | City of Los Angeles |
| 20. | Alameda Street & 14th Street | City of Los Angeles |
| 21. | Alameda Street & I-10 Eastbound Ramps | City of Los Angeles/Caltrans |

Notes

[a] Intersection is unsignalized.

**TABLE 3
EXISTING TRANSIT SERVICE**

| Provider, Route, and Service Area | | Service Type | Hours of Operation | Average Headway (minutes) | | | |
|-----------------------------------|---|--------------|------------------------|---------------------------|--------------|----------------|--------------|
| | | | | AM Peak Period | | PM Peak Period | |
| Metro | | | | NB/EB | SB/WB | NB/EB | SB/WB |
| 18 | Wilshire Center - Downtown Los Angeles - Montebello via 6th St and Whittier Blvd | Local | 24 Hours | 10 | 12 | 9 | 6 |
| 51 | Wilshire Center - MLK Jr Transit Ctr/Compton Station-Harbor Gateway Transit Ctr via Avalon Blvd | Local | 4:20 A.M. - 12:20 A.M. | 6 | 6 | 6 | 5 |
| 52 | Wilshire Center - MLK Jr Transit Ctr/Compton Station-Harbor Gateway Transit Ctr via Avalon Blvd | Local | 4:45 A.M. - 10:30 P.M. | 6 | 6 | 6 | 5 |
| 53 | Downtown Los Angeles - CSU Domingues Hills via Central Ave | Local | 4:45 A.M. - 12:15 A.M. | 8 | 15 | 14 | 9 |
| 60 | Downtown Los Angeles - Artesia Station via Long Beach Blvd | Local | 24 Hours | 9 | 8 | 7 | 7 |
| 62 | Downtown Los Angeles - Hawaiian Gardens via Telegraph Rd | Local | 5:00 A.M. - 12:15 A.M. | 24 | 22 | 27 | 22 |
| 66 | Wilshire Center - Downtown Los Angeles - Montebello via 8th St and Olympic Blvd | Local | 4:15 A.M. - 1:30 A.M. | 16 | 17 | 17 | 13 |
| 106 | East LA College Transit Center - USC Medical Center via State St, Whittier Bl & 1st St | Local | 5:30 A.M. - 8:30 P.M. | 60 | 60 | 60 | 60 |
| 251 | Cypress Park - Lynwood via Soto St | Local | 24 Hours | 18 | 16 | 20 | 22 |
| 252 | Cypress Park - Lynwood via Soto St | Local | 4:30 A.M. - 9:00 P.M. | 24 | 27 | 27 | 27 |
| 352 | Wilshire Center - MLK Jr Transit Ctr/Compton Station-Harbor Gateway Transit Ctr via Avalon Blvd | Limited | 7:00 A.M. - 7:00 P.M. | 6 | 6 | 6 | 5 |
| 620 | Boyle Heights Shuttle | Shuttle | 6:00 A.M. - 8:00 P.M. | 60 | 60 | 60 | 60 |
| 665 | Cal State LA - City Terrace Shuttle | Shuttle | 4:45 A.M. - 8:15 P.M. | 40 | 40 | 48 | 48 |
| 720 | Santa Monica - Commerce Center via Wilshire Blvd and Whittier Blvd | Rapid | 4:15 A.M. - 1:30 A.M. | 12 | 4 | 6 | 10 |
| 751 | Huntington Park - Cypress Park via Soto St | Rapid | 5:00 A.M. - 8:30 P.M. | 20 | 16 | 15 | 17 |
| 760 | Long Beach Bl Green Line Station - Downtown Los Angeles via Long Beach Blvd | Rapid | 5:15 A.M. - 8:30 P.M. | 13 | 17 | 17 | 14 |
| Montebello Bus Lines | | | | NB/EB | SB/WB | NB/EB | SB/WB |
| M40 | Downtown Los Angeles - Montebello and City of Whittier via Beverly Blvd | Local | 4:45 A.M. - 11:00 P.M. | 11 | 12 | 11 | 11 |
| M90 | Downtown Los Angeles - Montebello and City of Whittier via Beverly Blvd | Express | 6:00 A.M. - 7:00 P.M. | 30 | 20 | 30 | 30 |

Notes

Metro: Los Angeles County Metropolitan Transportation Authority
Montebello Bus Lines: City of Montebello
AM Peak from 6-10 AM
PM Peak from 3-7 PM

**TABLE 4
EXISTING TRANSIT SERVICE PATRONAGE
LINES SERVING PROJECT PERIPHERY**

| A.M. Peak Period | | | | | | | |
|--|--------------|--|-------------------------|-----------------------------|--|--------------------------------------|---|
| Provider | Route | Number of Runs
During Peak Hour
[a] | Capacity
[b] | Maximum Load
[c] | Load Factor -
Maximum
Load/Capacity | Residual
Capacity per Run | Residual
Capacity in Peak
Hour [d] |
| Metro | 18 | 11 | 50 | 24 | 0.48 | 26 | 286 |
| | 60 | 14 | 50 | 31 | 0.62 | 19 | 266 |
| | 62 | 5 | 50 | 30 | 0.60 | 20 | 100 |
| | 760 | 8 | 75 | 27 | 0.36 | 48 | 384 |
| Total Residual Capacity in Peak Hour - Bus Line | | | | | | | 1,036 |
| P.M. Peak Period | | | | | | | |
| Provider | Route | Number of Runs
During Peak Hour
[a] | Capacity
[b] | Maximum Load
[c] | Load Factor -
Maximum
Load/Capacity | Residual
Capacity per Run | Residual
Capacity in Peak
Hour [d] |
| Metro | 18 | 17 | 50 | 30 | 0.60 | 20 | 340 |
| | 60 | 17 | 50 | 31 | 0.62 | 19 | 323 |
| | 62 | 5 | 50 | 38 | 0.76 | 12 | 60 |
| | 760 | 8 | 75 | 43 | 0.57 | 32 | 256 |
| Total Residual Capacity in Peak Hour - Bus Line | | | | | | | 979 |

Notes:

- [a] Number of runs in both directions combined during peak hour.
- [b] Capacity assumptions based on discussions with agencies:
Metro Regular Bus - 40 seated / 50 seated and standing.
Metro Articulated Bus - 66 seated / 75 seated and standing.
- [c] Maximum Load is the maximum number of people per bus in the peak direction.
- [d] Maximum residual capacity in peak hours = (Maximum residual capacity per run) x (number of peak hour runs).

TABLE 5
EXISTING CONDITIONS
SIGNALIZED INTERSECTION PEAK HOUR LEVELS OF SERVICE

| No. | Signalized Intersection | Peak Hour | Existing Conditions | |
|-----|---------------------------------------|-----------|---------------------|--------|
| | | | V/C | LOS |
| 1. | Alameda Street & 4th Street | AM
PM | 0.283
0.627 | A
B |
| 2. | Central Avenue & 6th Street | AM
PM | 0.415
0.653 | A
B |
| 3. | Alameda Street & 6th Street | AM
PM | 0.570
0.612 | A
B |
| 4. | Mateo Street & 6th Street | AM
PM | 0.395
0.442 | A
A |
| 5. | San Pedro Street & 7th Street | AM
PM | 0.504
0.578 | A
A |
| 6. | Central Avenue & 7th Street | AM
PM | 0.553
0.595 | A
A |
| 7. | Alameda Street & 7th Street | AM
PM | 0.640
0.635 | B
B |
| 8. | Mateo Street & 7th Street | AM
PM | 0.326
0.414 | A
A |
| 9. | Santa Fe Avenue & 7th Street | AM
PM | 0.468
0.643 | A
B |
| 10. | Anderson Street & 7th Street | AM
PM | 0.780
0.401 | C
A |
| 12. | Boyle Avenue & 7th Street | AM
PM | 0.579
0.499 | A
A |
| 14. | Santa Fe Avenue & 8th Street | AM
PM | 0.495
0.584 | A
A |
| 16. | Santa Fe Avenue & Porter Street | AM
PM | 0.544
0.650 | A
B |
| 17. | Central Avenue & Olympic Boulevard | AM
PM | 0.565
0.811 | A
D |
| 18. | Alameda Street & Olympic Boulevard | AM
PM | 0.663
0.673 | B
B |
| 19. | Santa Fe Avenue & Olympic Boulevard | AM
PM | 0.736
0.714 | C
C |
| 20. | Alameda Street & 14th Street | AM
PM | 0.591
0.609 | A
B |
| 21. | Alameda Street & I-10 Eastbound Ramps | AM
PM | 0.661
0.680 | B
B |

Chapter 3

Future without Project Conditions

Estimates of future traffic conditions both with and without the Project, representing cumulative conditions, were developed to evaluate the potential impacts of the Project on the local street system. This discussion details the assumptions used to develop the Future without Project Conditions in Year 2022, which correspond to projected occupancy of the Project.

The existing traffic volumes were factored by an annual ambient growth rate of 1% per year to approximate regional growth and development. In addition to the ambient growth, for purposes of providing a conservative analysis of potential cumulative transportation impacts, the traffic generated by cumulative projects was also added to estimate the Future without Project traffic conditions.

CEQA GUIDELINES REGARDING FUTURE TRAFFIC CONDITIONS

The forecast of Future without Project Conditions was prepared in accordance with procedures outlined in Section 15130 of *Guidelines for Implementation of the California Environmental Quality Act* [CEQA], *Chapter 3, Title 14, California Code of Regulations* (California Natural Resources Agency, amended July 27, 2007) (“*Guidelines*”). Specifically, two options are provided for developing the cumulative traffic volume forecast:

“(A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the [lead] agency, or

“(B) A summary of projections contained in an adopted local, regional or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect. Such plans may include: a general plan, regional transportation plan, or plans for the reduction of greenhouse gas emissions. A summary of projections may also be contained in an adopted or certified prior environmental document for such a plan. Such projections may be supplemented with additional information such as a regional modeling program.

Any such planning document shall be referenced and made available to the public at a location specified by the lead agency.”

As described in detail below, this analysis includes traffic growth both from future projects (option “A” above, the “Related Projects”) and from regional growth projections (option “B” above, or ambient growth). The ambient growth factor discussed below likely includes some traffic growth resulting from the Related Projects. Therefore, the transportation analysis provides a highly conservative estimate of Future without Project traffic volumes.

AMBIENT TRAFFIC GROWTH

Existing traffic is expected to increase as a result of regional growth and development outside the Study Area. Based on discussions with LADOT through the MOU process, an ambient growth factor of 1% per year, compounded annually, was used to adjust the existing traffic volumes to reflect the effects of the regional growth and development by Year 2022. The total adjustment applied over the six-year period was 6.15%. This growth factor accounts for increases in traffic due to potential projects not yet proposed or in the early stages of development, as well as projects outside the Downtown Los Angeles area.

RELATED PROJECTS

In accordance with the CEQA requirements in *Guidelines*, this study also considers the effects of the Project in relation to the Related Projects. With this information, the potential impact of the Project is, therefore, evaluated within the context of the cumulative impact of all ongoing development.

The list of Related Projects is based on information provided by the Department of City Planning and LADOT, as well as recent studies of projects in the area. The Related Projects are detailed in Table 6 and shown in Figure 5. Though the buildout years of many of these Related Projects are uncertain and may be well beyond the buildout year of the Project, and notwithstanding that some may never be approved or developed, they were all considered as part of this transportation study and conservatively assumed to be completed by the Project buildout year of 2022. The traffic

growth due to the development of Related Projects considered in this analysis is highly conservative and, by itself, substantially overestimates the actual traffic volume growth in Downtown Los Angeles that would likely occur prior to Project buildout year. With the addition of the 1% per year ambient growth factor previously discussed, the Future without Project cumulative condition is even more conservative.

Using these conservative assumptions, the potential transportation impacts of the Project were evaluated. The development of estimated traffic volumes added to the study intersections as a result of Related Projects involves the use of a three-step process: trip generation, trip distribution, and trip assignment.

Trip Generation

Trip generation estimates for the Related Projects were provided by LADOT or were calculated using a combination of previous study findings and the trip generation rates contained in *Trip Generation, 9th Edition* (Institute of Transportation Engineers, 2012). The Related Projects trip generation estimates summarized in Table 6 are very conservative in that they do not in every case account for either the trips generated by the existing uses to be removed or the likely use of other travel modes (e.g., transit, bus, bicycling, walking, carpool, etc.) Further, they do not account for the internal capture trips within a multi-use development or for the interaction of trips between multiple Related Projects within Downtown Los Angeles, in which one Related Project serves as the origin for a trip destined for another Related Project.

Trip Distribution

The geographic distribution of the traffic generated by the Related Projects depends on several factors. These include the type and density of the proposed land uses, the geographic distribution of the population from which the employees/residents and potential patrons of the proposed developments are drawn, and the location of these projects in relation to the surrounding street system. These factors are considered along with logical travel routes through the street system to develop a reasonable pattern of trip distribution.

Trip Assignment

The trip generation estimates for the Related Projects were assigned to the local street system using the trip distribution pattern described above. Figure 6 shows the peak hour traffic volumes associated with these Related Projects at the study intersections. These volumes were then added to the existing traffic volumes after adjustment for ambient growth through the projected buildout year of 2022. As discussed above, this is a conservative approach as many of the Related Projects may be reflected in the ambient growth rate. These volumes represent the Future without Project Conditions (i.e., existing traffic volumes added to ambient traffic growth and Related Project traffic growth) for Year 2022 and are shown in Figure 7 for the 21 study intersections.

FUTURE IMPROVEMENTS

The analysis of Future Conditions accounted for roadway improvements that were funded and reasonably expected to be implemented prior to the buildout of the proposed Project. These roadway improvements result in changes to the physical configuration at the study intersections. Other proposed traffic/trip reduction strategies such as Transportation Demand Management (TDM) programs for individual buildings and developments were conservatively omitted from the Future Conditions analyses.

6th Street Viaduct Replacement Project

Due to a rare chemical reaction in the cement supports and seismic vulnerability, the 6th Street Viaduct, which provided a connection between the Arts District and the Boyle Heights neighborhood, was demolished in early 2016 as part of the 6th Street Viaduct Replacement Project. As a result, 6th Street/Whittier Boulevard between Mateo Street and US 101 has been closed to through traffic. Construction of the new bridge is anticipated to be complete by year 2019.

Arts District Active Transportation Program

Recent Active Transportation Program (ATP) funding was awarded to Council District 14 to create a more multi-modal environment in the Arts District. The ATP includes installation of new traffic signals, pedestrian lighting, new pedestrian crosswalks, and bicycle lanes and paths. Within the Study Area, bicycle lanes are proposed along Mateo Street between 4th Street and 7th Street and Santa Fe Avenue between 6th Street and 7th Street. Additionally, protected bicycle lanes are proposed between 4th Place and 6th Street and bicycle routes are proposed between 4th Street and 4th Place. Although the improvements are all funded through the ATP, these improvements have not been definitively scheduled for implementation. Although it is assumed that these improvements would be implemented by Project buildout year 2022, none of the ATP improvements would affect the configurations at any of the analyzed study intersections. Therefore, these improvements were not assumed in the future analysis. Detailed information on these improvements is provided in Appendix H.

LADOT DASH Route Expansion

LADOT is conducting a thorough line-by-line analysis of its existing transit services to determine whether expectations are being met and to identify expansion opportunities to existing transit service and routes. Within the Study Area, LADOT has proposed changes to DASH F, which currently travels between the Financial District and Exposition Park/USC. With the proposed changes, DASH F would extend its current route to Union Station via 7th Street and Santa Fe Avenue. Detailed information regarding the proposed route changes is provided in Appendix I. The timeline of implementation for these improvements to DASH F is currently unknown and, therefore, were not included in the future analysis.

Metro Regional Connector

The Metro Regional Connector project is a 1.9-mile underground light-rail system that will extend from the Little Tokyo/Arts District Station to the 7th Street/Metro Center Station, allowing passengers to make direct transfers between the Gold, Blue, Expo, Red, and Purple Lines. The Metro Regional Connector will improve access to both local and regional destinations by

providing continuous service between these lines and providing connectors to other rail lines via the 7th Street/Metro Center Station. Three new transit stations will be developed with the operation of the Metro Regional Connector. The Metro Regional Connector is anticipated to be complete and in operation by Year 2020. The Metro Regional Connector will be underground and will not affect the configurations of the corridors in the Study Area.

Connect US Action Plan

Metro's *Connect US Action Plan* (Metro, 2015) is a strategy to encourage walking and bicycling to Union Station and the future Metro Regional Connector 1st/Central Station from surrounding neighborhoods by constructing Esplanades, Walk-Bike Streets, and Walk Streets within existing public right-of-way, without additional dedication or acquisition of additional right-of-way. None of the *Connect US Action Plan* improvements are within the Study Area and, therefore, would not affect any of the analyzed study intersections.

Future Bicycle System

As proposed in the 2010 Bicycle Plan and the Mobility Plan, the bicycle system in the Study Area will be expanded to create a more integrated network.

The three components of the bicycle network designated in the 2010 Bicycle Plan include the Backbone, the Neighborhood Network, and the Green Network. Class II bicycle lanes will be added to high volume corridors to and from the Backbone of the network, while in-road bikeways in lower volume and collector streets will form the Neighborhood Network through the implementation of Class II bicycle routes and bicycle friendly streets. The Green Network consists of dedicated bike paths that connect the City's open spaces. The 2010 Bicycle Plan proposes dedicated bicycle lanes on San Pedro Street, Central Avenue, 6th Street east of Central Avenue, 7th Street, Olympic Boulevard, and 16th Street, bicycle routes/bicycle friendly streets on Stanford Avenue, Santa Fe Avenue, and Mateo Street, and a bicycle path along the Los Angeles River. These proposed bicycle facilities are not anticipated to be completed by the Project buildout year and, therefore, were not included in the analysis.

As detailed in the Mobility Plan, within the Study Area, the Bicycle Enhanced Network designates Los Angeles Street, Central Avenue, 6th Street east of Central Avenue, and 7th Street west of Central Avenue for Tier 1 protected bicycle lanes. The Bicycle Lane Network consists of Tier 2 and Tier 3 bicycle lanes. The Bicycle Lane Network would include Tier 2 bicycle lanes on Santa Fe Avenue north of 4th Street, 7th Street east of Central Avenue, Olympic Boulevard east of Central Avenue, 10th Street west of Central Avenue and Pico Boulevard west of Central Avenue. Similar to the 2010 Bicycle Plan, these improvements have not been definitively scheduled for implementation and were, therefore, not assumed in the future analysis.

Future Pedestrian Network

The Neighborhood Network established in the 2010 Bicycle Plan, which included a network of local streets that were adequate for bicycling, could also serve local pedestrian activity, as recognized in the Mobility Plan. The Neighborhood Enhanced Network of the Mobility Plan reflects the synthesis of the bicycle and pedestrian networks and serves as a system of local streets that are slow moving and safe enough to connect neighborhoods through active transportation. The Neighborhood Enhanced Network has designated the following streets within the Study Area as part of the Neighborhood Network:

- San Pedro Street
- Stanford Avenue south of 4th Street
- Mateo Street
- Santa Fe Avenue
- Boyle Avenue north of 6th Street
- 10th Street west of Central Avenue

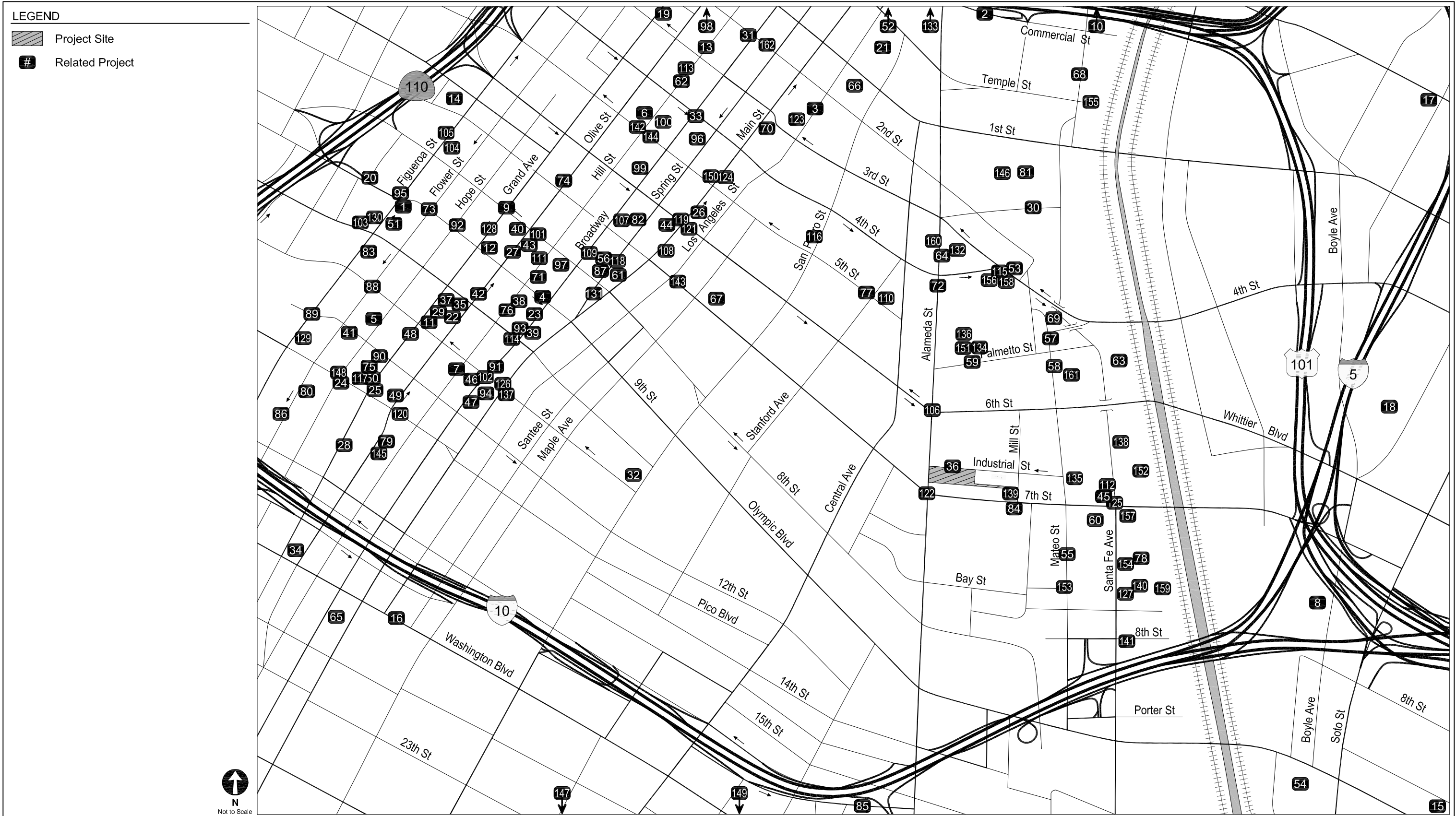
The Mobility Plan aims to promote walking to reduce the reliance on auto-travel by providing more attractive and wider sidewalks, as well as adding pedestrian signalizations, street trees, and pedestrian-oriented design features. The Pedestrian Enhanced District of the Mobility Plan has designated the following arterial streets within the Study Area as Pedestrian Segments, where pedestrian improvements could be prioritized to provide better connectivity to and from major destinations within communities:

-
- San Pedro Street between 5th Street and 8th Street
 - Central Avenue between 6th Street and 8th Street
 - Alameda Street between 6th Street and Bay Street
 - Boyle Avenue between Saint Louis Street and 7th Street and between I-10 and Olympic Boulevard
 - 6th Street west of Stanford Avenue and between Central Avenue and Alameda Street
 - Whittier Boulevard east of US 101
 - 7th Street west of Mill Street and east of I-5
 - Olympic Boulevard east of Los Angeles River

FUTURE WITHOUT PROJECT INTERSECTION LEVELS OF SERVICE (YEAR 2022)

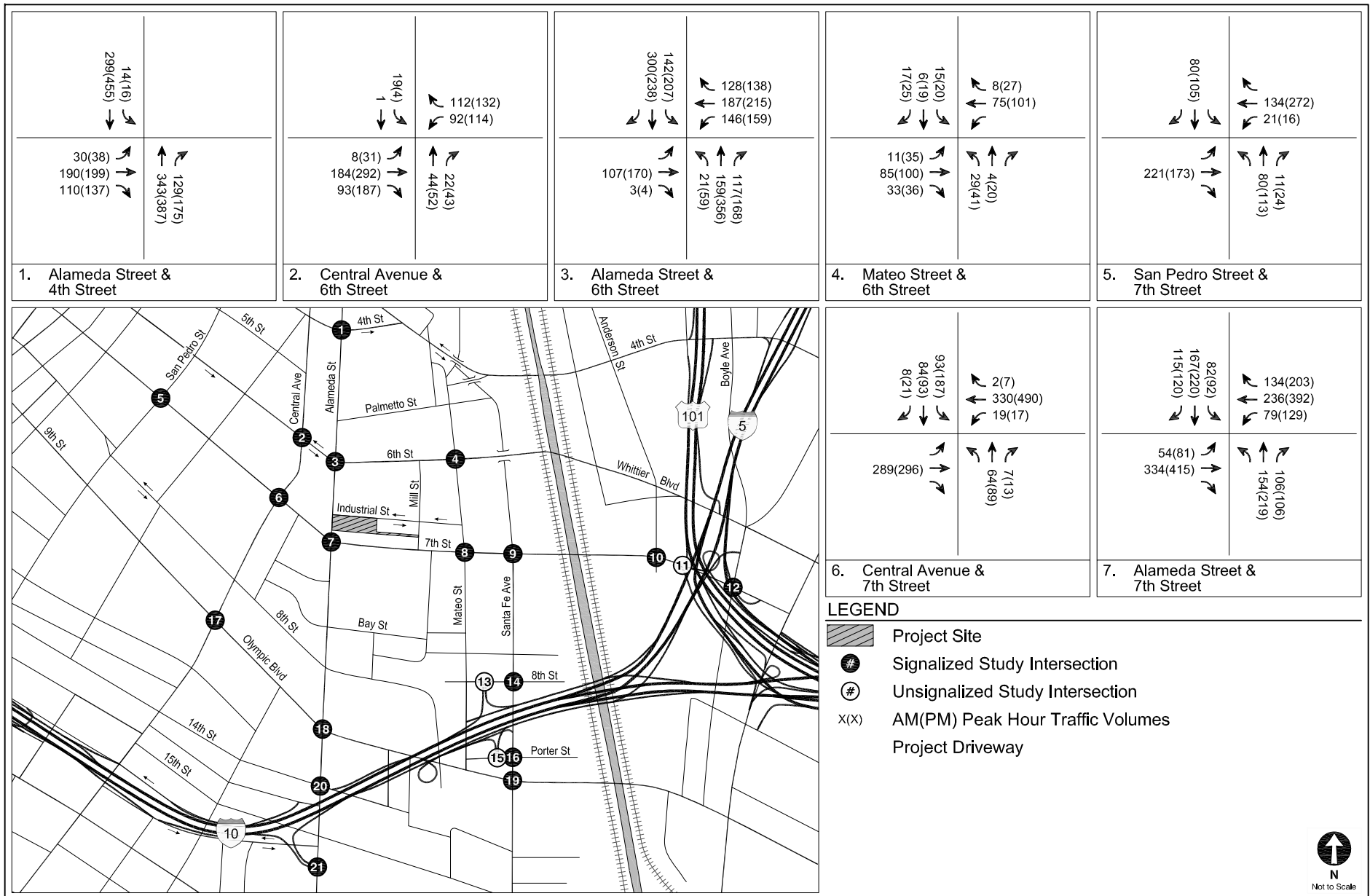
Table 7 summarizes the weekday morning and afternoon peak hour LOS results for each of the signalized study intersections under Future without Project Conditions. Table 7 indicates that five of the 18 signalized study intersections are projected to operate at LOS D or better during both the weekday morning and afternoon peak hours. The remaining 13 intersections would operate at LOS E or F during at least one of the analyzed peak hours.

The LOS calculation worksheets are provided in Appendix E.



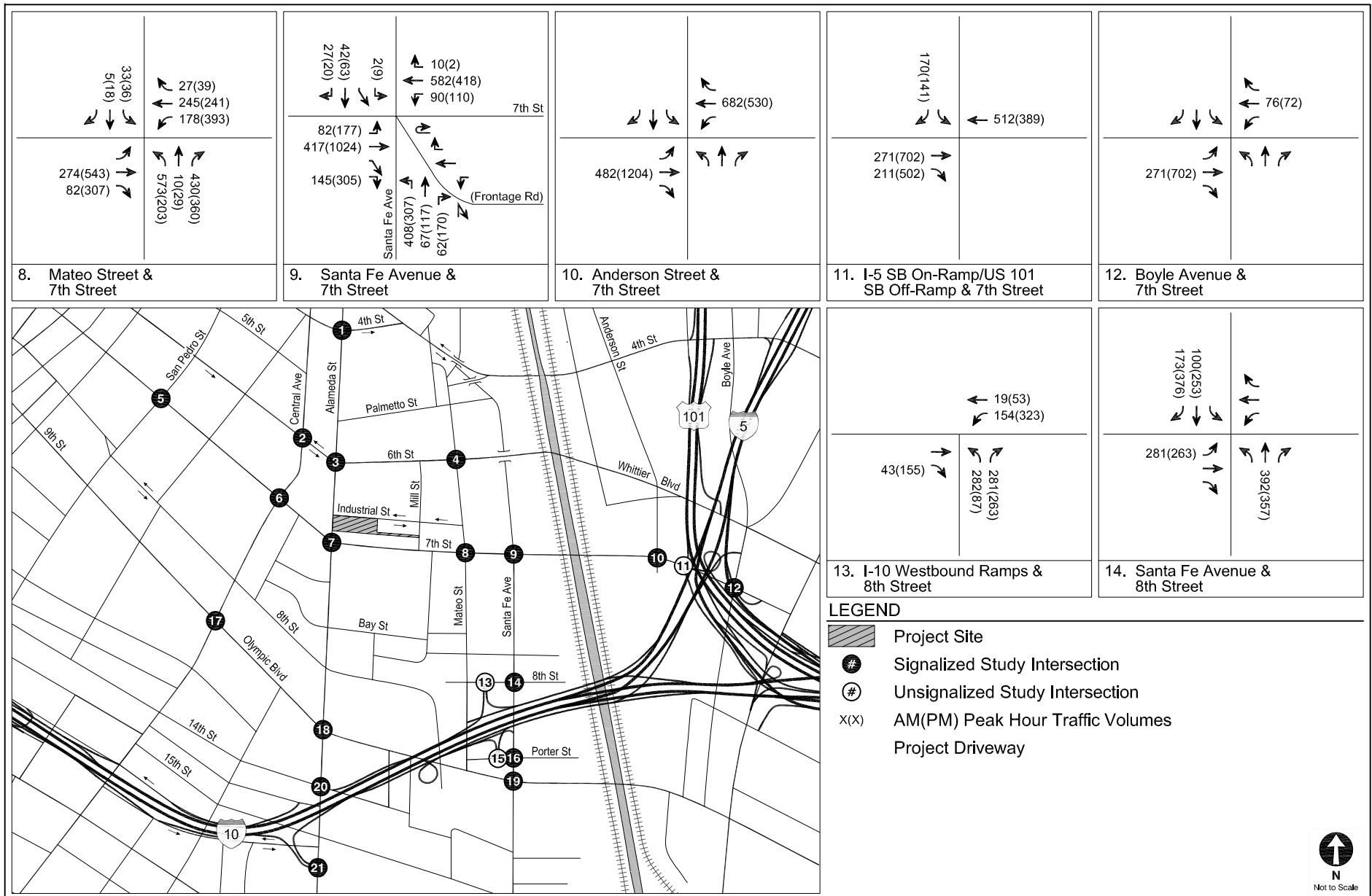
LOCATIONS OF RELATED PROJECTS

FIGURE
5



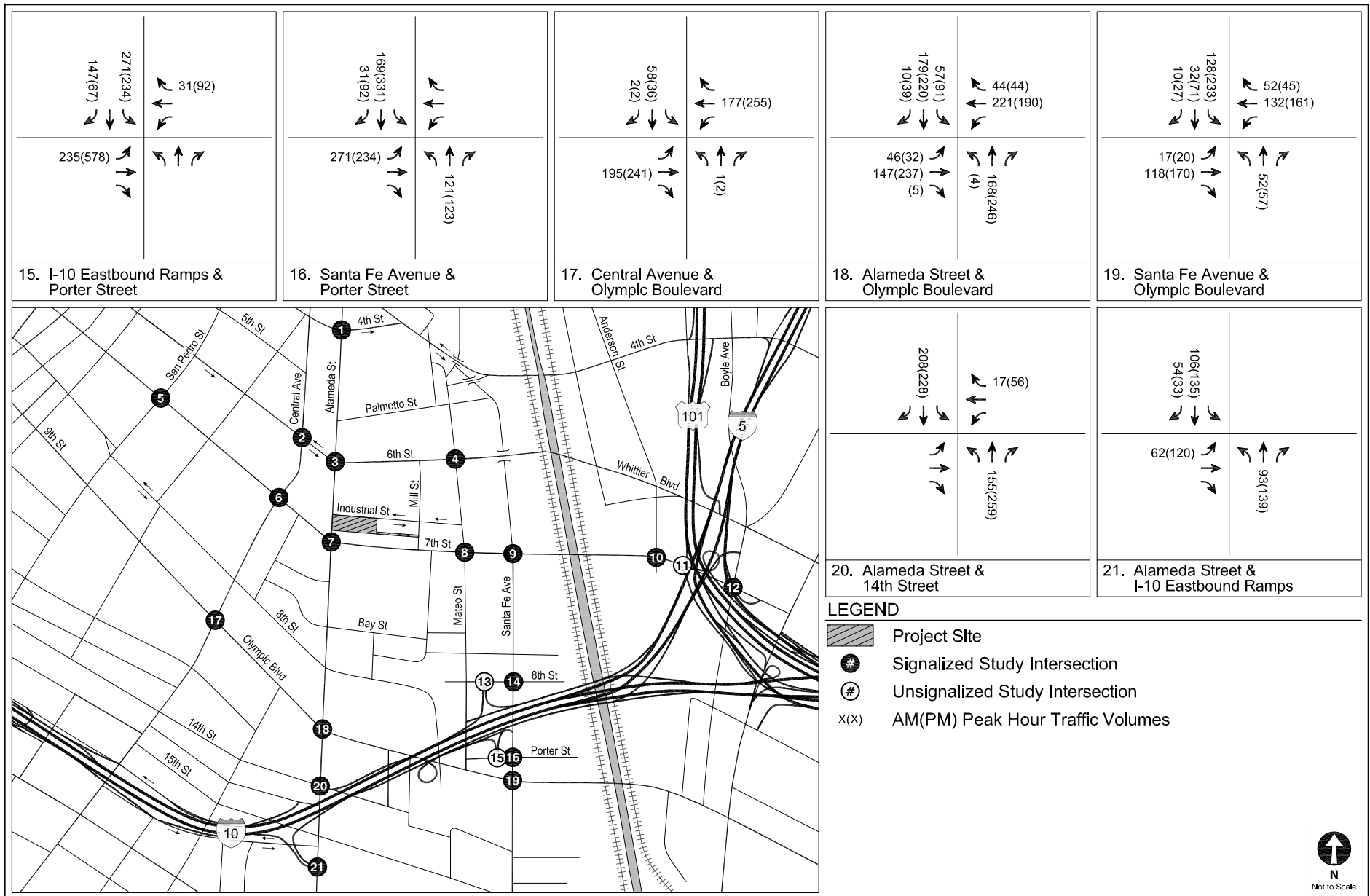
RELATED PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE
6



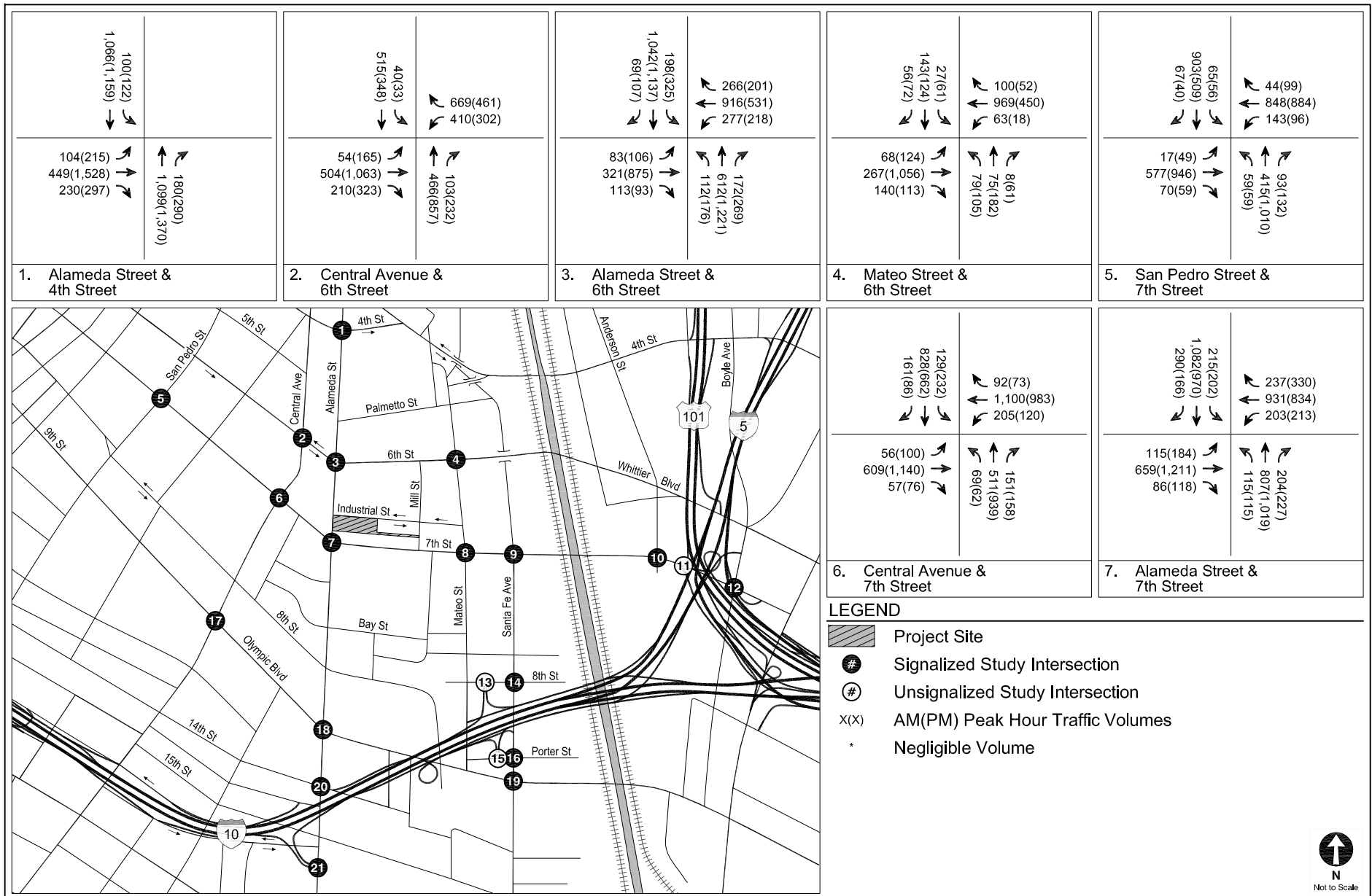
RELATED PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE
6 (CONT.)



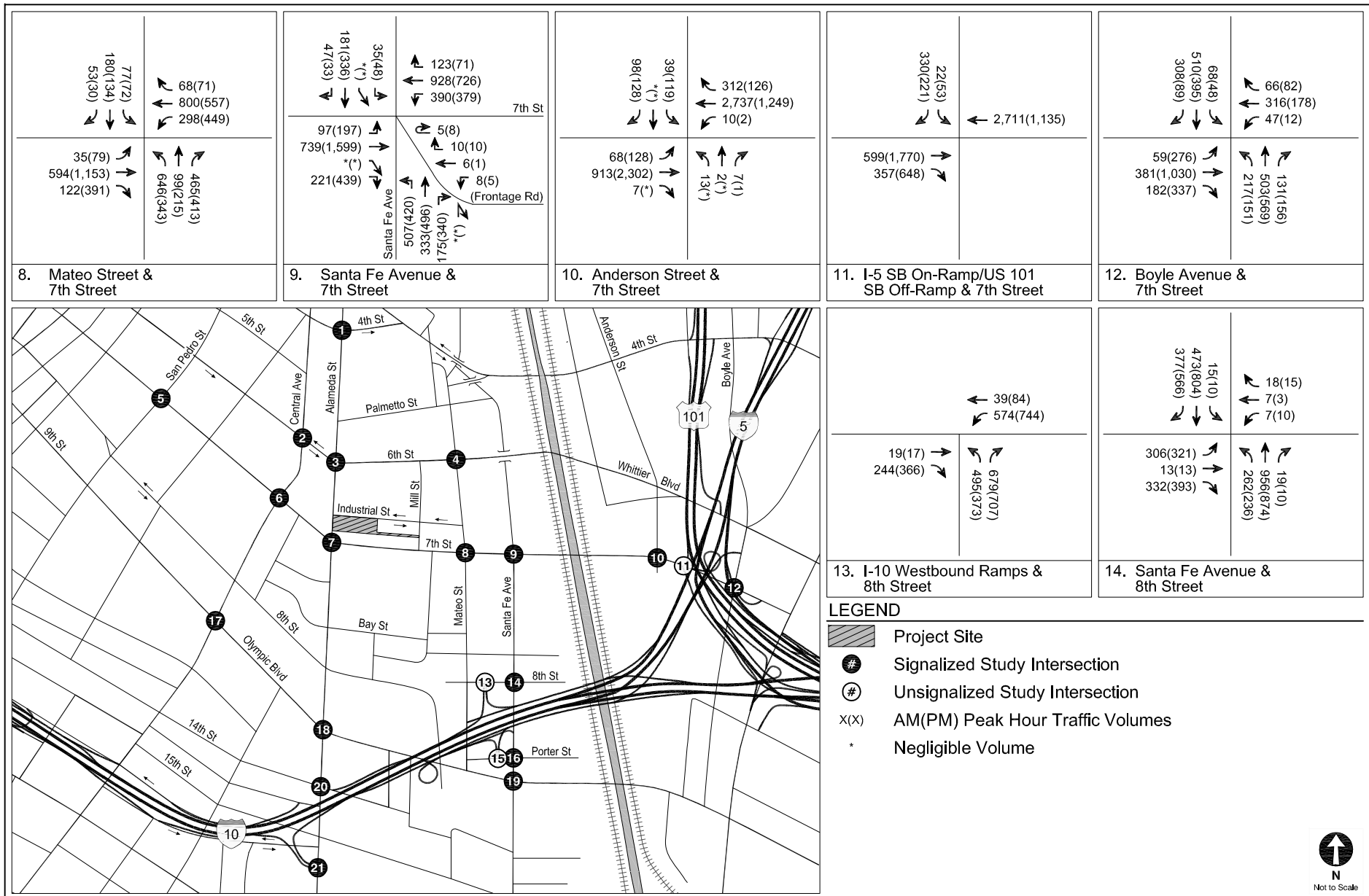
RELATED PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE
6 (CONT.)



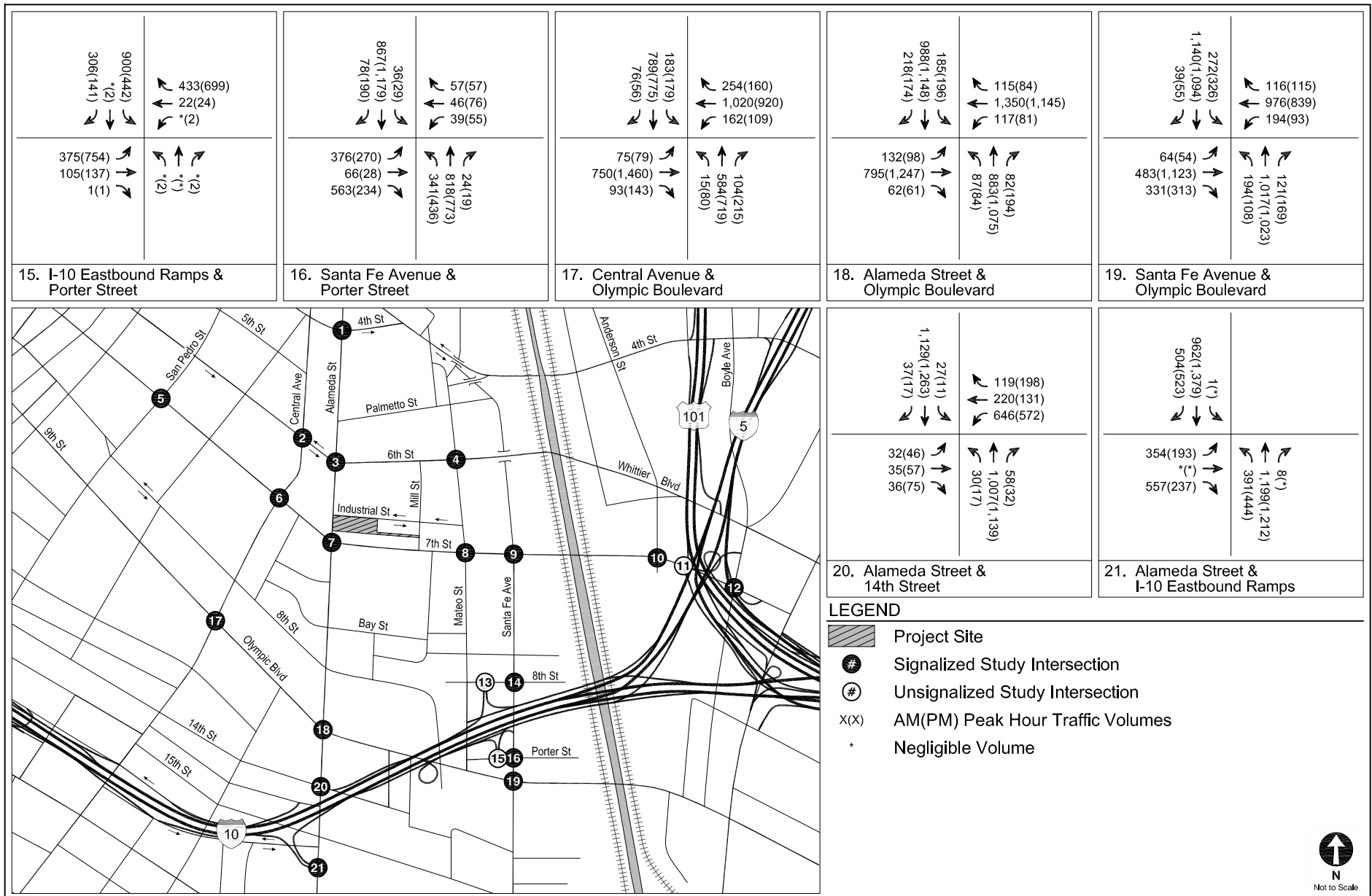
FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2022)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
7



FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2022)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
7 (CONT.)



FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2022)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
7 (CONT.)

**TABLE 6
RELATED PROJECTS**

| No. | Project | Address | Use | Trip Generation [a] | | | | | | | |
|-----|---|--------------------------------------|---|---------------------|--------------|------|-------|--------------|-------|-------|--|
| | | | | Daily | AM Peak Hour | | | PM Peak Hour | | | |
| | | | | | In | Out | Total | In | Out | Total | |
| 1. | Apex Ph I | 900 S Figueroa Street | 629 condominium units 27,000 sf retail | 2624 | 37 | 146 | 183 | 143 | 95 | 238 | |
| 2. | Bus Maintenance & Inspection Facility | 454 E Commercial Street | 2 acres Other | 0 | 22 | 8 | 30 | 9 | 1 | 10 | |
| 3. | Vibiana Lofts (Mixed-Use) | 225 S. Los Angeles Street | 300 condominium units 3,400 sf retail | 1910 | 88 | 136 | 224 | 75 | 52 | 126 | |
| 4. | Northeast Tower (Mixed-Use) | 215 W. 9th Street | 210 condominium units 9,000 sf retail | 1140 | 14 | 56 | 70 | 64 | 38 | 102 | |
| 5. | Amacon Project | 1133 S Hope Street | 208 apartment units 5,029 sf retail | 1543 | 20 | 74 | 94 | 91 | 50 | 141 | |
| 6. | 5th & Olive (formerly Park Fifth Project) | 437 S. Hill Street | 600 apartment units 13,872 sf retail | 3088 | 44 | 122 | 167 | 162 | 97 | 259 | |
| 7. | 11th & Hill Project | 1115 S. Hill Street | 172 condominium units 6,850 sf restaurant | 543 | (45) | 40 | (5) | 50 | (7) | 43 | |
| 8. | Warehouse/Office/Manufacturing | 1115 S Boyle Avenue | 294,256 sf warehouse, 76,576 sf office, 65,949 sf manufacturing | 1,125 | 55 | 19 | 74 | 27 | 88 | 115 | |
| 9. | 8th/Hope/Grand Project | 609 W. 8th Street | 225 condominium units, 200 hotel rooms, 30,000 sf retail, 32,000 sf restaurant | 4908 | 90 | 104 | 194 | 242 | 159 | 401 | |
| 10. | MTA Bus Facility | 920 N Vignes Street | Other | 2277 | 33 | 52 | 85 | 57 | 31 | 88 | |
| 11. | Ten50 Mixed-Use (Formerly Glass Tower) | 1050 S Grand Avenue | 151 condominium units, 3472 sf retail, 2,200 sf restaurant | 1084 | 15 | 54 | 68 | 64 | 35 | 99 | |
| 12. | Embassy Tower | 848 S. Grand Avenue | 420 condominium units 38,500 sf retail | 3882 | 66 | 144 | 210 | 212 | 165 | 377 | |
| 13. | Zen Mixed-Use Project (Kawada Tower) | 250 S. Hill Street | 330 condominium units 12,000 sf retail | 1217 | 21 | 73 | 94 | 66 | 42 | 108 | |
| 14. | Wilshire Grand Project | 900 W Wilshire Boulevard | 900 hotel rooms, 400,000 sf office | 3,624 | 725 | 75 | 800 | 94 | 764 | 858 | |
| 15. | Boyle Heights MU Project (Wyvernwood) | 2901 E Olympic Boulevard | 4,400 apt units, 185 ksf retail, 150 ksf office, 15 ksf daycare, 15 ksf library | 19382 | 463 | 1044 | 1507 | 1123 | 804 | 1927 | |
| 16. | Washington Blvd Opportunity - Mercy housing | 220 E Washington Boulevard | 7,750 sf retail, 7,750 restaurant, 357 apartment units | 2113 | 38 | 118 | 156 | 125 | 53 | 178 | |
| 17. | Medical Office Expansion | 1828 E Cesar Chavez Street | 32,300 sf office | 1168 | 58 | 16 | 74 | 30 | 82 | 112 | |
| 18. | Linda Vista Senior Housing and Medical Office | 610 St. Louis Street | 97 condominium units 33,000 sf medical office | 1530 | 65 | 24 | 89 | 41 | 89 | 130 | |
| 19. | Grand Avenue | 237 S Grand Avenue | 1,648 condominium units, 412 apartment units, 449,000 sf retail, 681,000 sf office | 21,631 | 929 | 611 | 1,540 | 1,067 | 1,348 | 2,414 | |
| 20. | Metropolis Mixed-Use | 899 S Francisco Street | 1,558 condominium units, 70,000 sf retail | 8010 | 307 | 318 | 625 | 387 | 512 | 899 | |
| 21. | LA Civic Center Office | 150 N. Los Angeles Street | 712,500 sf office, 35,000 sf retail, 2,500 sf child care | 13,534 | 930 | 118 | 1,048 | 435 | 942 | 1,374 | |
| 22. | Apartments | 1027 S. Olive Street | 100 apartment units | 632 | 9 | 39 | 48 | 38 | 21 | 59 | |
| 23. | Broadway Palace | 928 S. Broadway | 670 apartment units, 17 condominium units, 58,800 sf retail, 34,824 sf office | 4715 | 21 | 229 | 250 | 272 | 109 | 381 | |
| 24. | SPR - Mixed-Use | 1306 Hope Street | 419 apartment units 42,000 sf retail | 4280 | 88 | 105 | 194 | 136 | 102 | 238 | |
| 25. | G12 Mixed-Use | 1200 S Grand Avenue | 640 apartment units 45,000 sf retail | 4886 | 92 | 148 | 240 | 181 | 134 | 315 | |
| 26. | Mixed-Use | 534 S. Main Street | 160 apartment units, 18,000 sf retail, 3,500 sf restaurant, 3,500 sf fast food | 2213 | 52 | 75 | 127 | 87 | 58 | 145 | |
| 27. | Mixed-Use | 840 S. Olive Street | 303 condominium units 9,680 sf restaurant | 3071 | 81 | 166 | 247 | 174 | 96 | 270 | |
| 28. | Mixed-Use | 710 S. Grand Avenue | 700 apartment units, 27,000 sf retail, 5,000 sf restaurant | 5245 | 88 | 185 | 273 | 275 | 202 | 477 | |
| 29. | Restaurant | 1036 S. Grand Avenue | 7,149 sf restaurant | 492 | 2 | 3 | 5 | 27 | 14 | 41 | |
| 30. | Santa Fe Freight Yard Redevelopment | 950 E 3rd Street | 532 school other, 635 apartment units, 30,062 sf retail | 6372 | 162 | 177 | 339 | 245 | 213 | 458 | |
| 31. | Retail/Restaurant | 201 S. Broadway | 27,765 sf retail/restaurant | 0 | (40) | (41) | (81) | 53 | 17 | 70 | |
| 32. | The City Market (Mixed-Use) | 1057 S. San Pedro Street | 877 apt units, 68 condo units, 210 hotel rms, 294.6 ksf office, 224.9 ksf retail, 744 cinema seats | 0 | 837 | 434 | 1271 | 632 | 957 | 1589 | |
| 33. | Mixed-Use | 400 S. Broadway | 450 apartment units, 10,000 sf retail, 5,000 sf bar | 2,266 | 36 | 147 | 183 | 139 | 73 | 212 | |
| 34. | Mixed-Use | 233 W Washington Boulevard | 160 apartment units 24,000 sf retail | 1764 | 25 | 56 | 81 | 89 | 71 | 160 | |
| 35. | 1001 S. Olive Street | 1001 S. Olive Street | 201 apartment units, 4,100 sf retail | 1,581 | 22 | 79 | 101 | 94 | 51 | 145 | |
| 36. | Camden Arts Mixed-Use | 1525 E Industrial Street | 328 apartment units, 27,300 sf office, 6,400 sf retail, 5,700 sf restaurant | 2,288 | 58 | 73 | 131 | 86 | 69 | 155 | |
| 37. | Mixed-Use | 1000 S. Grand Avenue | 274 apartment units 12,000 sf restaurant | 2,216 | 27 | 94 | 121 | 130 | 69 | 199 | |
| 38. | Hill Street Mixed-Use | 920 S. Hill Street | 239 apartment units 5,400 sf retail | 1,476 | 23 | 84 | 107 | 87 | 50 | 137 | |
| 39. | Broadway Mixed-Use | 955 S. Broadway | 201 apartment units 6,000 sf retail | 1,275 | 21 | 72 | 93 | 74 | 43 | 117 | |
| 40. | Mixed-Use | 801 S. Olive St | 331 apartment units 10,000 sf restaurant | 2,557 | 33 | 129 | 162 | 140 | 83 | 225 | |
| 41. | Flower Mixed-Use | 1212 W Flower Street | 730 condominium units, 10,500 sf retail, 70,465 sf office | 3956 | 78 | 233 | 311 | 229 | 121 | 350 | |
| 42. | Olympic & Olive Mixed-Use Project | 960 S. Olive Street | 263 apartment units 14,500 sf restaurant | 2,266 | 25 | 91 | 116 | 48 | 23 | 71 | |
| 43. | Mixed-Use | 820 S. Olive Street | 589 apartment units 4,500 sf retail | 3,309 | 63 | 202 | 264 | 195 | 106 | 302 | |
| 44. | Mixed-Use | 601 S. Main Street | 452 apartment units 25,000 sf retail | 2,686 | 36 | 144 | 179 | 152 | 87 | 238 | |
| 45. | Mixed-Use | 2051 E 7th Street | 240 apartment units, 8,000 sf retail, 3,500 sf restaurant | 2,196 | 9 | 97 | 106 | 138 | 55 | 193 | |
| 46. | Mixed-Use (Herald Examiner) | 1111 S. Broadway | 214 apartment units 10,000 sf retail | 5,198 | 144 | 176 | 319 | 258 | 274 | 532 | |
| 47. | Mixed-Use | 1148 S. Broadway | 94 apartment units 2,500 sf retail | 553 | 8 | 30 | 38 | 32 | 18 | 50 | |
| 48. | DTLA South Park Site 1 | 1120 S Grand Avenue | 666 apartment units, 0 hotel rooms, 20,690 sf retail | 2730 | 42 | 127 | 170 | 136 | 93 | 229 | |
| 49. | DTLA South Park Site 4 | 1230 S Olive Street | 362 apartment units, 4,000 sf retail | 2114 | 31 | 126 | 157 | 127 | 69 | 196 | |
| 50. | Apartments | 1247 S Grand Avenue | 118 apartment units, 5,125 sf retail | 763 | 10 | 41 | 51 | 42 | 25 | 67 | |
| 51. | Variety Arts (Mixed-Use) | 940 S Figueroa Street | 1,942 theatre seats, 10,056 sf restaurant, 5119 sf bar | 2,237 | 5 | 4 | 9 | 99 | 35 | 134 | |
| 52. | La Plaza Cultura Village | 527 N Spring Street | 345 apartment units, 23,000 sf retail, 21,000 sf specialty retail, 11,000 sf restaurant | 3585 | 49 | 118 | 167 | 189 | 131 | 320 | |
| 53. | Mixed-Use (Coca Cola) | 963 E. 4th Street | 75,000 sf office, 25,000 sf retail, 20,000 sf restaurant | 2,512 | 106 | 22 | 128 | 113 | 138 | 251 | |
| 54. | Mixed-Use (Sears Project) | 2650 E Olympic Boulevard | 1,000 apartment units, 34,000 sf retail, 46,000 sf restaurant, 230,000 sf office | 11,307 | 482 | 463 | 945 | 550 | 526 | 1,076 | |
| 55. | Mixed-Use | 826 S Mateo Street | 90 condominium units, 11,000 sf retail, 5,600 sf restaurant | 1,267 | 11 | 34 | 45 | 62 | 39 | 101 | |
| 56. | Mixed-Use | 737 S. Spring Street | 320 apartment units 25,000 sf pharmacy/drugstore | 3,942 | 72 | 141 | 213 | 167 | 116 | 283 | |
| 57. | 520 Mateo | 520 S Mateo Street | 600 live-work apt units, 90 ksf live-work office, 10 ksf museum, 20 ksf office, 30 ksf commercial | 4,995 | 157 | 220 | 373 | 274 | 223 | 491 | |
| 58. | Retail (Palmetto & Mateo) | 555 S Mateo Street | 153,000 sf retail OR 130,000 sf retail, 50,000 sf office | 4,300 | 5 | 30 | 35 | 220 | 205 | 425 | |
| 59. | Mixed-Use | 1147 E Palmetto | 120 apartment units, 141 hotel rooms, 20,000 sf restaurant | 2,908 | 73 | 141 | 215 | 147 | 83 | 230 | |
| 60. | Mixed-Use | 2030 E 7th Street | 243,000 sf office 40,000 sf retail | 2,306 | 274 | 34 | 308 | 69 | 249 | 318 | |
| 61. | Mixed-Use | 732 S Spring Street | 303 apartment units, 7,200 sf retail | 3,409 | 59 | 152 | 211 | 164 | 104 | 268 | |
| 62. | Mixed-Use | 340 S. Hill Street | 428 apartment units 6,700 sf restaurant | 2,361 | 34 | 129 | 163 | 141 | 79 | 219 | |
| 63. | Office | 540 S Santa Fe Avenue | 65,812 sf office | 726 | 90 | 12 | 102 | 17 | 81 | 98 | |
| 64. | Mixed-Use | 360 S Alameda Street | 55 apartment units, 2,500 sf restaurant, 6,300 sf office | 670 | 25 | 33 | 58 | 35 | 26 | 61 | |
| 65. | The Reef - LA Mart/SOLA Village | 1900 S Broadway | 900 condo units, 550 apt units, 210 hotel rms, 143.1 ksf retail, 180 ksf office, 17.6 ksf gallery/museum, 8 ksf gym | -- | 390 | 552 | 942 | 637 | 566 | 1203 | |
| 66. | Apartments | 118 S. Astronaut e.s. Onizuka Street | 77 apartment units | 97 | (1) | 20 | 19 | 19 | 6 | 25 | |
| 67. | Clinic at 7th & Wall | 649 S. Wall Street | 66 emp medical office, 55 assisted living beds | 104 | 24 | 5 | 29 | 3 | 24 | 27 | |
| 68. | Metro Emergency Security Operations Center | 410 N Center Street | 110,000 sf office | 1,165 | 87 | 0 | 87 | 0 | 79 | 79 | |
| 69. | Restaurant | 500 S Mateo Street | 12,882 sf restaurant | 1,052 | 48 | 41 | 89 | 50 | 31 | 81 | |
| 70. | Medallion Phase 2 | 300 S. Main Street | 471 apartment units, 27,780 sf restaurant, 5,190 sf retail | 4691 | 143 | 243 | 386 | 257 | 153 | 410 | |

Notes

[a] Related project information provided by the Los Angeles Department of Transportation and Department of City Planning on December 2016, as well as recent traffic studies prepared in the area.

TABLE 6 (CONTINUED)
RELATED PROJECTS

| No. | Project | Address | Use | Trip Generation [a] | | | | | | |
|------|---|---|---|---------------------|--------------|----------|--------------|---------|----------|-------|
| | | | | Daily | AM Peak Hour | | PM Peak Hour | | | |
| | | | | | Inbound | Outbound | Total | Inbound | Outbound | Total |
| 71. | Alexan South Broadway | 850 S. Hill Street | 300 apartment units, 3,500 sf retail, 3,500 sf restaurant | 1,970 | 28 | 106 | 134 | 116 | 65 | 181 |
| 72. | 400 S Alameda Street | 400 S Alameda Street | 66 hotel rooms, 2,130 sf restaurant, 840 sf retail | 508 | 19 | 17 | 36 | 23 | 14 | 37 |
| 73. | Mixed-Use | 700 W 9th Street | 629 condominium units 27,000 sf retail | 2624 | 37 | 146 | 183 | 143 | 95 | 238 |
| 74. | Giannini Place (Nomad Hotel) | 649 S Olive Street | 241 hotel rooms | 1,674 | 60 | 44 | 109 | 63 | 60 | 123 |
| 75. | Grand Residence | 1229 S Grand Avenue | 161 condominium units 3,000 sf restaurant | 1116 | 23 | 62 | 85 | 62 | 33 | 95 |
| 76. | 940 S Hill MU | 940 S. Hill Street | 232 apartment units 14,000 sf retail | 1,881 | 20 | 80 | 100 | 115 | 53 | 168 |
| 77. | Mixed Use | 719 E 5th Street | 160 apartment units 10,057 sf retail | 1,033 | 15 | 58 | 73 | 59 | 37 | 96 |
| 78. | Mixed-Use | 2130 E Violet Street | 94,000 sf office, 3,500 sf retail, 4,000 sf restaurant | 1,351 | 137 | 30 | 167 | 39 | 122 | 161 |
| 79. | 14th & Olive MU | 1340 S Olive Street | 156 apartment units, 5,000 sf retail, 10,000 sf restaurant | 1700 | 51 | 82 | 133 | 89 | 57 | 146 |
| 80. | Mixed-Use | 1334 S Flower Street | 188 apartment units 10,096 sf retail/restaurant | 1038 | (3) | 63 | 60 | 67 | 22 | 89 |
| 81. | Mixed-Use (Private Club) | 929 E 2nd Street | 42,019 sf retail, 18,261 sf event space, 40,249 sf office, 5,383 sf health club | 2,014 | 61 | 9 | 70 | 101 | 88 | 189 |
| 82. | Spring St Hotel | 633 Spring Street | 176 hotel rooms, 5,290 sf bar, 8,430 sf restaurant | 2,045 | 83 | 33 | 116 | 97 | 99 | 196 |
| 83. | LUXE Hotel Mixed-Use project | 1020 S Figueroa Street | 650 condominium units, 300 hotel rooms, 40,000 sf retail, 40,000 sf restaurant | 6583 | 204 | 274 | 478 | 312 | 227 | 539 |
| 84. | Mixed Use (Revised) | 1800 E 7th Street | 122 apartment units 13,600 sf office | 816 | 26 | 45 | 71 | 45 | 37 | 82 |
| 85. | Restaurant | 1722 E 16th Street | 8,515 sf restaurant | 707 | (1) | 0 | (1) | 34 | 22 | 56 |
| 86. | 1370 S Flower St Residential | 1400 S Flower Street | 147 apartment units 6,921 sf retail | 801 | (1) | 49 | 48 | 51 | 17 | 68 |
| 87. | Mixed Use | 745 S Spring Street | 247 condominium units, 10,675 sf retail | 1543 | 23 | 67 | 90 | 80 | 60 | 140 |
| 88. | Fig Central | 1101 S Flower Street | 504 condominium units, 183 hotel rooms, 166,000 sf retail | 6737 | 130 | 180 | 310 | 302 | 269 | 571 |
| 89. | Circa (1200 Figueroa Project) | 1200 S Figueroa Street | 648 condominium units, 48,000 sf retail | 7344 | 231 | 159 | 390 | 284 | 283 | 567 |
| 90. | 1201 S Grand Ave | 1201 S Grand Avenue | 126 condominium units | 699 | 12 | 53 | 65 | 36 | 22 | 58 |
| 91. | Hoxton Hotel | 1060 S Broadway | 164 hotel rooms | 1340 | 51 | 36 | 87 | 50 | 48 | 98 |
| 92. | 888 S Hope St | 888 S Hope Street | 526 apartment units | 3498 | 54 | 214 | 268 | 212 | 114 | 326 |
| 93. | 950 S Broadway | 950 S Broadway | 30 apartment units, 7,500 sf retail | 520 | 7 | 15 | 22 | 25 | 22 | 47 |
| 94. | Forest City/South Park (1) | 1100 S Hill Street & 1200 S Broadway | 391 apartment units, 15,000 sf retail | 3241 | 49 | 164 | 213 | 184 | 114 | 298 |
| 95. | South Park | SE Corner of 9th Street & Figueroa Street | 341 apartment units | 2268 | 35 | 139 | 174 | 137 | 74 | 211 |
| 96. | Title Insurance Building | 433 S Spring Street | 320,000 sf office | 3992 | 58 | 110 | 168 | 193 | 163 | 356 |
| 97. | Broadway Trade Center | 801 S Broadway | 400,000 sf office, 150 hotel rooms | 5638 | 596 | 108 | 704 | 147 | 539 | 686 |
| 98. | The Grand | SE Corner of Grand Avenue & 1st Street | 450 apartment units, 300 hotel rooms | 5444 | 140 | 249 | 389 | 273 | 186 | 459 |
| 99. | 537 S Broadwday | 537 S Broadwday | 45,000 sf office | 496 | 62 | 8 | 70 | 11 | 56 | 67 |
| 100. | Clark Hotel | 426 S Hill Street | 348 hotel rooms | 2843 | 109 | 75 | 184 | 107 | 102 | 209 |
| 101. | Freehand Hotel | 416 W 8th Street | 200 hotel rooms | 1634 | 63 | 43 | 106 | 61 | 59 | 120 |
| 102. | Proper Hotel | 1106 S Broadway | 148 hotel rooms | 1209 | 46 | 32 | 78 | 45 | 44 | 89 |
| 103. | Olympic Tower | 815 W Olympic Boulevard | 374 apartment units, 373 hotel rooms, 33,498 sf office, 65,074 sf retail/restaurant | 6530 | 190 | 217 | 407 | 181 | 151 | 332 |
| 104. | Mitsui Fudosan (8th & Figueroa Tower) | 744 S Figueroa Street | 436 apartment units, 10,000 sf retail | 2697 | 40 | 153 | 193 | 160 | 90 | 250 |
| 105. | CitiGroup Plaza Phase III | 755 S Figueroa Street | 500,000 sf office, 200,000 sf retail | 9334 | 648 | 119 | 767 | 302 | 735 | 1037 |
| 106. | 6AM | 1206-1338 E 6th Street | 412 hotel rms, 1,305 apt units, 431 condo units, 253.5 ksf office, 127.6 ksf community space, 29.3 ksf school, 22.4 ksf | 14258 | 437 | 585 | 1022 | 710 | 642 | 1352 |
| 107. | Brooks Building | 644 S Broadway | 30 apartment units, 2,500 sf bar | 200 | 3 | 12 | 15 | 12 | 7 | 19 |
| 108. | Cecil Hotel Renovation | 640 S Main Street | 301 apartment units | 2002 | 31 | 123 | 154 | 122 | 65 | 187 |
| 109. | Garland Building | 740 S Broadway | 47 apartment units | 313 | 5 | 19 | 24 | 19 | 10 | 29 |
| 110. | 801 E 5th St | 801 E 5th Street | 160 apartment units, 7,500 sf retail | 1384 | 20 | 69 | 89 | 77 | 50 | 127 |
| 111. | 825 S Hill St | 825 S Hill Street | 490 apartment units | 3259 | 50 | 200 | 250 | 198 | 106 | 304 |
| 112. | Amp Lofts | 695 S Santa Fe Avenue | 320 live/work apartment units, 20,000 sf commercial | 2982 | 45 | 137 | 182 | 165 | 107 | 272 |
| 113. | Beacon Tower | 343 S Hill Street | 428 apartment units | 2846 | 44 | 174 | 218 | 172 | 93 | 265 |
| 114. | Broadway and Olympic Condos | 995 S Broadway | 163 condominium units | 947 | 12 | 60 | 72 | 57 | 28 | 85 |
| 115. | 4th & Hewitt | 401 S Hewitt Street | 266,000 sf office & 18,200 sf retail | 3,711 | 376 | 56 | 432 | 100 | 364 | 464 |
| 116. | Catalina Building | 443 S San Pedro Street | 78 live/work apartment units | 519 | 8 | 32 | 40 | 31 | 17 | 48 |
| 117. | E on Grand | 1249 S Grand Avenue | 115 apartment units, 5,000 sf retail | 979 | 15 | 49 | 64 | 55 | 35 | 90 |
| 118. | Holland Partner Group/Eighth and Spring | 755 S Spring Street | 275 apartment units, 8,900 sf retail | 2209 | 34 | 115 | 149 | 127 | 77 | 204 |
| 119. | Jade Enterprises/Topaz | 6th Street & Main Street | 159 apartment units, 23,000 sf retail | 2039 | 30 | 73 | 103 | 105 | 79 | 184 |
| 120. | Olive DTLA | Pico Boulevard & Olive Street | 293 apartment units | 1948 | 30 | 119 | 149 | 118 | 64 | 182 |
| 121. | SB Omega | 6th Street & Main Street | 452 apartment units | 3006 | 46 | 185 | 231 | 182 | 98 | 280 |
| 122. | Row DTLA | 7th Street & Alameda Street | 1.3 million sf office | 14339 | 1785 | 243 | 2028 | 329 | 1608 | 1937 |
| 123. | Budokan of Los Angeles | 237-249 S Los Angeles Street | 63,000 sf sports complex | 2709 | 114 | 73 | 187 | 233 | 142 | 375 |
| 124. | Merced Theater and Masonic Hall | 450 N Main Street | 18,000 sf TV studio, 50 seat auditorium | 1405 | 2 | 2 | 4 | 104 | 7 | 111 |
| 125. | Ford Factory Building | 7th Street & Santa Fe Avenue | 254,000 sf office | 2802 | 348 | 48 | 396 | 64 | 314 | 378 |
| 126. | Harris Building Office Conversion | 11th Street & Main Street | 52,000 sf office | 574 | 71 | 10 | 81 | 13 | 64 | 77 |
| 127. | Soho House | 1000 S Santa Fe Avenue | 16 hotel rooms | 131 | 5 | 3 | 8 | 5 | 5 | 10 |
| 128. | Embassy Hotel | 831 S Grand Avenue | 183 hotel rooms | 1495 | 57 | 40 | 97 | 56 | 54 | 110 |
| 129. | Fig + Pico Conference Center Hotels | 1248-1260 S Figueroa Street | 1,162 hotel rooms, 13,145 sf retail | 5720 | 192 | 125 | 317 | 203 | 212 | 415 |
| 130. | Hotel Figueroa | 939 S Figueroa Street | 268 hotel rooms | 2190 | 84 | 58 | 142 | 82 | 79 | 161 |
| 131. | Tuck Hotel | 820 S Spring Street | 14 hotel rooms | 114 | 4 | 3 | 7 | 4 | 4 | 8 |
| 132. | 330 S Alameda St Mixed-Use | 330 S Alameda Street | 186 live-work apartment units, 10,415 sf office, 11,925 sf retail | 1,662 | 36 | 76 | 112 | 91 | 65 | 156 |
| 133. | 643-655 N Spring Street | 643-655 N Spring Street | 203 apartment units, 21,300 sf commercial | 1,610 | 24 | 74 | 98 | 89 | 58 | 147 |
| 134. | 527 Colyton Street | 527 S Colyton Street | 310 apartment units, 11,375 sf commercial | 2,548 | 39 | 130 | 169 | 145 | 89 | 234 |
| 135. | 676 Mateo Street | 676 Mateo Street | 172 apartment units, 14,975 sf restaurant, 8,050 sf retail/office/art production | 3,264 | 114 | 146 | 260 | 167 | 109 | 276 |
| 136. | 1100 E 5th Street | 1100 E 5th Street | 218 apartment units, 18,400 sf restaurant, 9,200 sf retail/office/art production | 4,037 | 139 | 182 | 321 | 206 | 134 | 340 |
| 137. | 1100 Main Street | 1100 Main Street | 379 apartment units, 26,000 sf commercial | 3,630 | 55 | 163 | 218 | 199 | 132 | 331 |
| 138. | 640 S Santa Fe Avenue | 640 S Santa Fe Avenue | 107,000 sf office/retail/restaurant | 8,976 | 321 | 348 | 669 | 436 | 336 | 772 |
| 139. | 1745 E 7th Street | 1745 E 7th Street | 57 apartment units, 6,000 sf commercial | 635 | 10 | 25 | 35 | 34 | 23 | 57 |
| 140. | 2110 Bay Street | 2110 Bay Street | 110 apartment units, 50,000 sf commercial | 2,867 | 41 | 63 | 104 | 133 | 121 | 254 |

Notes

[a] Related project information provided by the Los Angeles Department of Transportation and Department of City Planning on December 2016, as well as recent traffic studies prepared in the area.

**TABLE 6 (CONTINUED)
RELATED PROJECTS**

| No. | Project | Address | Use | Trip Generation [a] | | | | | | |
|------|--|--|--|---------------------|--------------|----------|-------|--------------|----------|-------|
| | | | | Daily | AM Peak Hour | | | PM Peak Hour | | |
| | | | | | Inbound | Outbound | Total | Inbound | Outbound | Total |
| 141. | 1200 S Santa Fe Avenue | 1200 S Santa Fe Avenue | 53 apartment units, 13,000 sf retail | 907 | 12 | 27 | 39 | 44 | 37 | 81 |
| 142. | 5th & Hill Tower | 5th Street & Hill Street | 242 apartment units, 200 hotel rooms, 52,500 sf commercial | 5,485 | 119 | 160 | 279 | 253 | 212 | 465 |
| 143. | Fashion District Tower | 222 E 7th Street | 452 apartment units, 13,655 sf commercial | 3,749 | 82 | 199 | 281 | 211 | 124 | 335 |
| 144. | Fifth and Hill | 333 W 5th Street | 100 condo units, 200 hotel rooms, 27,500 sf commercial | 4,095 | 144 | 136 | 280 | 181 | 141 | 322 |
| 145. | Mixed-Use | 215 W 14th Street | 154 apartment units, 10,700 sf retail | 1,481 | 22 | 67 | 89 | 81 | 54 | 135 |
| 146. | Mixed-Use Project (Megatoys) | 905 E 2nd Street | 320 condominium units, 18,712 sf retail | 1,207 | (6) | 70 | 64 | 69 | 23 | 92 |
| 147. | Mixed-Use Project | 1011 E Adams Boulevard | 80 apartment units, 17,372 sf retail | 60 | 11 | 30 | 41 | 10 | 0 | 10 |
| 148. | SPR-Mixed-use Onyx West & East | 1300 S Hope Street | 419 apartment units, 42,000 sf retail | 632 | 9 | 39 | 48 | 38 | 21 | 59 |
| 149. | Manufacturing | 2710 S Compton Avenue | 36,260 sf manufacturing, 50,504 sf warehousing | 346 | 37 | 10 | 47 | 15 | 33 | 48 |
| 150. | 433 S Main Street | 433 S Main Street | 161 condo units, 6,900 sf mixed-use | 1,859 | 62 | 85 | 147 | 66 | 48 | 114 |
| 151. | Arts District Center (Mixed-Use) | 1129 E 5th St, 1101 E. 5th St, 445-457 S Colyton St, 450-456 S Seaton St | 149 hotel rooms, 228 apartments, 27,860 sf office, 28,400 sf restaurant, 23,000 sf retail, 27,700 sf other | 4,286 | 102 | 121 | 223 | 179 | 102 | 281 |
| 152. | 670 Mesquit | 670 Mesquit Street | 944,055 creative office, 308 apartment units, 236 hotel rooms, 136,152 sf commercial | 20,195 | 1,482 | 404 | 1,886 | 677 | 1,568 | 2,245 |
| 153. | 1000 S Mateo Street | 1000 S Mateo Street | 104 live/work units, 121,556 sf commercial | 5,882 | 84 | 86 | 170 | 258 | 257 | 515 |
| 154. | 2117 E Violet Street | 2117 E Violet Street | 509 live/work units, 288,230 sf commercial | 15,692 | 224 | 313 | 537 | 718 | 667 | 1,385 |
| 155. | 234 N Center Street | 234 N Center Street | 430 apartment units, 8,742 sf retail | 3,233 | 49 | 178 | 227 | 189 | 110 | 299 |
| 156. | 405 S Hewitt Street | 405 S Hewitt Street | 14,906 sf retail, 255,514 sf office | 3,454 | 360 | 53 | 413 | 91 | 345 | 436 |
| 157. | 710 S Santa Fe Avenue | 710 S Santa Fe Avenue | Heavy manufacturing to regional center commercial zone change | -- | -- | -- | -- | -- | -- | -- |
| 158. | 940 E 4th Street | 940 E 4th Street | 93 live/work units, 20,248 sf commercial | 1,483 | 21 | 45 | 66 | 74 | 59 | 133 |
| 159. | 2159 E Bay Street | 2159 E Bay Street | 4 condominium units, 222,000 sf office | 2,472 | 304 | 44 | 348 | 57 | 276 | 333 |
| 160. | 333 S Alameda Street | 333 S Alameda Street | 994 live/work units, 99,300 sf commercial | 10,850 | 160 | 442 | 602 | 577 | 407 | 984 |
| 161. | 641 Imperial Street | 641 Imperial Street | 140 live/work units, 14,700 sf office | 1,093 | 34 | 60 | 94 | 61 | 48 | 109 |
| 162. | Tribune (LA Times) South Tower Project | 222 W 2nd Street | 107 condo units, 593,312 sf office, 8,000 sf retail | 4,006 | 467 | 93 | 560 | 118 | 423 | 541 |

Notes

[a] Related project information provided by the Los Angeles Department of Transportation and Department of City Planning on December 2016, as well as recent traffic studies prepared in the area.

TABLE 7
FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2022)
SIGNALIZED INTERSECTION PEAK HOUR LEVELS OF SERVICE

| No. | Signalized Intersection | Peak Hour | Future without Project Conditions | |
|-----|---------------------------------------|-----------|-----------------------------------|--------|
| | | | V/C | LOS |
| 1. | Alameda Street & 4th Street | AM
PM | 0.547
0.922 | A
E |
| 2. | Central Avenue & 6th Street | AM
PM | 0.618
0.927 | B
E |
| 3. | Alameda Street & 6th Street | AM
PM | 0.842
1.144 | D
F |
| 4. | Mateo Street & 6th Street | AM
PM | 0.505
0.575 | A
A |
| 5. | San Pedro Street & 7th Street | AM
PM | 0.619
0.733 | B
C |
| 6. | Central Avenue & 7th Street | AM
PM | 0.883
0.925 | D
E |
| 7. | Alameda Street & 7th Street | AM
PM | 0.953
1.095 | E
F |
| 8. | Mateo Street & 7th Street | AM
PM | 1.195
1.409 | F
F |
| 9. | Santa Fe Avenue & 7th Street | AM
PM | 1.114
1.543 | F
F |
| 10. | Anderson Street & 7th Street | AM
PM | 1.062
0.833 | F
D |
| 12. | Boyle Avenue & 7th Street | AM
PM | 0.676
0.957 | B
E |
| 14. | Santa Fe Avenue & 8th Street | AM
PM | 0.999
1.019 | E
F |
| 16. | Santa Fe Avenue & Porter Street | AM
PM | 0.835
1.008 | D
F |
| 17. | Central Avenue & Olympic Boulevard | AM
PM | 0.671
0.955 | B
E |
| 18. | Alameda Street & Olympic Boulevard | AM
PM | 0.922
0.944 | E
E |
| 19. | Santa Fe Avenue & Olympic Boulevard | AM
PM | 0.955
1.047 | E
F |
| 20. | Alameda Street & 14th Street | AM
PM | 0.706
0.733 | C
C |
| 21. | Alameda Street & I-10 Eastbound Ramps | AM
PM | 0.792
0.865 | C
D |

Chapter 4

Project Traffic

This chapter describes the assumptions and methodology used in developing the traffic volumes associated with the proposed Project within the Study Area.

PROJECT DESCRIPTION

The Project proposes the construction of a mixed-use development consisting of 475 live-work units with approximately 61,200 sf of commercial space. Of the 61,200 sf 57,000 sf includes retail, arts and production space, supermarket and restaurant uses. The remaining 4,200 sf includes parking and bicycle storage facilities ancillary to the Project. Based on review of the Project site plan, 168 units of the 475 live-work units would be 1,000 sf or more, excluding outdoor balcony space. It was assumed that units of this size could accommodate non-resident employees or visitors to the “work” portion of the live-work unit. The work portion of each live-work unit that can provide sufficient office space would constitute 150 sf of each unit, the minimum size requirement of office space. Therefore, for trip generation purposes, approximately 25,200 sf of office space was assumed as part of the live-work units. It is important to note that these units could also function with the resident serving as the employee of the home-based business and, therefore, the 25,200 sf of live-work office space is conservative. The Project would replace approximately 131,350 sf of existing warehouse space.

Vehicular access to the multi-level parking garage would be provided via one full-access driveway on Industrial Street, as well as ancillary accesses via driveways along Mill Street and Alameda Street.

PROJECT TRIP GENERATION

The number of trips expected to be generated by the Project was estimated using rates published in *Trip Generation, 9th Edition*. These rates are based on surveys of similar land uses at sites around the country and are provided as both daily rates and morning and afternoon peak hour rates. The number of vehicle trips traveling to and from the Project Site is related to the size of development of use. So as to provide a conservative analysis in terms of trip generation, the commercial uses were assumed to include approximately 17,500 sf of retail use, 7,900 sf of office use, 16,300 sf of restaurant use and 15,300 sf of supermarket use. In addition, apartment rates were applied to each of the 475 live-work units and office rates were applied to the 25,200 sf of work component of the live-work units to account for employees that may be generated to the units. Thus, the trip generation estimates used in this study are likely overstated and therefore, provide a very conservative analysis.

Appropriate trip generation reductions to account for public transit usage and walk-ins were made in consultation with LADOT, and were based on engineering judgment and published data from *Trip Generation Handbook, 3rd Edition* (Institute of Transportation Engineers, August 2014) supported by surveys conducted at similar land use developments. A 15% transit/walk-in adjustment was applied to the Project in accordance with *Transportation Impact Study Guidelines* to account for transit usage and walking arrivals. Internal capture adjustments were developed based on the NCHRP 8-51 Internal Trip Capture Estimation Tool (*National Cooperative Highway Research Program Report 684 – Enhancing Internal Trip Capture Estimation for Mixed-Use Developments*, Transportation Research Board and National Research Council, 2011) and applied to each land use estimates to account for person trips made between distinct land uses within a mixed-use development (e.g., residents and employees visiting the commercial uses). As shown in Appendix J, the Project trips can potentially be adjusted for over 25% internal capture adjustments. To provide a conservative analysis, a 20% internal capture reduction rate was applied to the live-work apartments and ground floor commercial uses. A 50%, 20% and 40% pass-by reduction were also applied to the retail, restaurant and supermarket use, respectively, to account for Project trips made as an intermediate stop on the way from an origin to a primary trip destination without route diversion.

As shown in Table 8, after accounting for the adjustment above, the Project is estimated to generate 4,002 new trips on a typical weekday, including 289 new morning peak hour trips (107 inbound, 182 outbound) and 361 new afternoon peak hour trips (216 inbound, 145 outbound).

PROJECT TRIP DISTRIBUTION

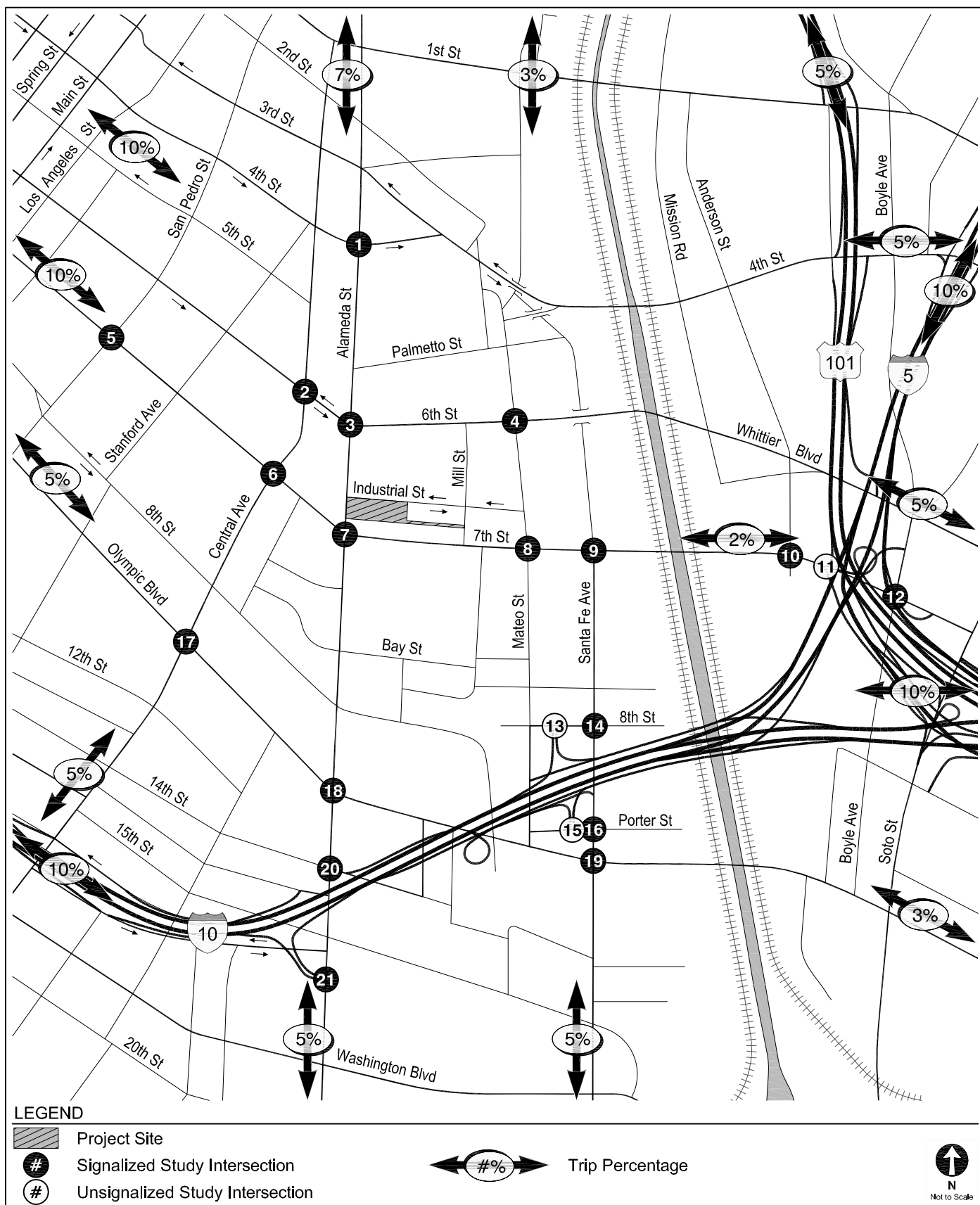
Similar to the trip distribution of traffic for the Related Projects described in Chapter 3, the geographic distribution of trips generated by the Project is dependent on the location of commercial centers from which guests of the Project would be drawn, characteristics of the street system serving the Project Site, and the level of accessibility of the routes to and from the Project Site, existing intersection traffic volumes, the Project ingress/egress availability based on the proposed site access and circulation scheme, the location of the proposed driveway, as well as input from LADOT staff.

Based on these considerations, traffic entering and exiting the Project was assigned to the surrounding street system. The general regional-level and intersection-level trip distribution patterns for the Project are shown in Figures 8 and 9. Generally, the regional pattern for the Project is as follows:

- 25% to/from the north (US 101, I-5, I-10, Alameda Street, Santa Fe Avenue)
- 15% to/from the south (Central Avenue, Alameda Street, Santa Fe Avenue)
- 25% to/from the east (I-5, 4th Street, Whittier Boulevard, 7th Street, Olympic Boulevard)
- 35% to/from the west (I-10, 5th Street/5th Street, 6th Street, 7th Street, Olympic Boulevard)

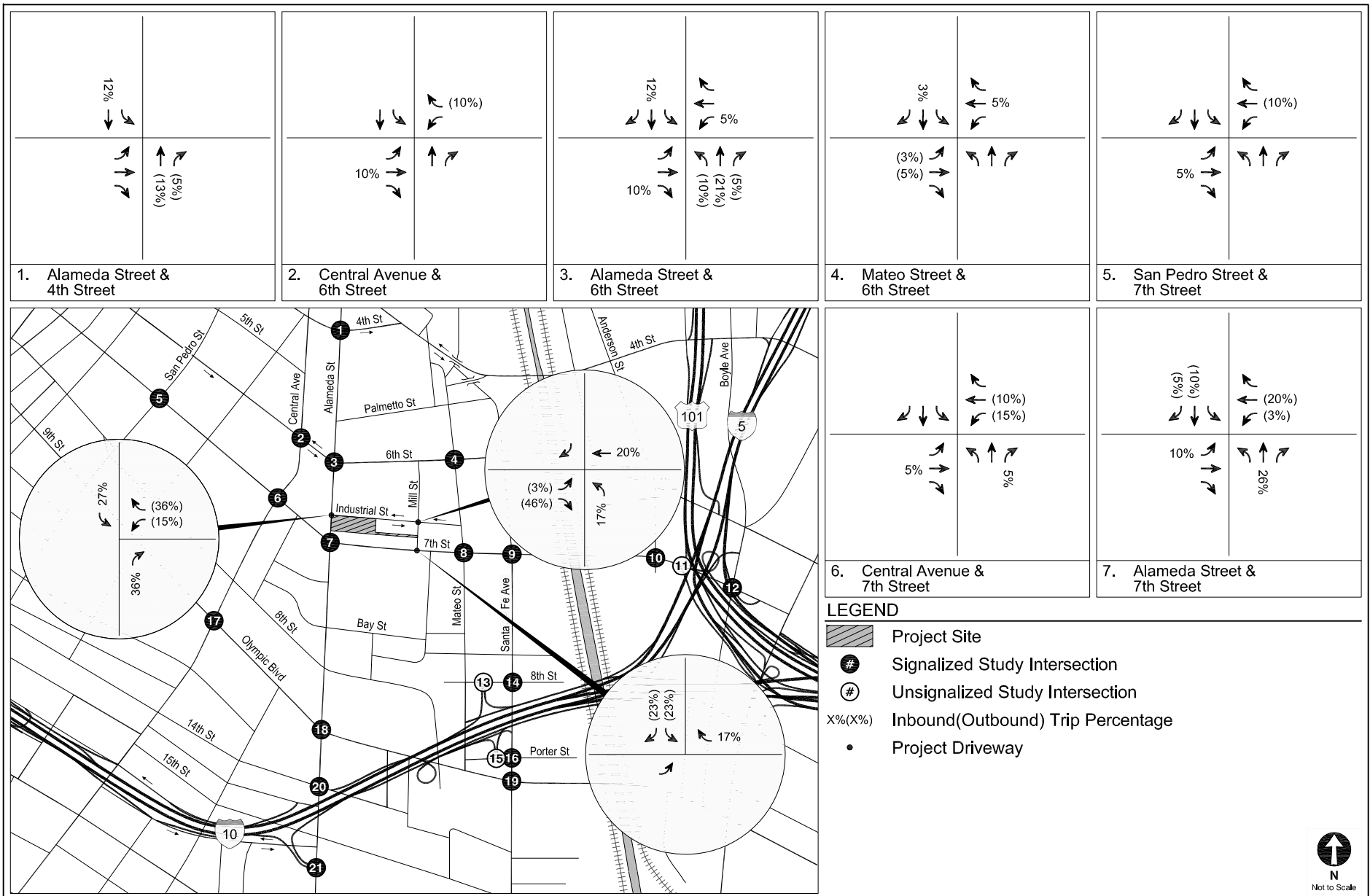
PROJECT TRIP ASSIGNMENT

The Project trip generation estimates summarized in Table 8 and the trip distribution patterns shown in Figure 9 were used to assign the Project-generated traffic through the study intersections. Figure 10 illustrates the Project-only traffic volumes at the study intersections during typical weekday morning and afternoon peak hours.



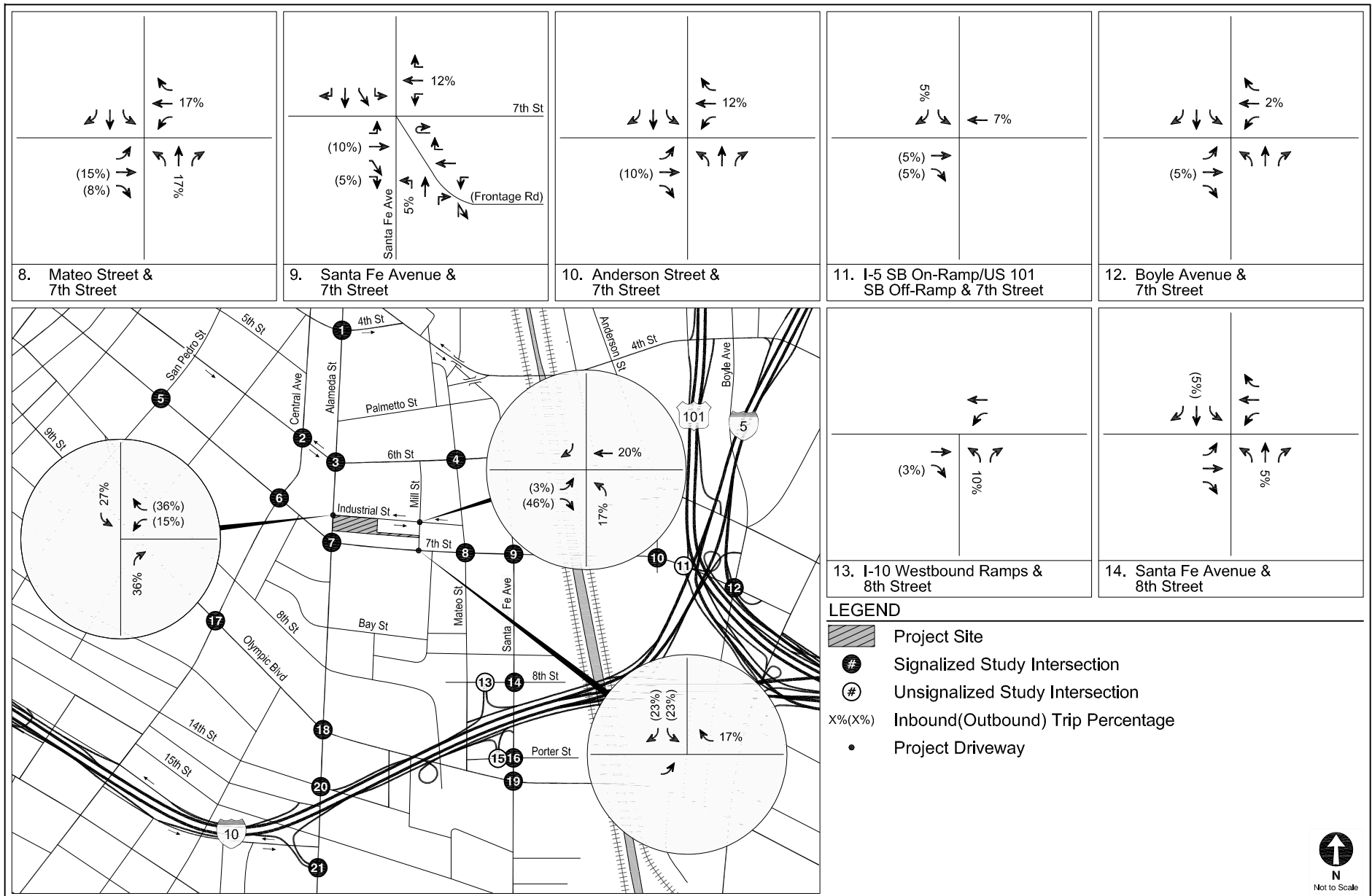
REGIONAL TRIP DISTRIBUTION

FIGURE
8



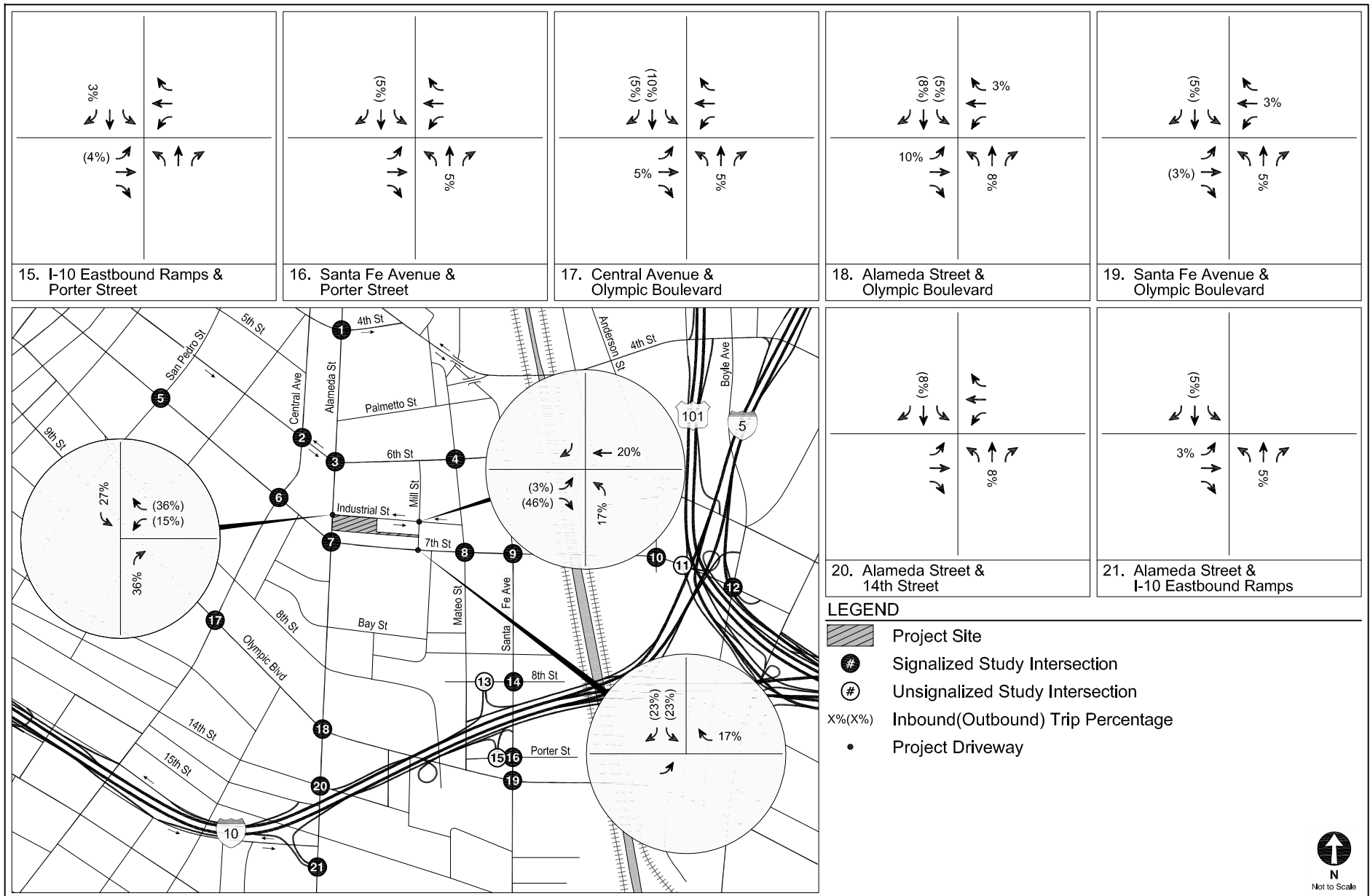
TRIP DISTRIBUTION

FIGURE
9



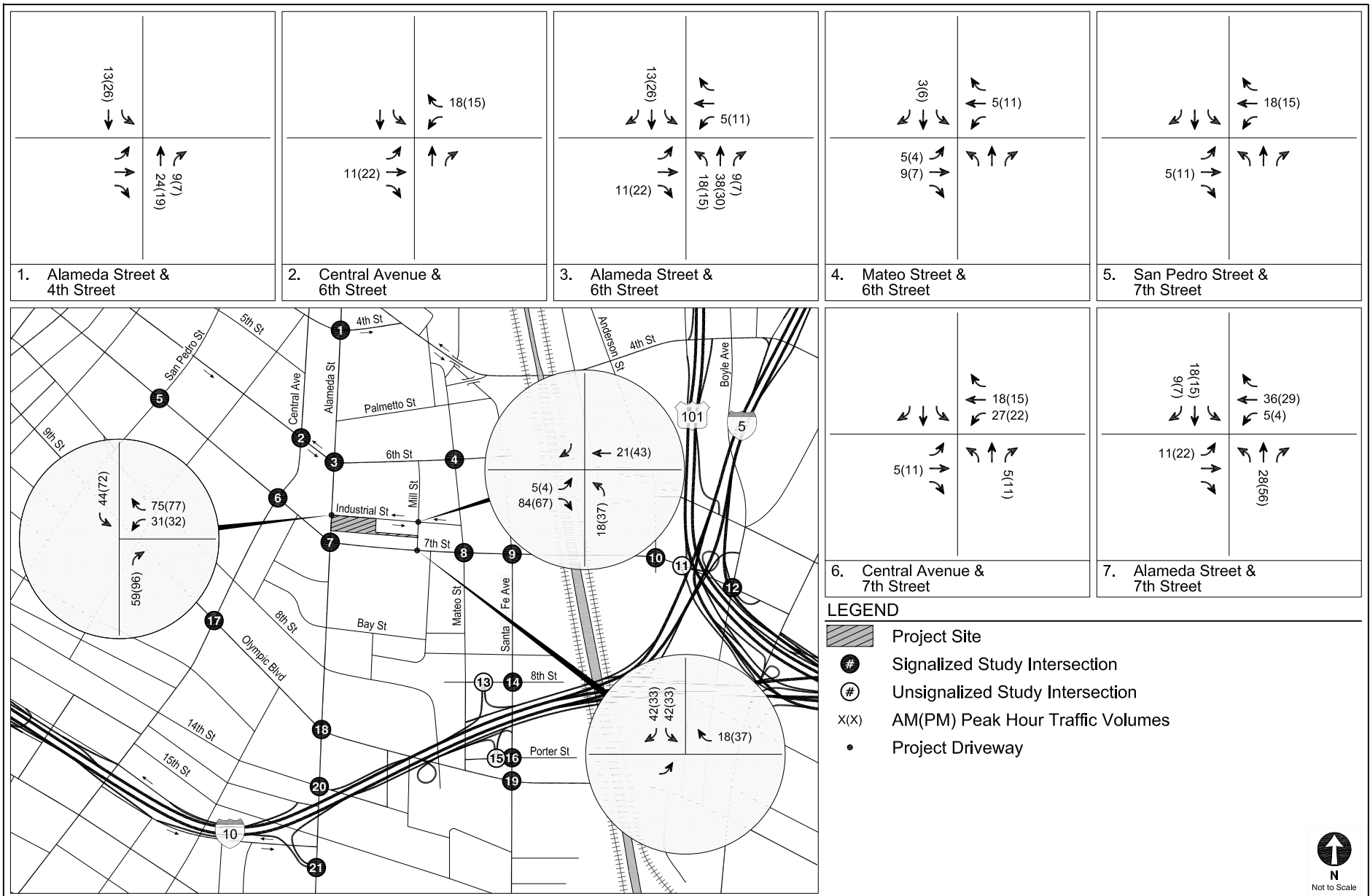
TRIP DISTRIBUTION

FIGURE
9 (CONT.)



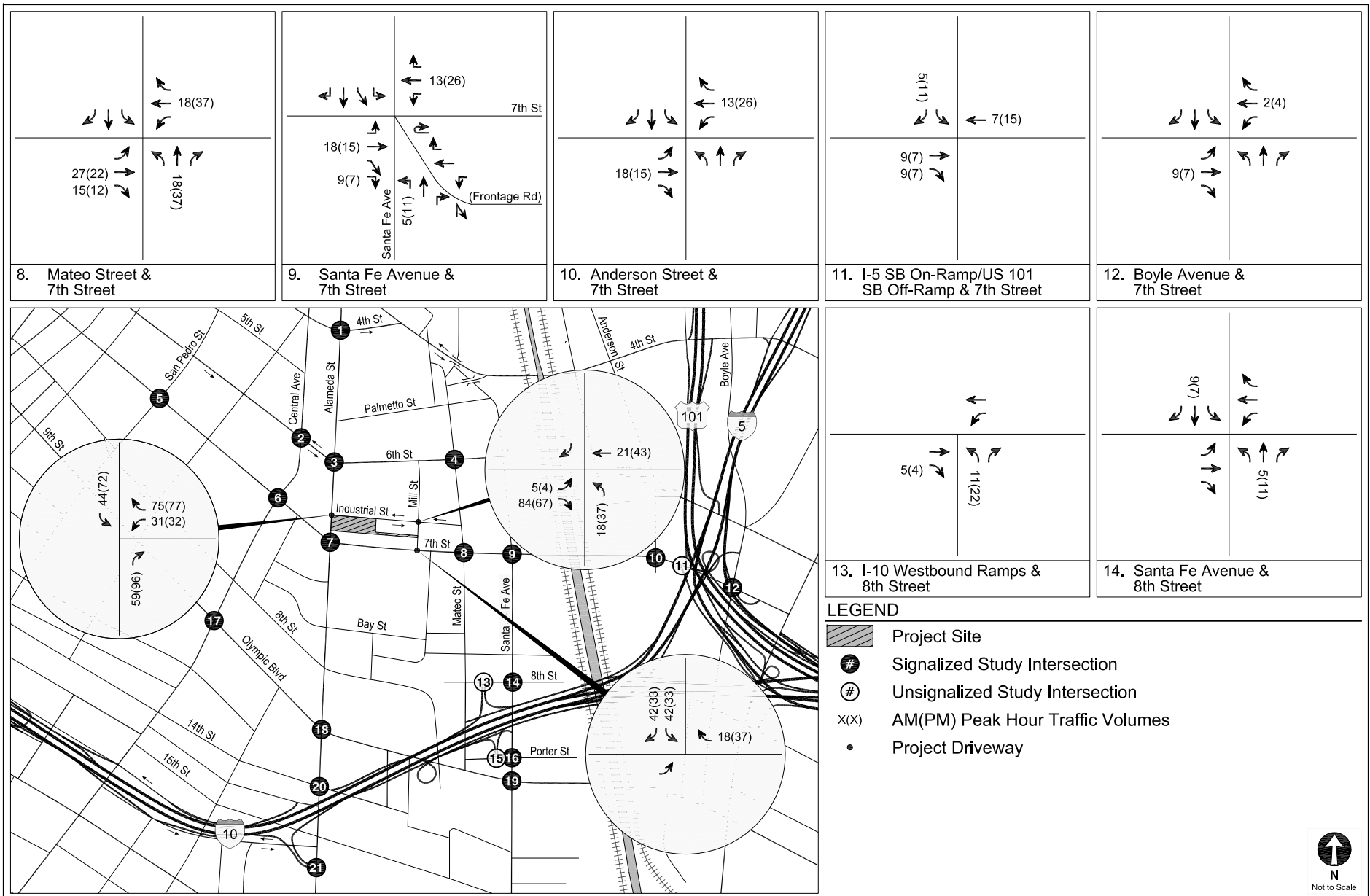
TRIP DISTRIBUTION

FIGURE
9 (CONT.)



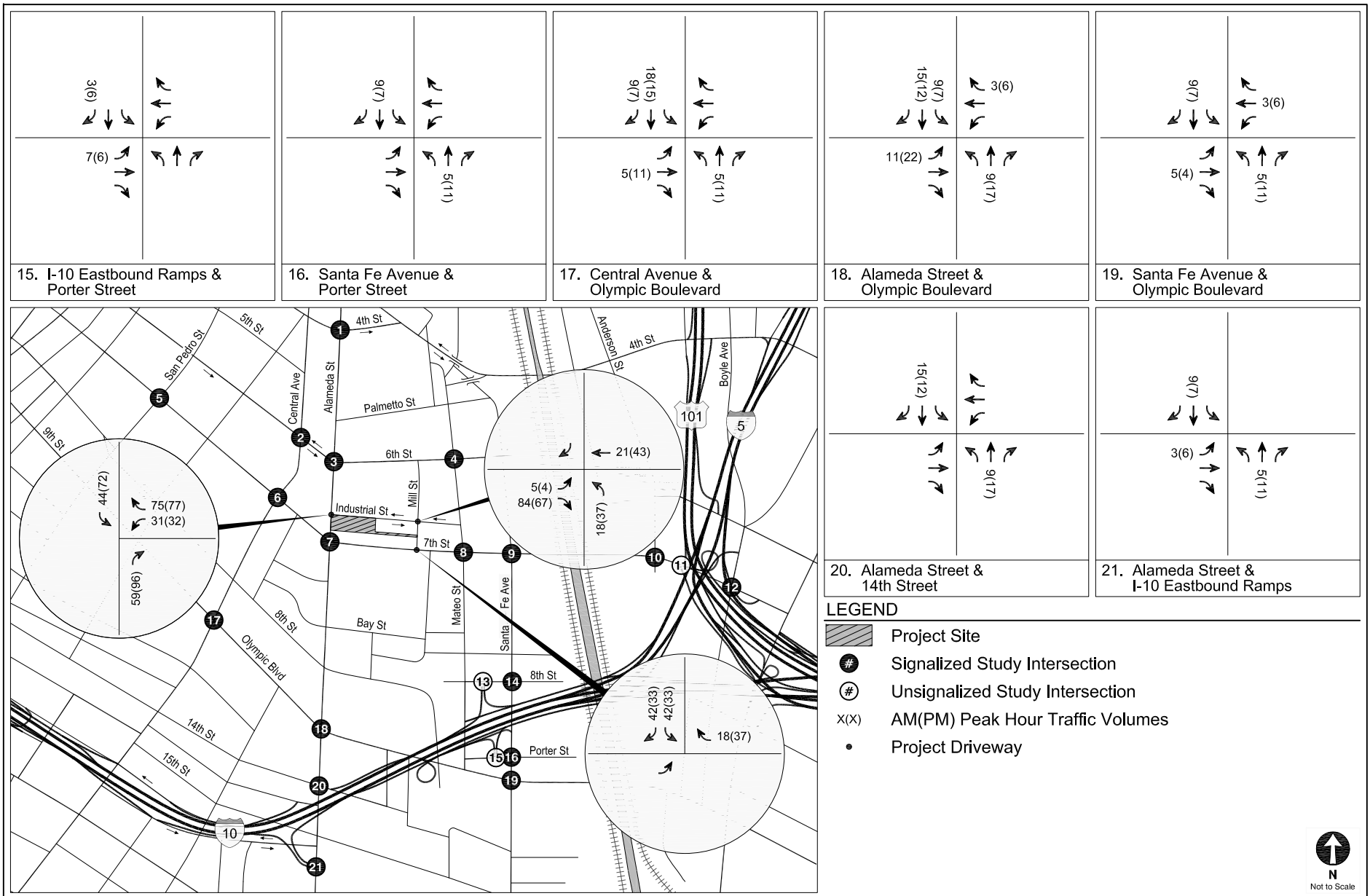
**PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES**

**FIGURE
10**



PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE
10 (CONT.)



**TABLE 8
PROJECT TRIP GENERATION ESTIMATES**

| TRIP GENERATION RATES [a] | | | | | | | | | |
|-----------------------------|--------------|---------|--------|----------------|-----|-------|----------------|-----|-------|
| Land Use | ITE Land Use | Rate | Daily | A.M. Peak Hour | | | P.M. Peak Hour | | |
| | | | | In | Out | Total | In | Out | Total |
| Warehouse | 150 | per ksf | 3.56 | 79% | 21% | 0.30 | 25% | 75% | 0.32 |
| Apartment | 220 | per du | 6.65 | 20% | 80% | 0.51 | 65% | 35% | 0.62 |
| Specialty Retail Center [b] | 826 | per ksf | 44.32 | 62% | 38% | 0.96 | 44% | 56% | 2.71 |
| General Office Building | 710 | per ksf | 11.03 | 88% | 12% | 1.56 | 17% | 83% | 1.49 |
| Restaurant | 932 | per ksf | 127.15 | 55% | 45% | 10.81 | 60% | 40% | 9.85 |
| Supermarket | 850 | per ksf | 102.24 | 62% | 38% | 3.40 | 51% | 49% | 9.48 |

| TRIP GENERATION ESTIMATES | | | | | | | | | |
|-------------------------------------|--------------|------------|-------|----------------|------|-------|----------------|------|-------|
| Land Use | ITE Land Use | Size | Daily | A.M. Peak Hour | | | P.M. Peak Hour | | |
| | | | | In | Out | Total | In | Out | Total |
| <u>Existing Uses</u> | | | | | | | | | |
| Warehouse | 150 | 131.35 ksf | 468 | 31 | 8 | 39 | 11 | 31 | 42 |
| TOTAL - EXISTING | | | 468 | 31 | 8 | 39 | 11 | 31 | 42 |
| <u>Proposed Uses</u> | | | | | | | | | |
| Live-Work Apartment [c] | 220 | 475 du | 3,159 | 48 | 194 | 242 | 192 | 103 | 295 |
| Transit/Walk-In Credit- 15% [d] | | | (474) | (7) | (29) | (36) | (29) | (15) | (44) |
| Internal Capture - 20% [e] | | | (537) | (8) | (33) | (41) | (33) | (17) | (50) |
| Live-Work Office [f] | 710 | 25.2 ksf | 278 | 34 | 5 | 39 | 6 | 32 | 38 |
| Transit/Walk-In Credit- 15% [d] | | | (42) | (5) | (1) | (6) | (1) | (5) | (6) |
| Live-Work Subtotal | | | 2,384 | 62 | 136 | 198 | 135 | 98 | 233 |
| Retail | 826 | 17.5 ksf | 777 | 11 | 6 | 17 | 21 | 27 | 48 |
| Transit/Walk-In Credit- 15% [d] | | | (117) | (2) | (1) | (3) | (3) | (4) | (7) |
| Internal Capture - 20% [e] | | | (132) | (2) | (1) | (3) | (4) | (4) | (8) |
| Passby Credit - 50% [g] | | | (264) | (4) | (2) | (6) | (7) | (10) | (17) |
| Office | 710 | 7.9 ksf | 87 | 11 | 1 | 12 | 2 | 10 | 12 |
| Transit/Walk-In Credit- 15% [d] | | | (13) | (2) | 0 | (2) | 0 | (2) | (2) |
| Internal Capture - 20% [e] | | | (15) | (2) | 0 | (2) | 0 | (2) | (2) |
| Restaurant | 932 | 16.3 ksf | 2,070 | 97 | 79 | 176 | 96 | 64 | 160 |
| Transit/Walk-In Credit- 15% [d] | | | (311) | (15) | (11) | (26) | (14) | (10) | (24) |
| Internal Capture - 20% [e] | | | (352) | (16) | (14) | (30) | (16) | (11) | (27) |
| Passby Credit - 20% [g] | | | (281) | (13) | (11) | (24) | (13) | (9) | (22) |
| Supermarket | 850 | 15.3 ksf | 1,561 | 32 | 20 | 52 | 74 | 71 | 145 |
| Transit/Walk-In Credit- 15% [d] | | | (234) | (5) | (3) | (8) | (11) | (11) | (22) |
| Internal Capture - 20% [e] | | | (265) | (5) | (4) | (9) | (13) | (12) | (25) |
| Passby Credit - 40% [g] | | | (425) | (9) | (5) | (14) | (20) | (19) | (39) |
| Ground Floor Commercial Subtotal | | | 2,086 | 76 | 54 | 130 | 92 | 78 | 170 |
| TOTAL - PROPOSED | | | 4,470 | 138 | 190 | 328 | 227 | 176 | 403 |
| NET NEW TRIPS (PROPOSED - EXISTING) | | | 4,002 | 107 | 182 | 289 | 216 | 145 | 361 |

Notes:

ksf: 1,000 square feet

du: dwelling units

[a] Source: *Trip Generation, 9th Edition*, Institute of Transportation Engineers, 2012.

[b] AM rate for specialty retail is not provided in *Trip Generation, 9th Edition*, thus the AM rate for retail shopping center (ITE 820) was used.

[c] Live-work units include residents living and working in conjunction and thus do not generate traditional AM outbound and PM inbound trips. Therefore, use of the apartment rates applied to all 475 live-work units provide a conservative analysis.

[d] Per LADOT's *Transportation Impact Study Guidelines* (LADOT, December 2016), the Project Site is located within 1/4 mile of a Metro RapidBus stop (Metro 760), therefore a 15% transit adjustment was applied to account for transit usage and walking visitor arrivals from the surrounding neighborhoods and adjacent commercial developments, and for arrivals via taxi, tour bus, and carpool services.

[e] Internal capture adjustments account for person trips made between distinct land uses within a mixed-use development without using an off-site road system. Based on the NCHRP 8-51 Internal Trip Capture Estimation Tool (*National Cooperative Highway Research Program Report 684 – Enhancing Internal Trip Capture Estimation for Mixed-Use Developments*, Transportation Research Board and National Research Council, 2011), the Project trips can potentially be adjusted for over 25% internal capture adjustments. A conservative 20% internal capture adjustment was applied to the live-work apartments and ground floor commercial uses.

[f] Live-work units may include external trips to/from the office portion of the live-work units. Based on the minimum size requirement of the work portion in a live-work unit (150 sf) 168 units, of which can provide sufficient office space within the live-work units (greater than 1,000 sf, excluding outside balcony space), can be assumed to generate external office trips (e.g. employees).

[g] Pass-by adjustments account for Project trips made as an intermediate stop on the way from an origin to a primary trip destination without route diversion.

Chapter 5

Existing with Project Conditions

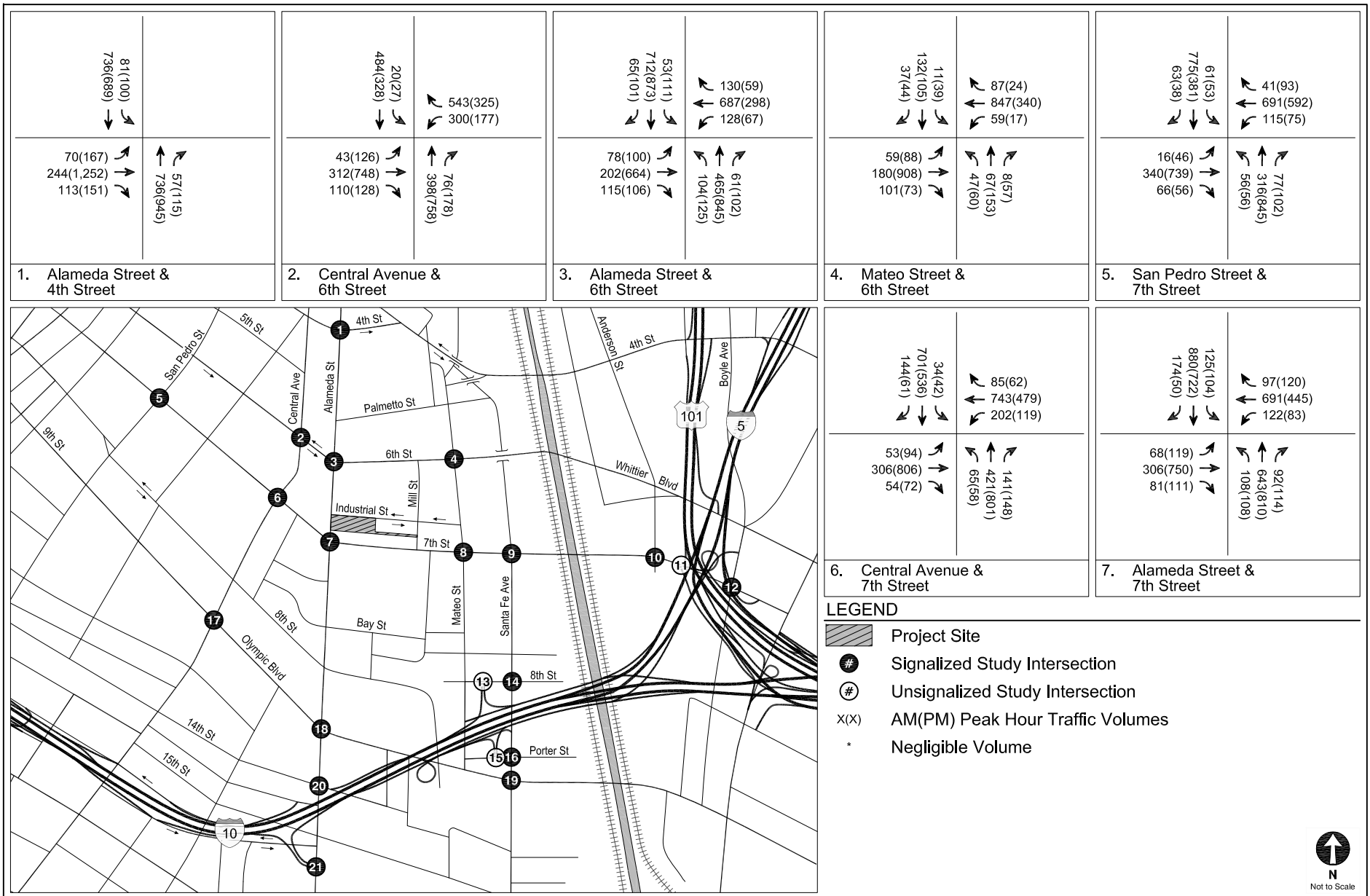
This chapter describes the results of the analysis of intersection operating conditions associated with the Project when compared to Existing Conditions. The analysis corresponds with the Existing Conditions data and analysis presented in Chapter 2. The Existing with Project Conditions reflect Existing Conditions with the addition of Project traffic.

TRAFFIC VOLUMES

The Project-only morning and afternoon peak hour traffic volumes described in Chapter 4 and shown in Figure 10 were added to the existing morning and afternoon peak hour traffic volumes shown in Figure 4. The resulting volumes are illustrated in Figure 11 and represent Existing with Project Conditions, assuming Project operation under Existing Conditions.

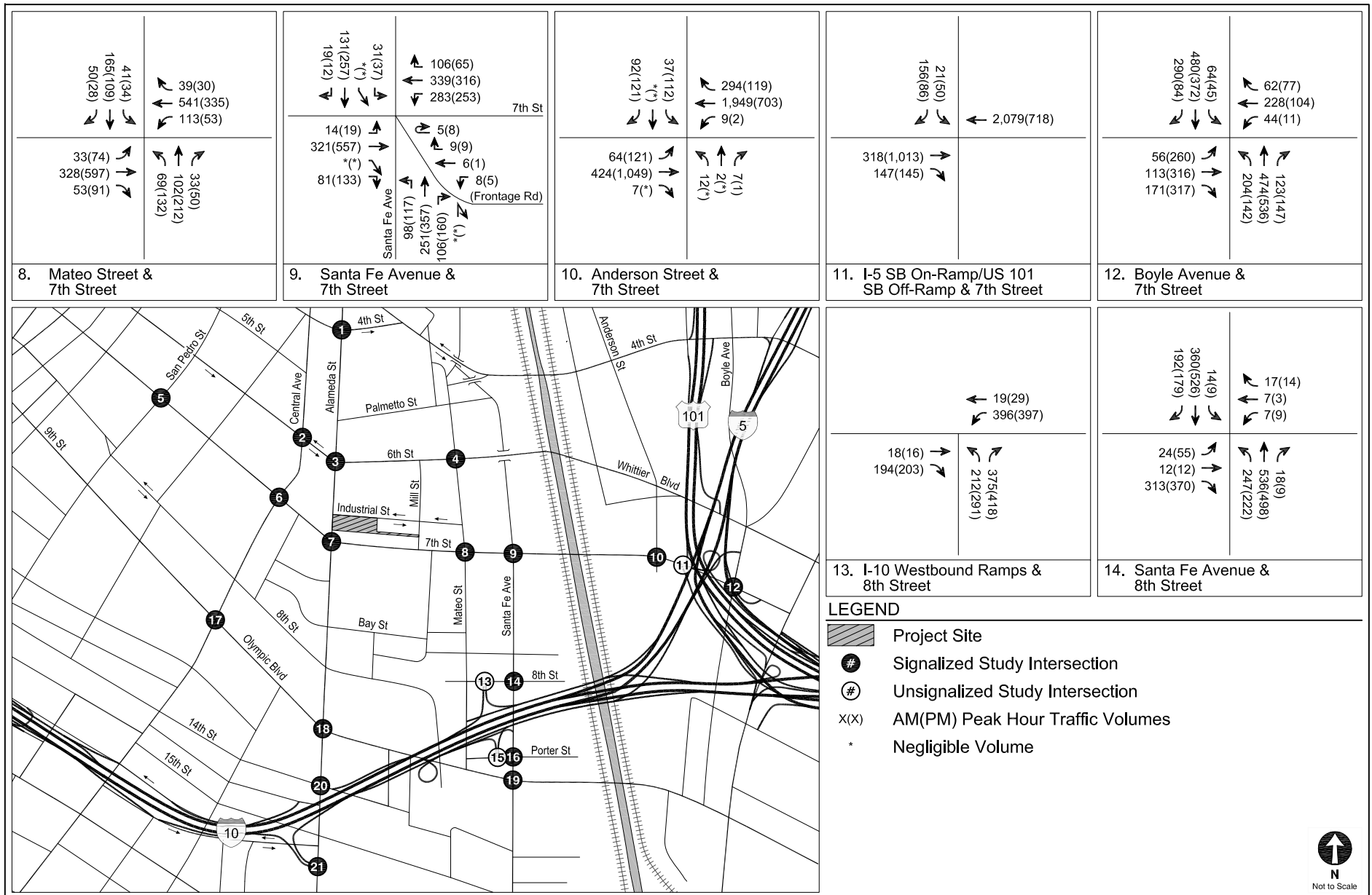
INTERSECTION LEVELS OF SERVICE

Table 9 summarizes the results of the Existing with Project Conditions during the weekday morning and afternoon peak hours for the 18 signalized study intersections. As shown in Table 9, all 18 signalized study intersections are anticipated to continue to operate at LOS D or better during both the morning and afternoon peak hours under Existing with Project Conditions.



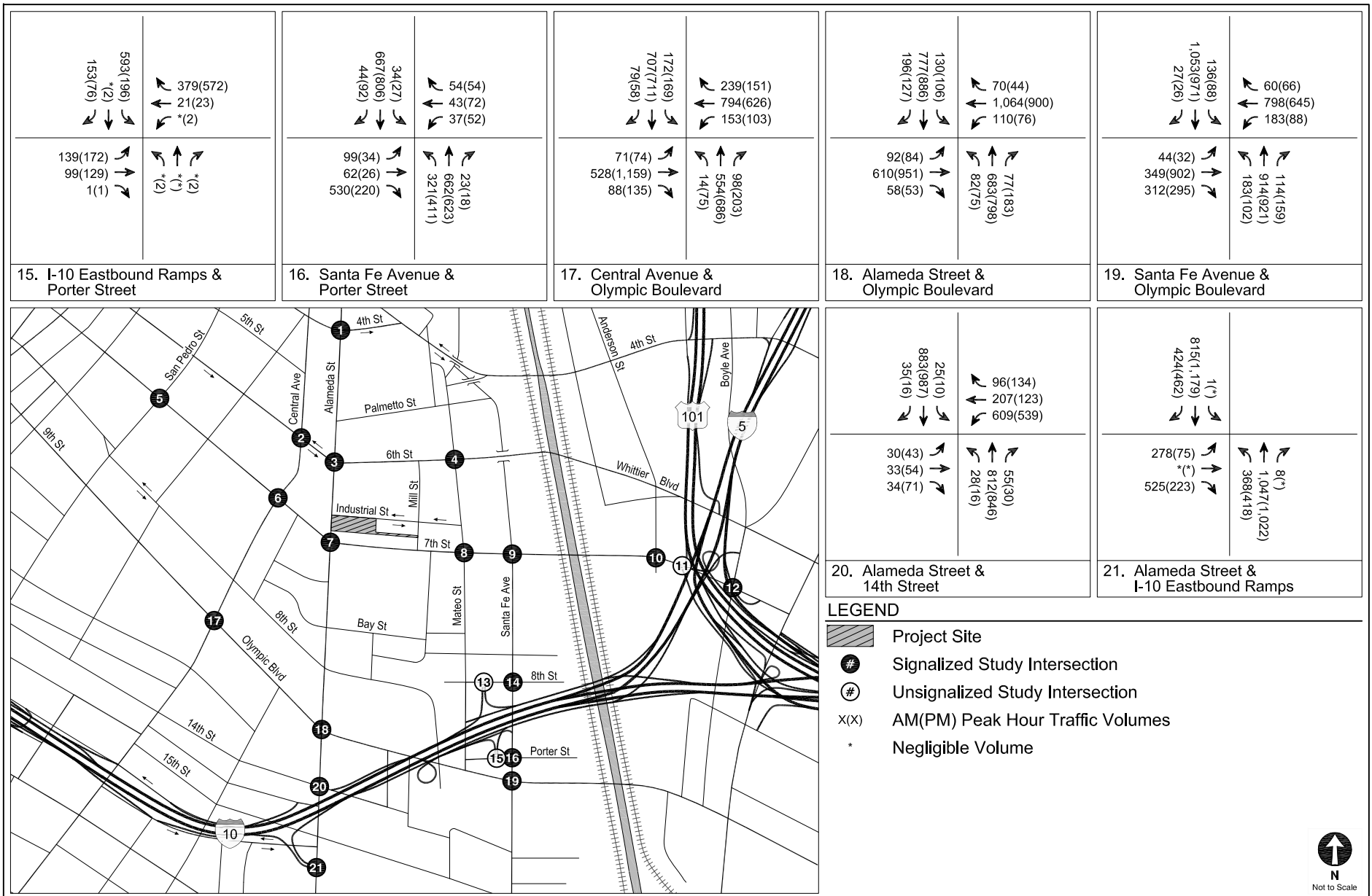
EXISTING WITH PROJECT CONDITIONS (YEAR 2016)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
11



EXISTING WITH PROJECT CONDITIONS (YEAR 2016)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
11 (CONT.)



EXISTING WITH PROJECT CONDITIONS (YEAR 2016)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
11 (CONT.)

**TABLE 9
EXISTING WITH PROJECT CONDITIONS
SIGNALIZED INTERSECTION PEAK HOUR LEVELS OF SERVICE**

| No. | Signalized Intersection | Peak Hour | Existing Conditions | | Existing with Project Conditions | | | |
|-----|---------------------------------------|-----------|---------------------|-----|----------------------------------|-----|---------------|--------------------|
| | | | V/C | LOS | V/C | LOS | Change in V/C | Significant Impact |
| 1. | Alameda Street & 4th Street | AM | 0.283 | A | 0.294 | A | 0.011 | NO |
| | | PM | 0.627 | B | 0.635 | B | 0.008 | NO |
| 2. | Central Avenue & 6th Street | AM | 0.415 | A | 0.419 | A | 0.004 | NO |
| | | PM | 0.653 | B | 0.661 | B | 0.008 | NO |
| 3. | Alameda Street & 6th Street | AM | 0.570 | A | 0.588 | A | 0.018 | NO |
| | | PM | 0.612 | B | 0.647 | B | 0.035 | NO |
| 4. | Mateo Street & 6th Street | AM | 0.395 | A | 0.402 | A | 0.007 | NO |
| | | PM | 0.442 | A | 0.445 | A | 0.003 | NO |
| 5. | San Pedro Street & 7th Street | AM | 0.504 | A | 0.510 | A | 0.006 | NO |
| | | PM | 0.578 | A | 0.582 | A | 0.004 | NO |
| 6. | Central Avenue & 7th Street | AM | 0.553 | A | 0.559 | A | 0.006 | NO |
| | | PM | 0.595 | A | 0.617 | B | 0.022 | NO |
| 7. | Alameda Street & 7th Street | AM | 0.640 | B | 0.670 | B | 0.030 | NO |
| | | PM | 0.635 | B | 0.658 | B | 0.023 | NO |
| 8. | Mateo Street & 7th Street | AM | 0.326 | A | 0.332 | A | 0.006 | NO |
| | | PM | 0.414 | A | 0.450 | A | 0.036 | NO |
| 9. | Santa Fe Avenue & 7th Street | AM | 0.468 | A | 0.477 | A | 0.009 | NO |
| | | PM | 0.643 | B | 0.659 | B | 0.016 | NO |
| 10. | Anderson Street & 7th Street | AM | 0.780 | C | 0.785 | C | 0.005 | NO |
| | | PM | 0.401 | A | 0.410 | A | 0.009 | NO |
| 12. | Boyle Avenue & 7th Street | AM | 0.579 | A | 0.580 | A | 0.001 | NO |
| | | PM | 0.499 | A | 0.502 | A | 0.003 | NO |
| 14. | Santa Fe Avenue & 8th Street | AM | 0.495 | A | 0.496 | A | 0.001 | NO |
| | | PM | 0.584 | A | 0.587 | A | 0.003 | NO |
| 16. | Santa Fe Avenue & Porter Street | AM | 0.544 | A | 0.548 | A | 0.004 | NO |
| | | PM | 0.650 | B | 0.652 | B | 0.002 | NO |
| 17. | Central Avenue & Olympic Boulevard | AM | 0.565 | A | 0.567 | A | 0.002 | NO |
| | | PM | 0.811 | D | 0.818 | D | 0.007 | NO |
| 18. | Alameda Street & Olympic Boulevard | AM | 0.663 | B | 0.679 | B | 0.016 | NO |
| | | PM | 0.673 | B | 0.683 | B | 0.010 | NO |
| 19. | Santa Fe Avenue & Olympic Boulevard | AM | 0.736 | C | 0.739 | C | 0.003 | NO |
| | | PM | 0.714 | C | 0.719 | C | 0.005 | NO |
| 20. | Alameda Street & 14th Street | AM | 0.591 | A | 0.596 | A | 0.005 | NO |
| | | PM | 0.609 | B | 0.614 | B | 0.005 | NO |
| 21. | Alameda Street & I-10 Eastbound Ramps | AM | 0.661 | B | 0.667 | B | 0.006 | NO |
| | | PM | 0.680 | B | 0.688 | B | 0.008 | NO |

Chapter 6

Future with Project Conditions

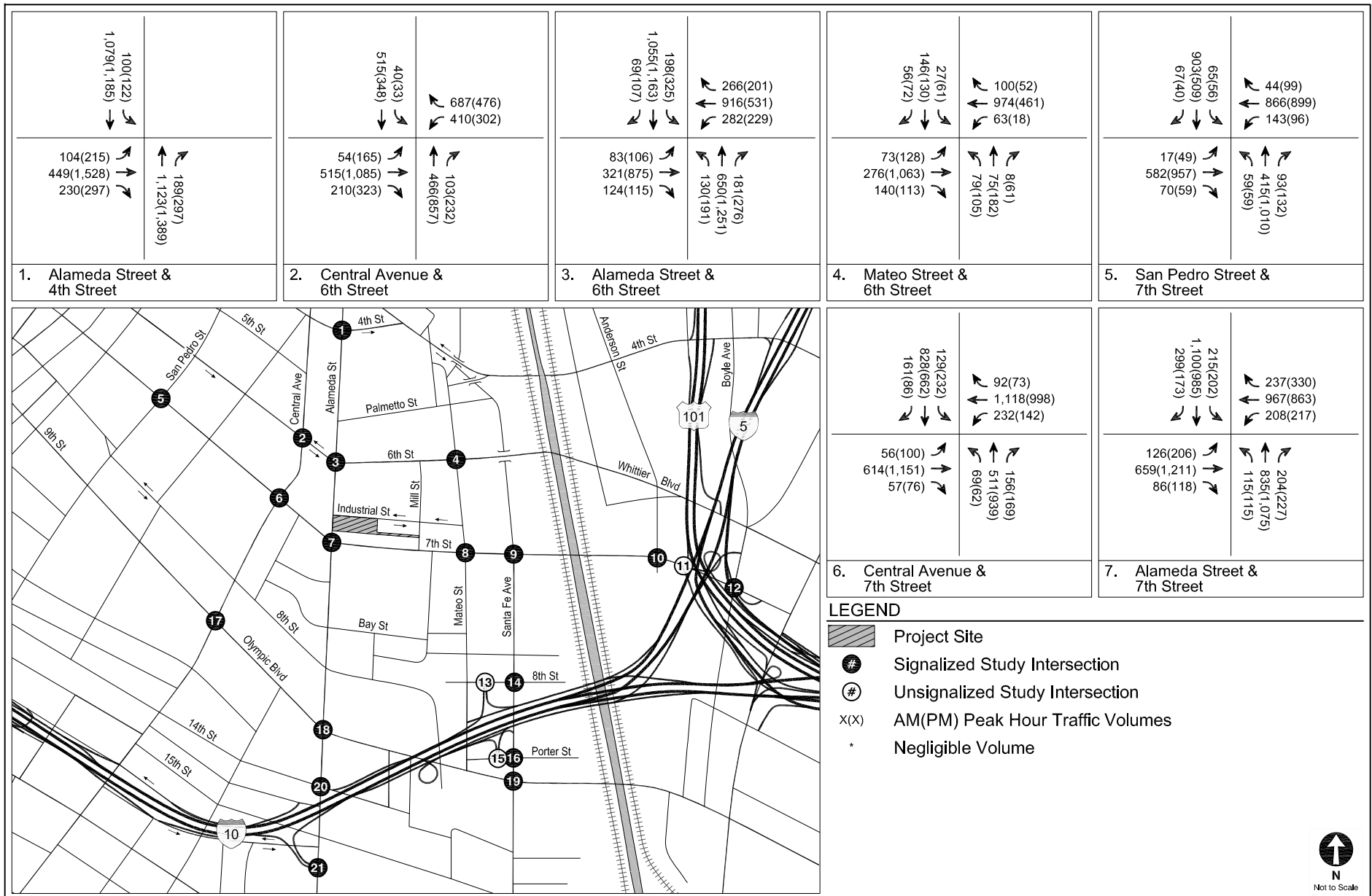
This chapter describes the results of the analysis of intersection operating conditions associated with the Project when compared to future cumulative (Future without Project) conditions. The analysis Year 2022 corresponds to the anticipated buildout year of the Project, respectively. All future cumulative traffic growth (i.e., Ambient and Related Project traffic growth) and transportation infrastructure improvements described in Chapter 3 are incorporated into this analysis.

TRAFFIC VOLUMES

The Project-only morning and afternoon peak hour traffic volumes described in Chapter 4 and shown in Figure 10 were added to the Future without Project (Year 2022) morning and afternoon peak hour traffic volumes shown in Figure 7. The resulting volumes are illustrated in Figure 12 and represent Future with Project Conditions after development of the Project in Year 2022.

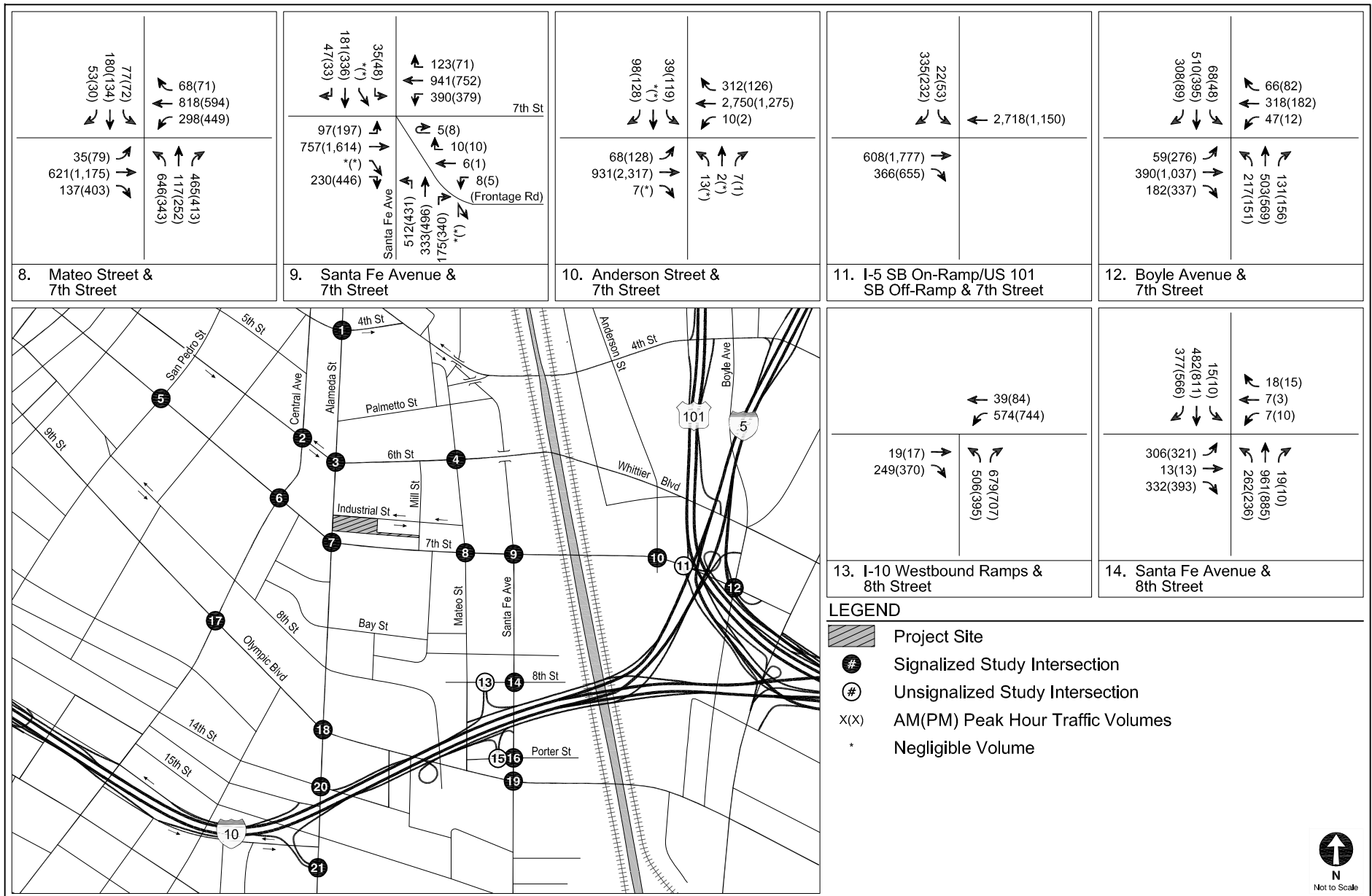
INTERSECTION LEVELS OF SERVICE

Table 10 summarizes the results of the Future with Project Conditions during the weekday morning and afternoon peak hours for the 18 signalized study intersections. As shown in Table 10, four of the 18 signalized study intersections are anticipated to continue to operate at LOS D or better during both the morning and afternoon peak hours under Future with Project Conditions. The remaining 14 intersections are anticipated to operate at LOS E or F during at least one of the peak hours.



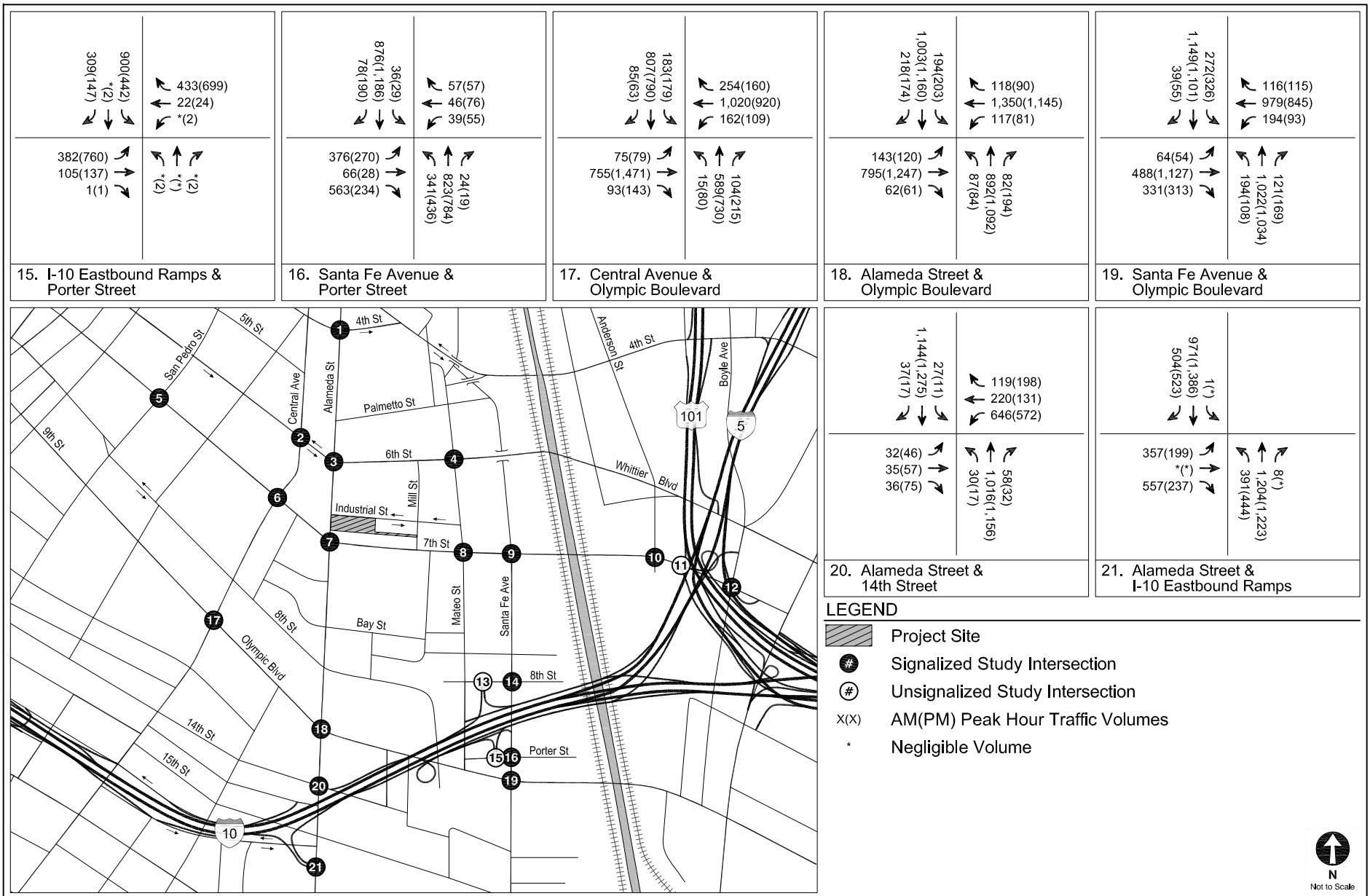
FUTURE WITH PROJECT CONDITIONS (YEAR 2022)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
12



FUTURE WITH PROJECT CONDITIONS (YEAR 2022)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
12 (CONT.)



FUTURE WITH PROJECT CONDITIONS (YEAR 2022)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
12 (CONT.)

TABLE 10
FUTURE WITH PROJECT CONDITIONS (YEAR 2022)
SIGNALIZED INTERSECTION PEAK HOUR LEVELS OF SERVICE

| No. | Signalized Intersection | Peak Hour | Future without Project Conditions | | Future with Project Conditions | | | |
|-----|---------------------------------------|-----------|-----------------------------------|-----|--------------------------------|-----|---------------|--------------------|
| | | | V/C | LOS | V/C | LOS | Change in V/C | Significant Impact |
| 1. | Alameda Street & 4th Street | AM | 0.547 | A | 0.557 | A | 0.010 | NO |
| | | PM | 0.922 | E | 0.931 | E | 0.009 | NO |
| 2. | Central Avenue & 6th Street | AM | 0.618 | B | 0.622 | B | 0.004 | NO |
| | | PM | 0.927 | E | 0.935 | E | 0.008 | NO |
| 3. | Alameda Street & 6th Street | AM | 0.842 | D | 0.859 | D | 0.017 | NO |
| | | PM | 1.144 | F | 1.172 | F | 0.028 | YES |
| 4. | Mateo Street & 6th Street | AM | 0.505 | A | 0.512 | A | 0.007 | NO |
| | | PM | 0.575 | A | 0.577 | A | 0.002 | NO |
| 5. | San Pedro Street & 7th Street | AM | 0.619 | B | 0.625 | B | 0.006 | NO |
| | | PM | 0.733 | C | 0.737 | C | 0.004 | NO |
| 6. | Central Avenue & 7th Street | AM | 0.883 | D | 0.889 | D | 0.006 | NO |
| | | PM | 0.925 | E | 0.944 | E | 0.019 | YES |
| 7. | Alameda Street & 7th Street | AM | 0.953 | E | 0.983 | E | 0.030 | YES |
| | | PM | 1.095 | F | 1.118 | F | 0.023 | YES |
| 8. | Mateo Street & 7th Street | AM | 1.195 | F | 1.221 | F | 0.026 | YES |
| | | PM | 1.409 | F | 1.445 | F | 0.036 | YES |
| 9. | Santa Fe Avenue & 7th Street | AM | 1.114 | F | 1.128 | F | 0.014 | YES |
| | | PM | 1.543 | F | 1.559 | F | 0.016 | YES |
| 10. | Anderson Street & 7th Street | AM | 1.062 | F | 1.066 | F | 0.004 | NO |
| | | PM | 0.833 | D | 0.839 | D | 0.006 | NO |
| 12. | Boyle Avenue & 7th Street | AM | 0.676 | B | 0.677 | B | 0.001 | NO |
| | | PM | 0.957 | E | 0.962 | E | 0.005 | NO |
| 14. | Santa Fe Avenue & 8th Street | AM | 0.999 | E | 1.002 | F | 0.003 | NO |
| | | PM | 1.019 | F | 1.021 | F | 0.002 | NO |
| 16. | Santa Fe Avenue & Porter Street | AM | 0.835 | D | 0.838 | D | 0.003 | NO |
| | | PM | 1.008 | F | 1.010 | F | 0.002 | NO |
| 17. | Central Avenue & Olympic Boulevard | AM | 0.671 | B | 0.674 | B | 0.003 | NO |
| | | PM | 0.955 | E | 0.962 | E | 0.007 | NO |
| 18. | Alameda Street & Olympic Boulevard | AM | 0.922 | E | 0.939 | E | 0.017 | YES |
| | | PM | 0.944 | E | 0.956 | E | 0.012 | YES |
| 19. | Santa Fe Avenue & Olympic Boulevard | AM | 0.955 | E | 0.959 | E | 0.004 | NO |
| | | PM | 1.047 | F | 1.053 | F | 0.006 | NO |
| 20. | Alameda Street & 14th Street | AM | 0.706 | C | 0.712 | C | 0.006 | NO |
| | | PM | 0.733 | C | 0.737 | C | 0.004 | NO |
| 21. | Alameda Street & I-10 Eastbound Ramps | AM | 0.792 | C | 0.797 | C | 0.005 | NO |
| | | PM | 0.865 | D | 0.872 | D | 0.007 | NO |

Chapter 7

Transportation Impact Analysis

The relative impact of the added Project traffic volumes during the peak hours was evaluated based on analysis of both existing and future operating conditions at the study intersections without and with the Project. The previously discussed significance criteria and thresholds summarized in Chapter 1 were then used to determine the significance of a transportation impact caused by the Project on the study intersection, prior to any Project mitigation or trip reduction measures.

EXISTING WITH PROJECT IMPACTS, BEFORE MITIGATION

The Existing with Project Conditions during the weekday morning and afternoon peak hours are shown in Table 9. The Project is not expected to result in a significant impact at any of the 18 signalized study intersections under Existing with Project Conditions, prior to Project mitigation.

FUTURE WITH PROJECT SIGNIFICANT IMPACTS, BEFORE MITIGATION

The Future with Project Conditions during the weekday morning and afternoon peak hours are shown in Table 10. Of the 18 signalized study intersections, the Project is expected to result in significant impacts at six intersections, prior to Project mitigation. The remaining 12 intersections are not expected to be significantly impacted by the Project under Future with Project Conditions. The six significantly impacted locations and affected peak hours are:

3. Alameda Street & 6th Street (afternoon peak hour)
6. Central Avenue & 7th Street (afternoon peak hour)
7. Alameda Street & 7th Street (morning and afternoon peak hours)
8. Mateo Street & 7th Street (morning and afternoon peak hours)
9. Santa Fe Avenue & 7th Street (morning and afternoon peak hours)
18. Alameda Street & Olympic Boulevard (morning and afternoon peak hours)

Chapter 8

Transportation Mitigation Program

This chapter describes the transportation mitigation measures that have been considered in order to mitigate the significant transportation impacts at study intersections associated with construction of the Project and to improve traffic operations in the Project vicinity. The various guidelines, methods, and assumptions mandated by LADOT, wherever applicable, have been used in the preparation of this analysis.

The various mitigation measures described in this chapter relate to the significant transportation impacts previously described with respect to the Existing with Project and Future with Project Conditions analyses presented in Chapter 7. As described in that chapter, under the Existing with Project Conditions, before mitigation, the Project is not expected to result in a significant transportation impact at any of the 18 signalized study intersections.

The Project is anticipated to result in significant transportation impacts under Future with Project (Year 2022) Conditions, before mitigation, at the following six intersections:

3. Alameda Street & 6th Street (afternoon peak hour)
6. Central Avenue & 7th Street (afternoon peak hour)
7. Alameda Street & 7th Street (morning and afternoon peak hours)
8. Mateo Street & 7th Street (morning and afternoon peak hours)
9. Santa Fe Avenue & 7th Street (morning and afternoon peak hours)
18. Alameda Street & Olympic Boulevard (morning and afternoon peak hours)

TRANSPORTATION MITIGATION MEASURES

The mitigations investigated for the Project include the following major components:

-
1. Implementation of a TDM program for the Project Site to promote peak period trip reduction
 2. Transportation Systems Management (TSM) improvements, including traffic signal controller updates and installation of closed circuit television (CCTV)
 3. Areawide Transportation Management Organization (TMO) to increase transit and mode choices in the Study Area
 4. Intersection Improvement Measures, including physical improvement measures such as roadway re-striping, minor widening, and signal phasing enhancements

These mitigation measures are consistent with the City of Los Angeles policies and procedures that support improvements that reduce greenhouse gas emissions by reducing the use of single-occupant vehicle trips, encourage developers to construct transit and pedestrian-friendly projects with safe and walkable sidewalks, and promote other modes of travel.

TDM PROGRAM

The TDM program outlined below details a set of strategies proposed for the Project designed to reduce peak hour vehicular traffic to and from the Project Site. It is a comprehensive program of design features, transportation services, education programs, and incentive programs intended to reduce the impact of traffic from employees and visitors to the Project Site during the most congested time periods of the day. The Project shall develop and implement a TDM program to promote non-auto travel, reduce the use of single-occupant vehicle trips, etc. The TDM program would be subject to review and approval by the City of Los Angeles (Department of City Planning and LADOT). The strategies in the TDM program can include, but are not necessarily limited to, the following:

- Transportation Information Center, educational programs, kiosks and/or other measures
- Promotion and support of carpools and rideshare
- Bicycle amenities such as racks and showers
- Incentives for using alternative travel modes
- Parking incentives and administrative support for formation of carpools/vanpools
- On-site TDM coordinator
- Contribution to the City of Los Angeles Bicycle Plan Trust Fund for implementation of bicycle improvements in the Project area

-
- Mobility hub providing amenities for transit, bike share, shared vehicles, etc.

TDM Program Strategies

The following provides further information and description of the TDM program strategies.

Educational Programs. A key component of a successful TDM program is to make residents, employers, and employees at the Project Site aware of the various programs offered. To this end, a TDM coordinator on the building management staff would reach out to residents, employers, and employees directly to promote the benefits of TDM.

A Transportation Information Center is a centrally-located commuter information center where project employees, tenants, and patrons can obtain information regarding commute programs, and individuals can obtain real-time information for planning travel without using an automobile. A Transportation Information Center will support orientation for new residents and employees as well as providing information about transit schedules, commute planning, rideshare, telecommuting, and bicycle and pedestrian plans.

Project Design Features to Promote Bicycling and Walking. A significant and growing number of people in the City prefer to ride bicycles or walk to their employment given sufficient facilities to make the commute feel safe and convenient. The Project would incorporate features for bicyclists and pedestrians, such as exclusive access points, secured bicycle parking facilities or a bicycle valet system, a bicycle sharing or rental program, or showers. Additionally, the Project Site would be designed to be a friendly and convenient environment for pedestrians.

Incentives for Using Alternative Travel Modes. The TDM program could incorporate various incentives for use of its programs. For example, carpool and vanpool users could be offered preferential load/unload areas or convenient designated parking spaces. Unbundled parking is a program wherein parking spaces are rented separately from the building space, which allows for a separate charge for parking and the flexibility to vary the number of spaces rented. Unbundling parking is an essential first step toward getting people to understand the economic cost of parking. Without unbundled parking, tenants often assume that parking is free.

Mobility Hub Support Opportunities. The Project would review opportunities to support existing and/or future efforts by LADOT to provide first-mile and last-mile service for transit users through the mobility hub program. Mobility hubs, typically located at or near public transit centers, would provide amenities such as, but not limited to, bicycle parking and rentals, short-term vehicle rentals, and transit information. It can also include space for a bike share kiosk and/or on-site parking spaces for car-share vehicles. In cooperation with the proposed TMO in the Arts District detailed below, the Project could provide space for similar amenities at the Project Site to complement future mobility hubs in the Study Area.

Bikeway Improvements. The Project would contribute a one-time fixed fee to be deposited into the Bicycle Plan Trust Fund to implement bicycle improvements in the Arts District under the 2010 Bicycle Plan and the Mobility Plan.

Project Trip Reduction from the TDM Program

The combined effect of the various strategies implemented as part of the TDM program would result in a reduction in peak hour trip generation by offering services, actions, specific facilities, etc., aimed at encouraging use of alternative transportation modes (e.g., transit, bus, walking, bicycling, carpool, etc.) *Trip Generation Handbook, 3rd Edition* provides a summary of research of TDM programs at many different employers. Case studies of TDM program implementations are detailed in Appendix K. At places that had the most comprehensive programs, including both economic incentives (e.g., transit passes, etc.) and support services, the programs resulting in an average 24% reduction in commuter vehicles. Thus, as an achievable but conservative estimate, an overall TDM trip reduction credit of 10% was assumed.

Table 11 summarizes the estimated trip reduction during the peak hours. As shown, the TDM program is expected to result in a reduction of 447 daily trips, including 33 morning peak hour trips and 40 afternoon peak hour trips. The Project, when fully built and occupied and with implementation of the TDM program, would generate a total of 3,555 daily trips, including 256 morning peak hour trips (93 inbound, 163 outbound) and 321 afternoon peak hour trips (193 inbound, 128 outbound).

The trip generation estimates with peak hour trip reductions from the TDM program were assigned through the study intersections using the trip distribution patterns illustrated in Figure 9. The Project-only morning and afternoon peak hour traffic volumes after implementation of the TDM program as part of the Project's mitigation are shown in Figure 13.

TSM IMPROVEMENTS

Potential TSM strategies typically studied as part of transportation impact analyses include: Signal Controller Upgrades, CCTV Cameras and System Loops. LADOT has determined that TSM improvements could improve traffic operations and increase intersection capacity by approximately 1% along a corridor.

A review of the Study Area by the LADOT ATSAC Division showed that no TSM improvements were needed in the Study Area and, therefore, this element is not available for Project mitigation.

DOWNTOWN/ARTS DISTRICT TMO

A TMO is an organization that oversees the development, implementation, and operation of TDM strategies within a particular study area. Developers, building owners, and businesses are members of the TMO, funding upfront donations and/or annual dues to support the activities of the TMO.

The City is in the process of forming a Downtown Los Angeles TMO and there is discussion as to whether the TMO would treat Downtown Los Angeles as one study area or whether the area would be divided into separate districts. Under either approach, the Arts District would likely be covered by a TMO.

The Arts District community is a strong candidate for alternative modes of transportation, including walking and bicycling, carpooling and vanpooling, use of public transit, short-term automobile rentals, etc. The Downtown/Arts District TMO would be an organization that helps to promote these services to the community by providing information about available public transportation options and matching people into ridesharing services.

The Applicant proposes to contribute to the formation of an Arts District TMO / Arts District portion of a Downtown TMO to address these needs and help alleviate current and future traffic congestion throughout the area. The TMO services would be available to anyone within the general Arts District community, not just residents and tenants of the proposed Project.

Travel analyses in urban Los Angeles show that more than half of the trips within a specific urban zone have a trip length of less than five miles. Therefore, approximately 50% of trips in the Downtown/Arts District TMO area have the potential to be directly reduced by the TMO programs.

The Downtown/Arts District TMO is expected to approach the levels of effectiveness of the Warner Center, Century City, and Burbank TMOs in that it will reduce the number of trips originating or ending within the Arts District TMO area. To this end, over the next two decades, it could reduce single-passenger automobile trips by as much as 15% while increasing transit ridership, use of ridesharing, and non-automotive modes of transportation such as walking and bicycling. Overall, this could lead to as much as a 10% reduction in vehicular traffic for trips originating or ending within the Downtown/Arts District TMO area, which is a 7% overall reduction in vehicular traffic.

Developer Credit

The Applicant will agree to contribute to the Arts District TMO / Arts District portion of a Downtown TMO following approval of its Project by becoming a member, participating in, and contributing to TMO operations and marketing efforts. While the City of Los Angeles is still in the early stages of establishing the Downtown/Arts District TMO, similar TMO organizations in Los Angeles have initial budgets of \$200,000 to set up and run the first year and additional funds to maintain and operate each year thereafter. These costs include development of the TMO, the salary of a part-time TMO manager, and marketing. It is anticipated that with more than 30 projects proposed for the Arts District, other major projects will want to join the TMO and participate in the trip-reducing programs of the organization.

In exchange, the 668 S. Alameda Street Mixed-Use Project would receive credit from LADOT for a 1% increase in the intersection capacity of the Study Area intersections as a result of the

trip reduction programs operated by the TMO. Other major projects in the Study Area could make similar initial contributions to the TMO and similar commitments to annual dues and receive similar credits for trip reductions/intersection capacity increases.

SPECIFIC INTERSECTION IMPROVEMENT MEASURES

Intersection improvements designed to alleviate the significant impacts of the Project consist of physical improvements (such as minor widening) and signal phasing enhancements. Widening and/or other improvements to the intersections would be designed to meet the requirements of LADOT, the City of Los Angeles Bureau of Engineering, and/or Caltrans, based on the jurisdiction responsible for the intersections.

The intersection improvements discussed below were considered at study intersections where the Project would result in a significant transportation impact that would not be mitigated to a level of insignificance with the implementation of the TDM and TMO programs. However, these improvements were not recommended by LADOT for the reasons noted below and, therefore, would not be implemented as part of the mitigation program.

3. Alameda Street & 6th Street

Although implementation of the TDM program and an areawide TMO to increase transit and mode choices in the Study Area would reduce the transportation impact identified at this intersection, the impact would still remain significant without additional physical improvement measures. The transportation impact at this intersection could be mitigated to less than significant levels by widening and restriping along Alameda Street to provide an exclusive northbound right-turn lane. The resulting northbound approach would consist of one left-turn lane, two through lanes, and one right-turn lane. However, this improvement cannot be accommodated within the existing right-of-way and would require substantial acquisition of private property. Due to the lack of available roadway width, and given the physical constraints of the existing intersection geometry, this improvement is not practical or desirable. The addition of roadway capacity and through travel lanes would also be inconsistent with the street

standards and goals of the Mobility Plan. Thus, the impact would be considered significant and unavoidable.

7. Alameda Street & 7th Street

Although implementation of the TDM program and an areawide TMO to increase transit and mode choices in the Study Area would reduce the transportation impact identified at this intersection, the impact would still remain significant without additional physical improvement measures. The significant transportation impact at this intersection could be mitigated by widening and restriping along Alameda Street to provide an exclusive northbound right-turn lane and along 7th Street to provide an exclusive westbound right-turn lane. The resulting northbound and westbound approaches would consist of one left-turn lane, two through lanes, and one right-turn lane. However, this improvement cannot be accommodated within the existing right-of-way, and would require substantial acquisition of private property. Due to the lack of available roadway width, and given the physical constraints of the existing intersection geometry, this improvement is not practical or desirable. The addition of roadway capacity and through travel lanes would also be inconsistent with the street standards and goals of the Mobility Plan. Thus, the impact would be considered significant and unavoidable.

8. Mateo Street & 7th Street

Although implementation of the TDM program and an areawide TMO to increase transit and mode choices in the Study Area would reduce the transportation impact identified at this intersection, the impact would still remain significant without additional physical improvement measures. The significant transportation impact at this intersection could be mitigated and reduced to less than significant levels by restriping along the south leg of Mateo Street to provide an exclusive northbound left-turn lane. The resulting northbound approach would consist of one left-turn lane and one shared through/right-turn lane. This improvement could be accommodated within the existing roadway width through re-striping; however, it would require the removal of up to five on-street unmetered parking spaces on the east side of Mateo Street. Based on discussion with LADOT, due to the intersection geometry and lane transitions across the intersection, as well as the loss of public on-street unmetered parking spaces, the

improvement was determined to be not feasible. Due to the lack of available roadway width and given the physical constraints of the existing intersection geometry, without roadway widening and additional right-of-way, this improvement is not practical or desirable. Wider roadway widths to accommodate vehicles at the expense of larger sidewalks and pedestrian amenities would also be inconsistent with the street standards and goals of the Mobility Plan. Thus, the impact would be considered significant and unavoidable. A conceptual plan of the improvement is provided in Appendix L.

MITIGATION EFFECTIVENESS

The components of the Project's mitigation program described above would result in peak hour trip reductions from the implementation of the TDM program and operational improvements as a result of the TMO program. The effectiveness of the proposed transportation mitigation program was analyzed by applying the appropriate trip generation reductions and capacity enhancements from the implementation of the TDM and TMO programs that collectively comprise the mitigation measures. This results in the Existing with Project with Mitigation and Future with Project with Mitigation Conditions for the Project. The intersections were analyzed using the methodology described in Chapter 1.

The Project-only with Mitigation traffic volumes illustrated in Figure 13 were added to the existing morning and afternoon peak hour traffic volumes shown in Figure 4, resulting in the Existing with Project with Mitigation Conditions traffic volumes, illustrated in Figure 14. The Project-only with Mitigation traffic volumes illustrated in Figure 13 were also added to the Future without Project morning and afternoon peak hour traffic volumes shown in Figure 7, resulting in the Future with Project with Mitigation Conditions traffic volumes, illustrated in Figure 15.

EXISTING WITH PROJECT WITH MITIGATION CONDITIONS

Table 12 summarizes the results of the Existing with Project with Mitigation Conditions during the weekday morning and afternoon peak hours for the study intersections. As shown in Table 12, after mitigation, the incremental increases in V/C ratios at all 18 signalized study

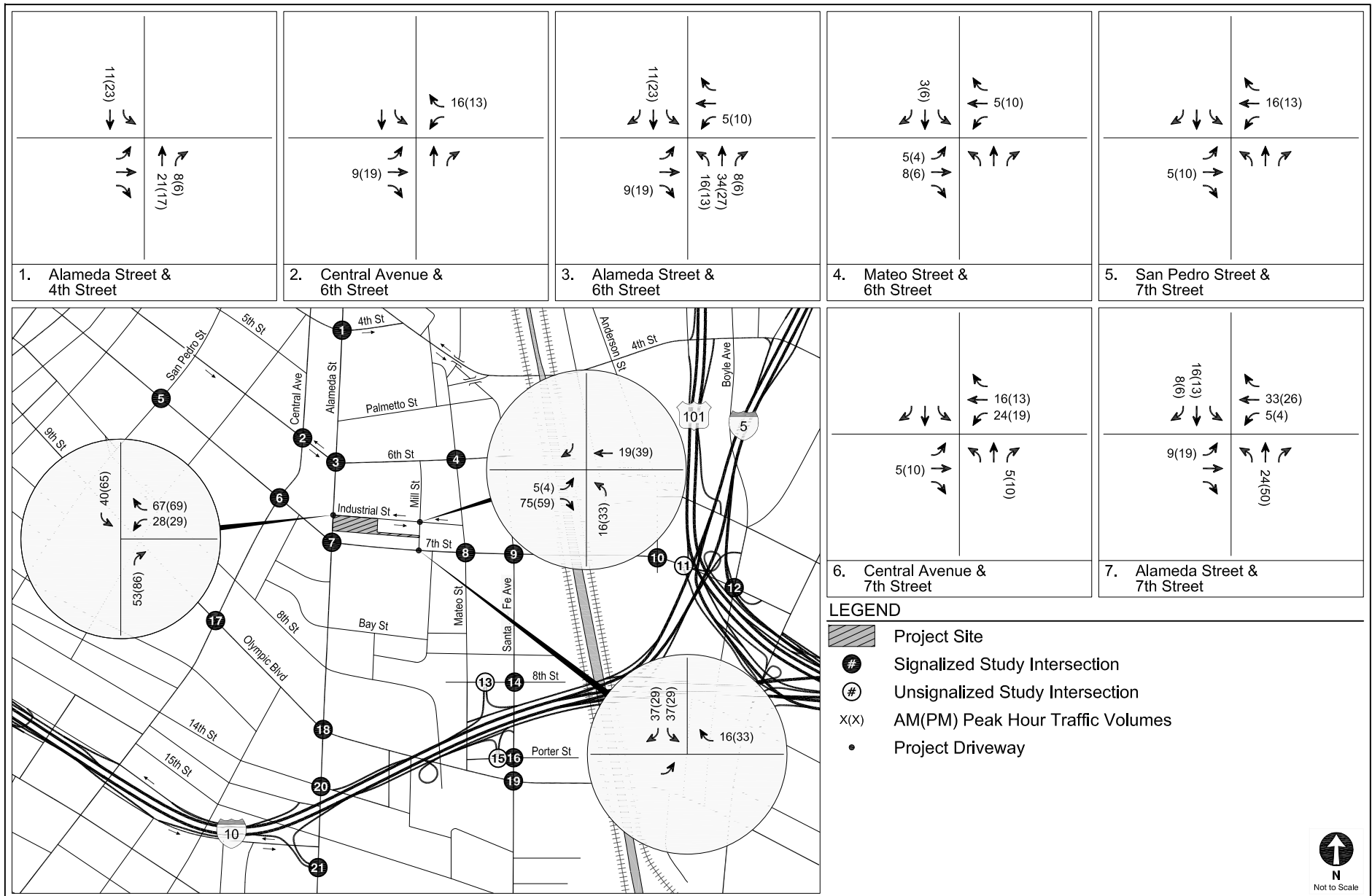
intersections would remain at less than significant levels under Existing with Project with Mitigation Conditions.

FUTURE WITH PROJECT WITH MITIGATION CONDITIONS

Table 13 summarizes the results of the Future with Project with Mitigation Conditions during the weekday morning and afternoon peak hours for the 18 signalized study intersections. It also shows the resulting significant impacts after implementation of all of the mitigation measures discussed in this chapter. As shown in Table 13, the following three signalized study intersections would remain significantly impacted by Project traffic after mitigation:

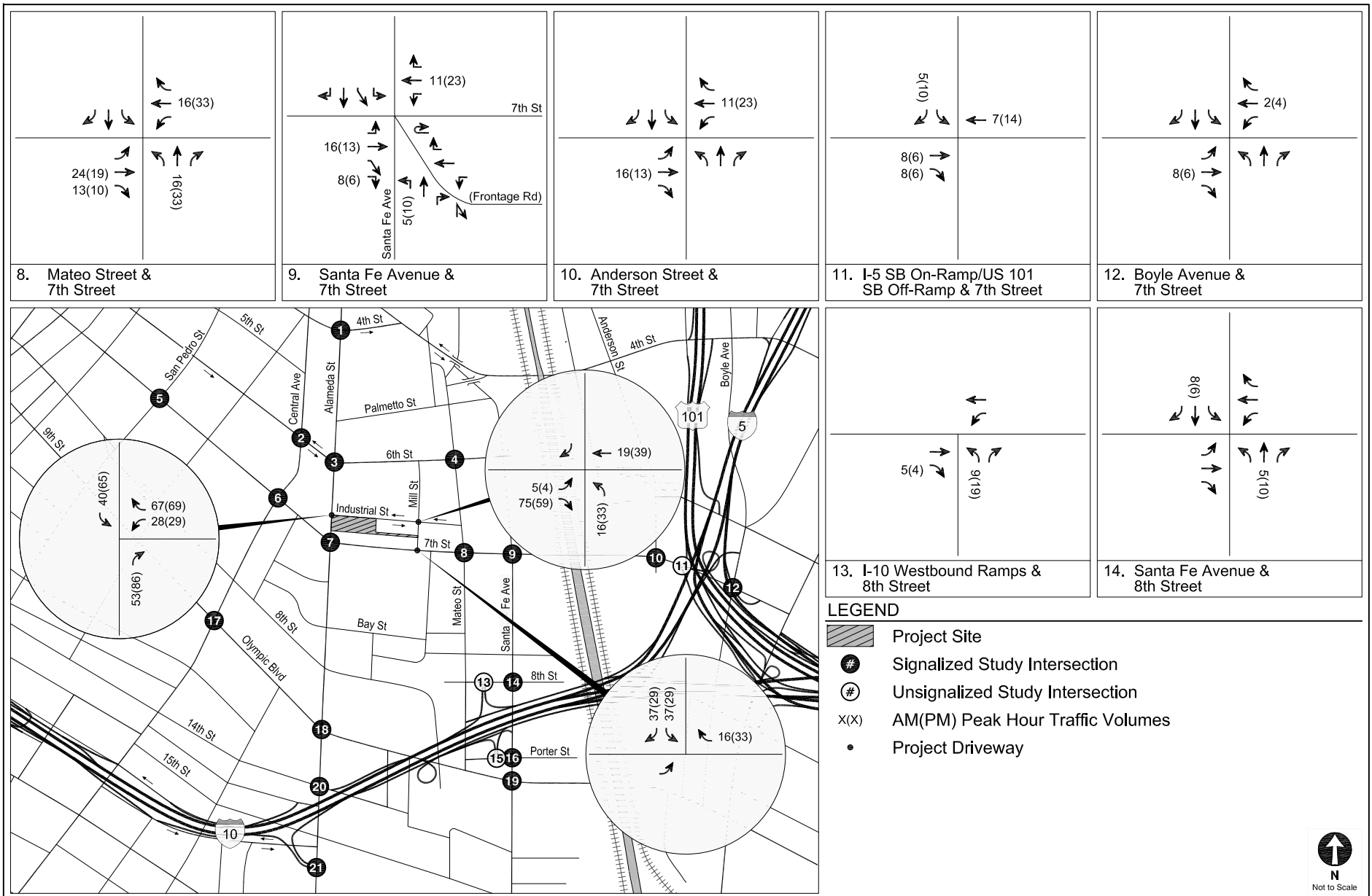
3. Alameda Street & 6th Street (afternoon peak hour)
7. Alameda Street & 7th Street (morning and afternoon peak hours)
8. Mateo Street & 7th Street (morning and afternoon peak hours)

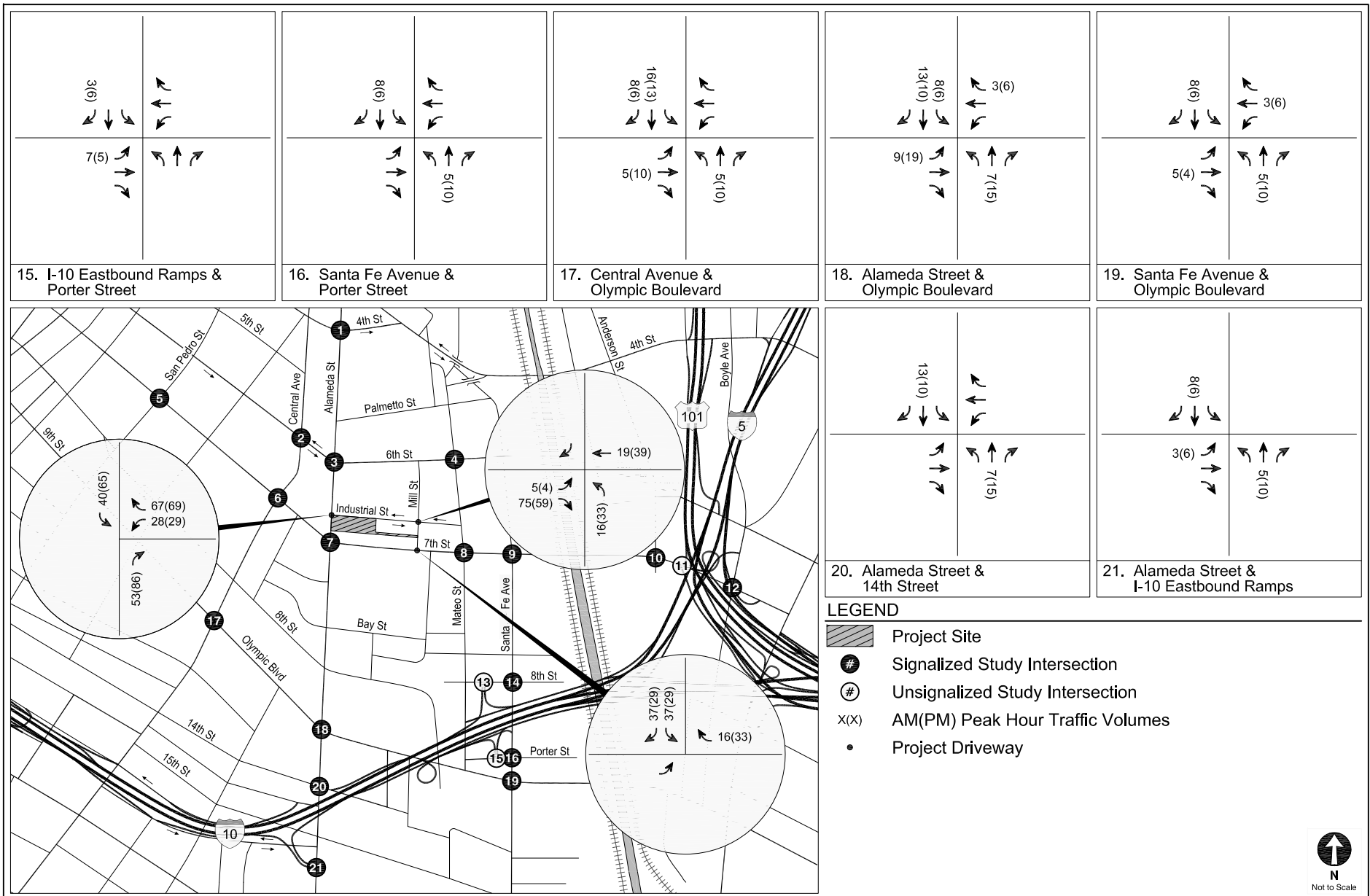
It is important to note that an overall TDM trip reduction credit of 10% was applied to the Project trip generation, which is highly achievable and conservative. Regardless of a more aggressive TDM trip reduction credit, the Project would still trigger significant impacts at the three signalized study intersections listed above.



PROJECT-ONLY WITH MITIGATION
PEAK HOUR TRAFFIC VOLUMES

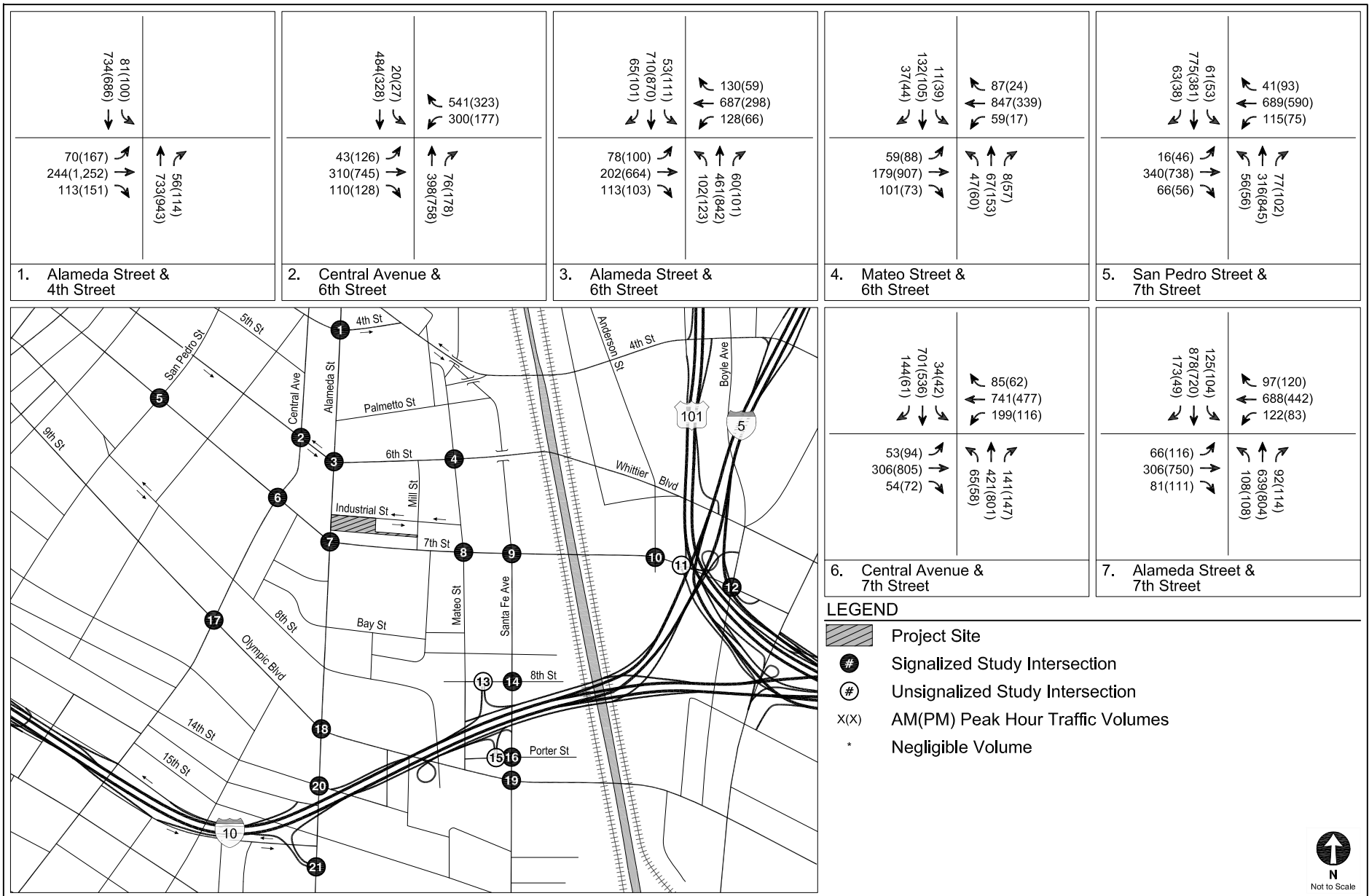
FIGURE
13





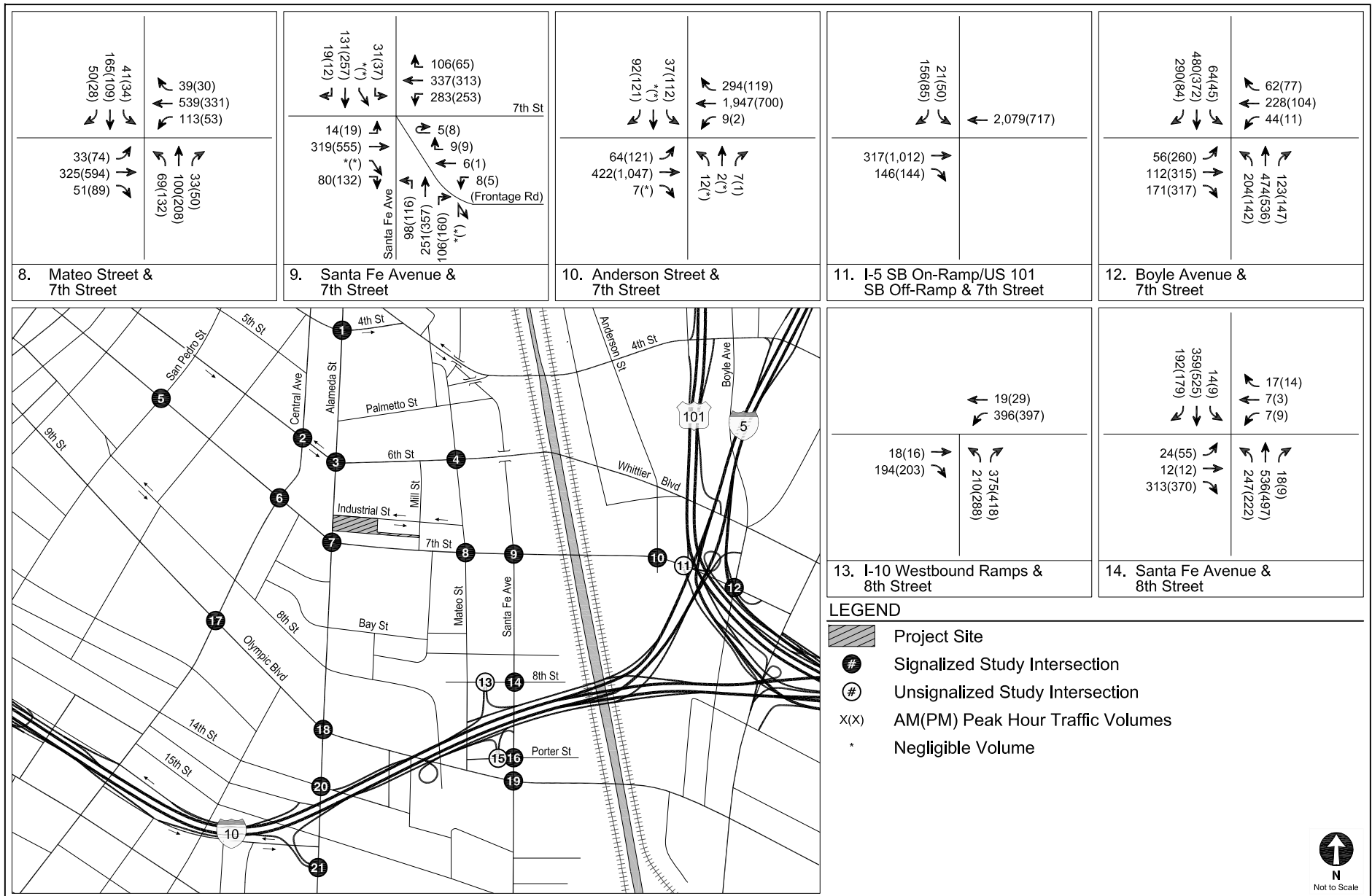
PROJECT-ONLY WITH MITIGATION
PEAK HOUR TRAFFIC VOLUMES

FIGURE
13 (CONT.)



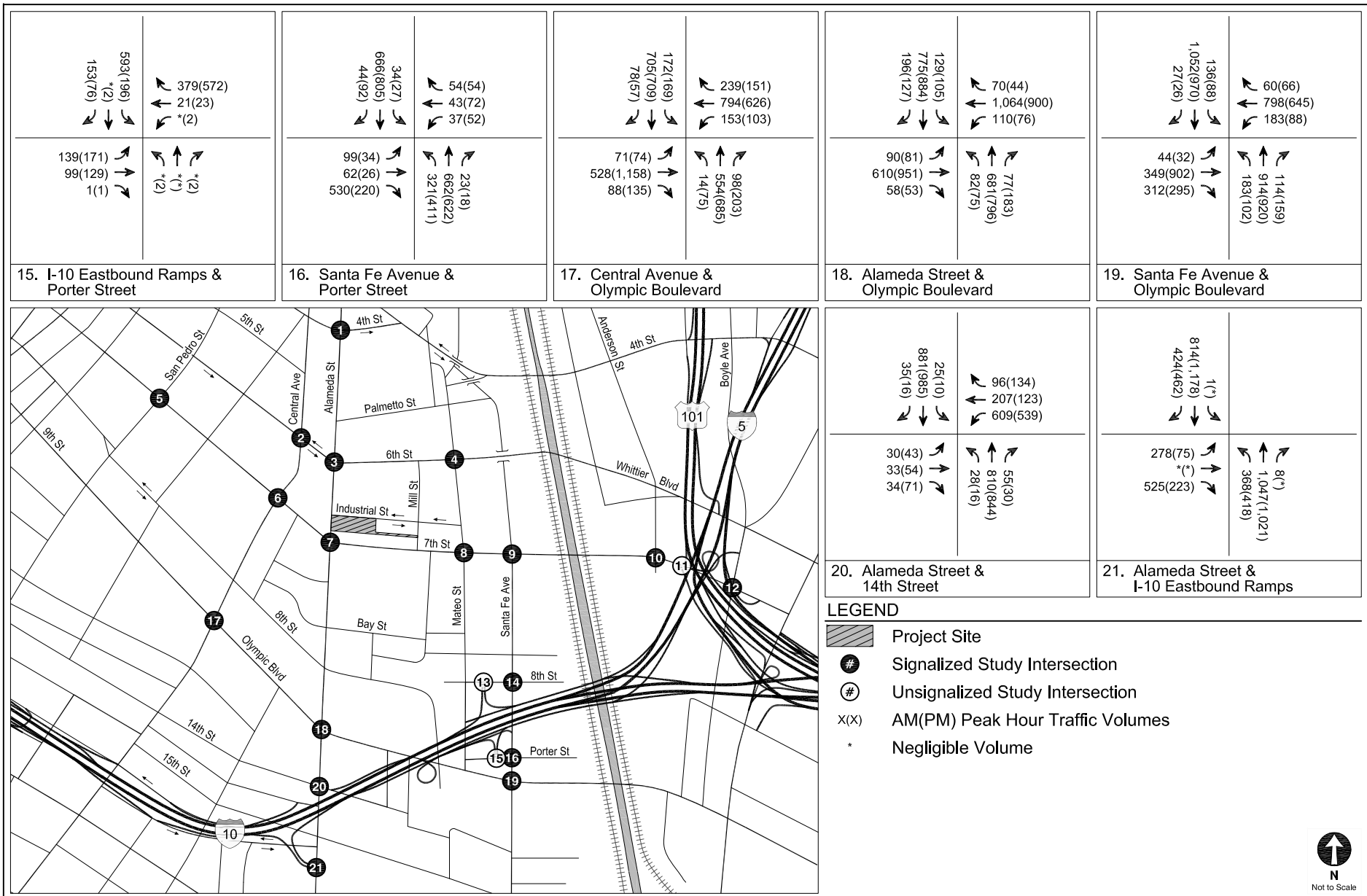
EXISTING WITH PROJECT WITH MITIGATION CONDITIONS (YEAR 2016)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
14



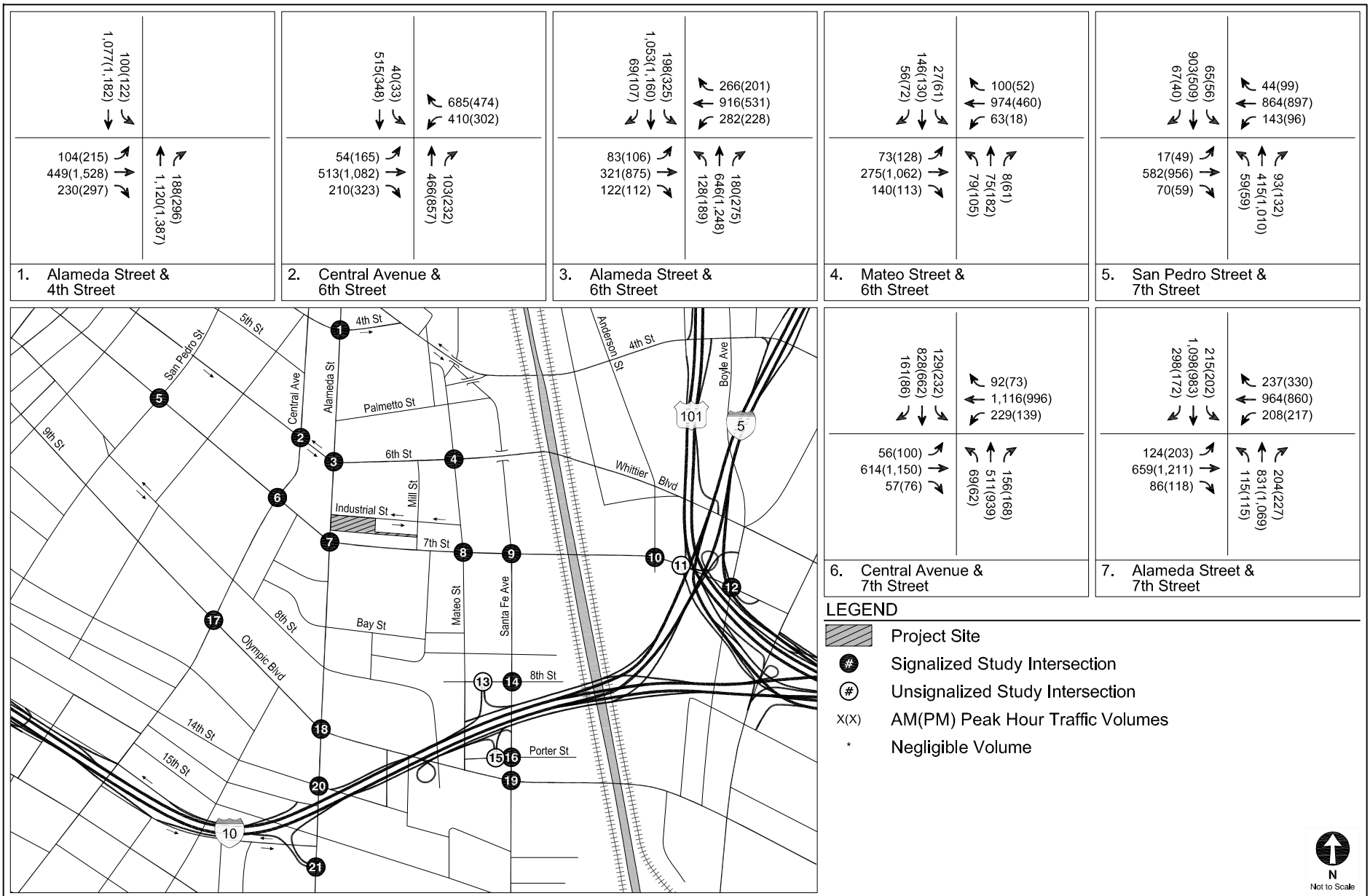
EXISTING WITH PROJECT WITH MITIGATION CONDITIONS (YEAR 2016)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
14 (CONT.)



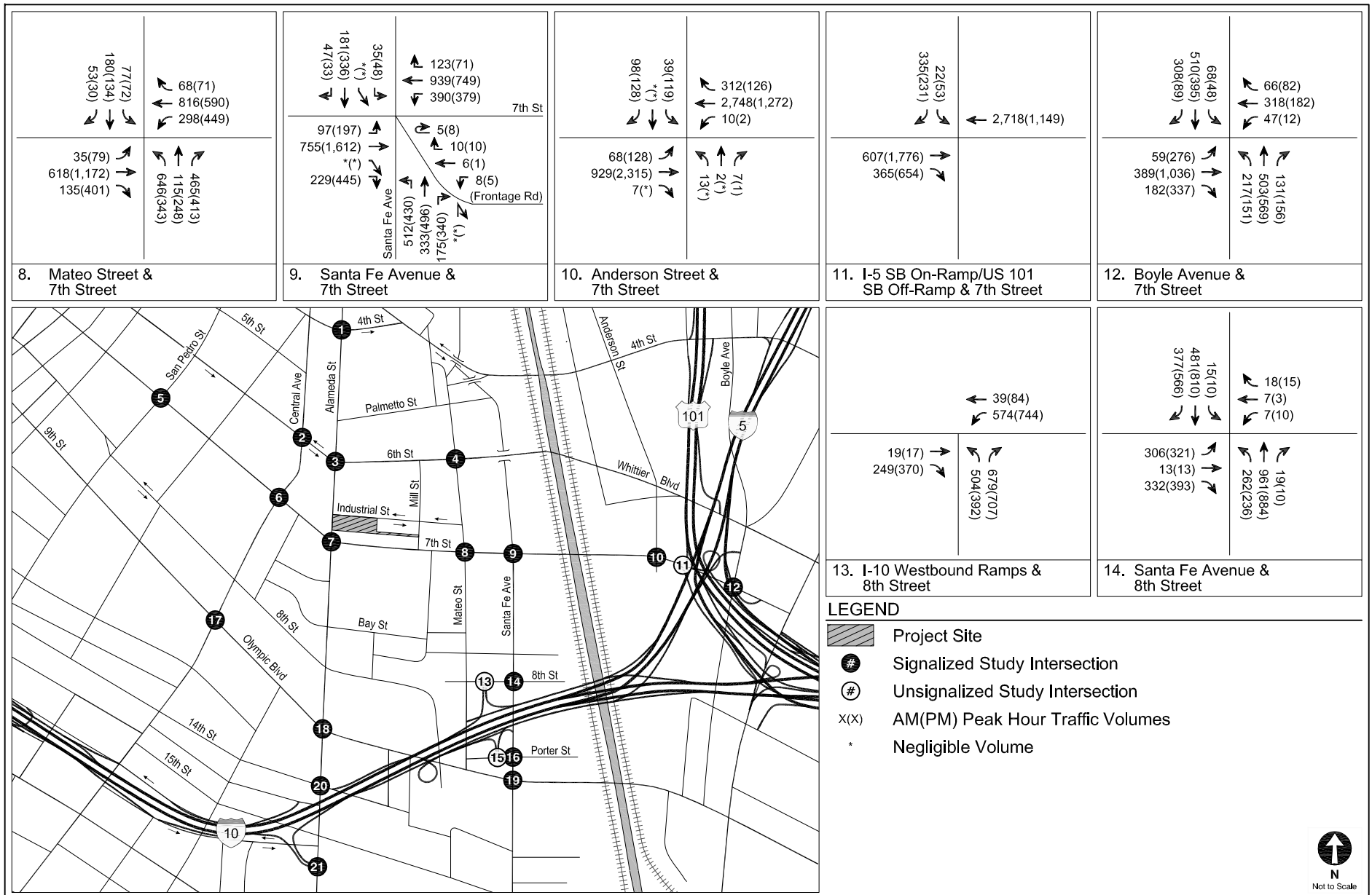
EXISTING WITH PROJECT WITH MITIGATION CONDITIONS (YEAR 2016)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
14 (CONT.)



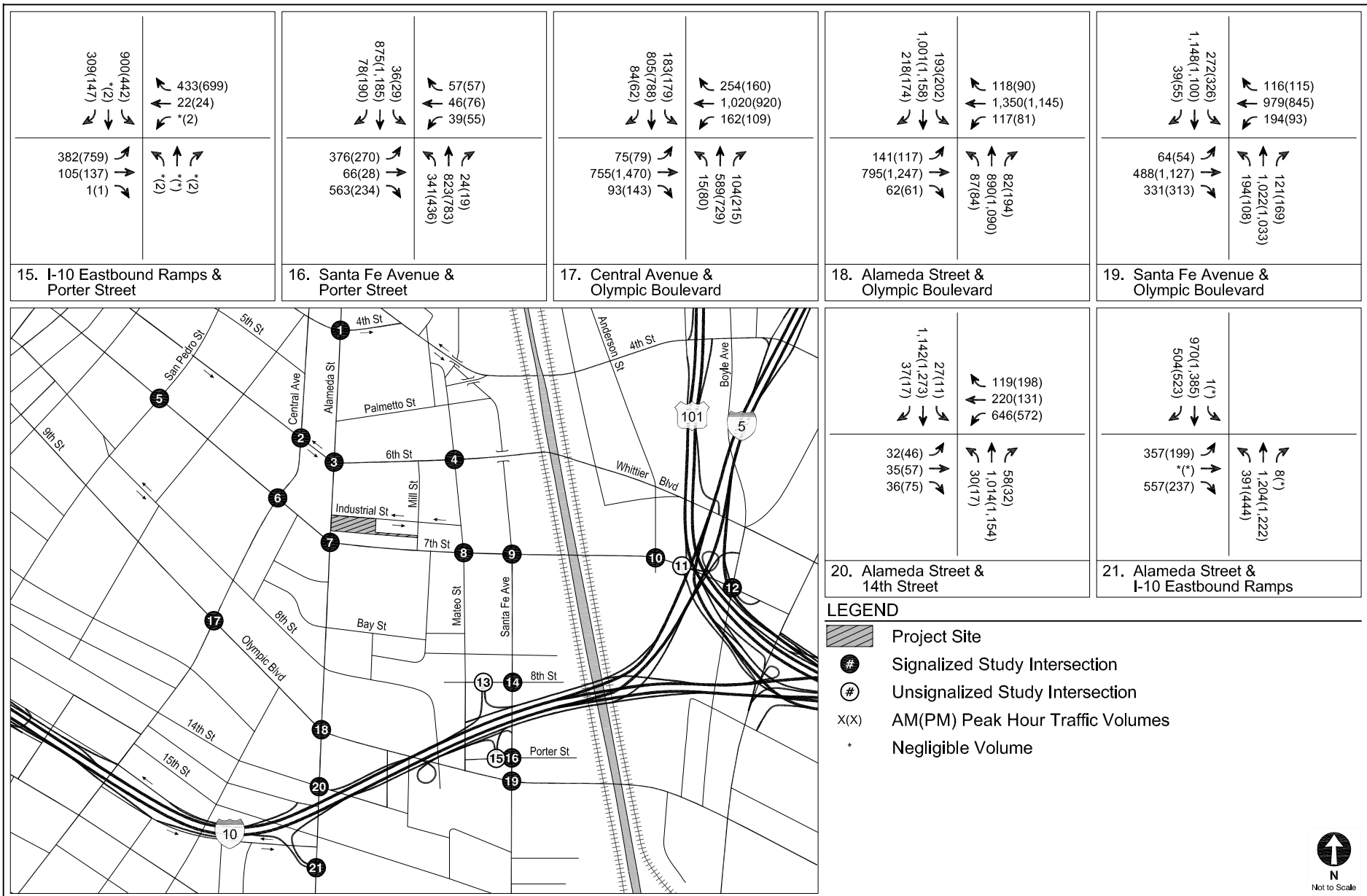
FUTURE WITH PROJECT WITH MITIGATION CONDITIONS (YEAR 2022)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
15



FUTURE WITH PROJECT WITH MITIGATION CONDITIONS (YEAR 2022)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
15 (CONT.)



FUTURE WITH PROJECT WITH MITIGATION CONDITIONS (YEAR 2022)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
15 (CONT.)

**TABLE 11
PROJECT TRIP GENERATION ESTIMATES WITH TDM REDUCTION PROGRAM**

| TRIP GENERATION RATES [a] | | | | | | | | | |
|-----------------------------|--------------|---------|--------|----------------|-----|-------|----------------|-----|-------|
| Land Use | ITE Land Use | Rate | Daily | A.M. Peak Hour | | | P.M. Peak Hour | | |
| | | | | In | Out | Total | In | Out | Total |
| Warehouse | 150 | per ksf | 3.56 | 79% | 21% | 0.30 | 25% | 75% | 0.32 |
| Apartment | 220 | per du | 6.65 | 20% | 80% | 0.51 | 65% | 35% | 0.62 |
| Specialty Retail Center [b] | 826 | per ksf | 44.32 | 62% | 38% | 0.96 | 44% | 56% | 2.71 |
| General Office Building | 710 | per ksf | 11.03 | 88% | 12% | 1.56 | 17% | 83% | 1.49 |
| Restaurant | 932 | per ksf | 127.15 | 55% | 45% | 10.81 | 60% | 40% | 9.85 |
| Supermarket | 850 | per ksf | 102.24 | 62% | 38% | 3.40 | 51% | 49% | 9.48 |
| | | | | | | | | | |

| TRIP GENERATION ESTIMATES | | | | | | | | | |
|---|--------------|------------|-------|----------------|------|-------|----------------|------|-------|
| Land Use | ITE Land Use | Size | Daily | A.M. Peak Hour | | | P.M. Peak Hour | | |
| | | | | In | Out | Total | In | Out | Total |
| Existing Uses | | | | | | | | | |
| Warehouse | 150 | 131.35 ksf | 468 | 31 | 8 | 39 | 11 | 31 | 42 |
| TOTAL - EXISTING | | | 468 | 31 | 8 | 39 | 11 | 31 | 42 |
| Proposed Uses | | | | | | | | | |
| Live-Work Apartment [c] | 220 | 475 du | 3,159 | 48 | 194 | 242 | 192 | 103 | 295 |
| Transit/Walk-In Credit- 15% [d] | | | (474) | (7) | (29) | (36) | (29) | (15) | (44) |
| Internal Capture - 20% [e] | | | (537) | (8) | (33) | (41) | (33) | (17) | (50) |
| Live-Work Office [f] | 710 | 25.2 ksf | 278 | 34 | 5 | 39 | 6 | 32 | 38 |
| Transit/Walk-In Credit- 15% [d] | | | (42) | (5) | (1) | (6) | (1) | (5) | (6) |
| Live-Work Subtotal | | | 2,384 | 62 | 136 | 198 | 135 | 98 | 233 |
| TDM Reduction Program - 10% | | | (238) | (6) | (14) | (20) | (14) | (9) | (23) |
| Live-Work Subtotal with TDM | | | 2,146 | 56 | 122 | 178 | 121 | 89 | 210 |
| Specialty Retail | 826 | 17.5 ksf | 777 | 11 | 6 | 17 | 21 | 27 | 48 |
| Transit/Walk-In Credit- 15% [d] | | | (117) | (2) | (1) | (3) | (3) | (4) | (7) |
| Internal Capture - 20% [e] | | | (132) | (2) | (1) | (3) | (4) | (4) | (8) |
| Passby Credit - 50% [g] | | | (264) | (4) | (2) | (6) | (7) | (10) | (17) |
| Office | 710 | 7.9 ksf | 87 | 11 | 1 | 12 | 2 | 10 | 12 |
| Transit/Walk-In Credit- 15% [d] | | | (13) | (2) | 0 | (2) | 0 | (2) | (2) |
| Internal Capture - 20% [e] | | | (15) | (2) | 0 | (2) | 0 | (2) | (2) |
| Restaurant | 932 | 16.3 ksf | 2,070 | 97 | 79 | 176 | 96 | 64 | 160 |
| Transit/Walk-In Credit- 15% [d] | | | (311) | (15) | (11) | (26) | (14) | (10) | (24) |
| Internal Capture - 20% [e] | | | (352) | (16) | (14) | (30) | (16) | (11) | (27) |
| Passby Credit - 20% [g] | | | (281) | (13) | (11) | (24) | (13) | (9) | (22) |
| Supermarket | 850 | 15.3 ksf | 1,561 | 32 | 20 | 52 | 74 | 71 | 145 |
| Transit/Walk-In Credit- 15% [d] | | | (234) | (5) | (3) | (8) | (11) | (11) | (22) |
| Internal Capture - 20% [e] | | | (265) | (5) | (4) | (9) | (13) | (12) | (25) |
| Passby Credit - 40% [g] | | | (425) | (9) | (5) | (14) | (20) | (19) | (39) |
| Ground Floor Commercial Subtotal | | | 2,086 | 76 | 54 | 130 | 92 | 78 | 170 |
| TDM Reduction Program - 10% | | | (209) | (8) | (5) | (13) | (9) | (8) | (17) |
| Ground Floor Commercial Subtotal with TDM | | | 1,877 | 68 | 49 | 117 | 83 | 70 | 153 |
| NET NEW WITHOUT TDM REDUCTION PROGRAM | | | 4,002 | 107 | 182 | 289 | 216 | 145 | 361 |
| TDM REDUCTION PROGRAM ONLY | | | -447 | -14 | -19 | -33 | -23 | -17 | -40 |
| NET NEW TRIPS WITH TDM REDUCTION PROGRAM | | | 3,555 | 93 | 163 | 256 | 193 | 128 | 321 |

Notes:

ksf: 1,000 square feet

du: dwelling units

[a] Source: *Trip Generation, 9th Edition*, Institute of Transportation Engineers, 2012.

[b] AM rate for specialty retail is not provided in *Trip Generation, 9th Edition*, thus the AM rate for retail shopping center (ITE 820) was used.

[c] Live-work units include residents living and working in conjunction and thus do not generate traditional AM outbound and PM inbound trips. Therefore, use of the apartment rates applied to all 475 live-work units provide a conservative analysis.

[d] Per LADOT's *Transportation Impact Study Guidelines* (LADOT, December 2016), the Project Site is located within 1/4 mile of a Metro RapidBus stop (Metro 760), therefore a 15% transit adjustment was applied to account for transit usage and walking visitor arrivals from the surrounding neighborhoods and adjacent commercial developments, and for arrivals via taxi, tour bus, and carpool services.

[e] Internal capture adjustments account for person trips made between distinct land uses within a mixed-use development without using an off-site road system.

[f] Live-work units may include external trips to/from the office portion of the live-work units. Based on the minimum size requirement of the work portion in a live-work unit (150 sf) 168 units, of which can provide sufficient office space within the live-work units (greater than 1,000 sf, excluding outside balcony space), can be assumed to generate external office trips (e.g. employees).

[g] Pass-by adjustments account for Project trips made as an intermediate stop on the way from an origin to a primary trip destination without route diversion.

**TABLE 12
EXISTING WITH PROJECT WITH MITIGATION CONDITIONS
SIGNALIZED INTERSECTION PEAK HOUR LEVELS OF SERVICE**

| No. | Signalized Intersection | Peak Hour | Existing | | Existing with Project Conditions | | | | Existing with Project with Mitigation Conditions | | | |
|-----|---------------------------------------|-----------|----------|-----|----------------------------------|-----|---------------|--------------------|--|-----|---------------|--------------------|
| | | | V/C | LOS | V/C | LOS | Change in V/C | Significant Impact | V/C | LOS | Change in V/C | Significant Impact |
| 1. | Alameda Street & 4th Street | AM | 0.283 | A | 0.294 | A | 0.011 | NO | 0.283 | A | 0.000 | NO |
| | | PM | 0.627 | B | 0.635 | B | 0.008 | NO | 0.625 | B | -0.002 | NO |
| 2. | Central Avenue & 6th Street | AM | 0.415 | A | 0.419 | A | 0.004 | NO | 0.408 | A | -0.007 | NO |
| | | PM | 0.653 | B | 0.661 | B | 0.008 | NO | 0.650 | B | -0.003 | NO |
| 3. | Alameda Street & 6th Street | AM | 0.570 | A | 0.588 | A | 0.018 | NO | 0.576 | A | 0.006 | NO |
| | | PM | 0.612 | B | 0.647 | B | 0.035 | NO | 0.633 | B | 0.021 | NO |
| 4. | Mateo Street & 6th Street | AM | 0.395 | A | 0.402 | A | 0.007 | NO | 0.392 | A | -0.003 | NO |
| | | PM | 0.442 | A | 0.445 | A | 0.003 | NO | 0.434 | A | -0.008 | NO |
| 5. | San Pedro Street & 7th Street | AM | 0.504 | A | 0.510 | A | 0.006 | NO | 0.499 | A | -0.005 | NO |
| | | PM | 0.578 | A | 0.582 | A | 0.004 | NO | 0.571 | A | -0.007 | NO |
| 6. | Central Avenue & 7th Street | AM | 0.553 | A | 0.559 | A | 0.006 | NO | 0.549 | A | -0.004 | NO |
| | | PM | 0.595 | A | 0.617 | B | 0.022 | NO | 0.604 | B | 0.009 | NO |
| 7. | Alameda Street & 7th Street | AM | 0.640 | B | 0.670 | B | 0.030 | NO | 0.657 | B | 0.017 | NO |
| | | PM | 0.635 | B | 0.658 | B | 0.023 | NO | 0.646 | B | 0.011 | NO |
| 8. | Mateo Street & 7th Street | AM | 0.326 | A | 0.332 | A | 0.006 | NO | 0.321 | A | -0.005 | NO |
| | | PM | 0.414 | A | 0.450 | A | 0.036 | NO | 0.436 | A | 0.022 | NO |
| 9. | Santa Fe Avenue & 7th Street | AM | 0.468 | A | 0.477 | A | 0.009 | NO | 0.321 | A | -0.147 | NO |
| | | PM | 0.643 | B | 0.659 | B | 0.016 | NO | 0.436 | A | -0.207 | NO |
| 10. | Anderson Street & 7th Street | AM | 0.780 | C | 0.785 | C | 0.005 | NO | 0.774 | C | -0.006 | NO |
| | | PM | 0.401 | A | 0.410 | A | 0.009 | NO | 0.399 | A | -0.002 | NO |
| 12. | Boyle Avenue & 7th Street | AM | 0.579 | A | 0.580 | A | 0.001 | NO | 0.570 | A | -0.009 | NO |
| | | PM | 0.499 | A | 0.502 | A | 0.003 | NO | 0.492 | A | -0.007 | NO |
| 14. | Santa Fe Avenue & 8th Street | AM | 0.495 | A | 0.496 | A | 0.001 | NO | 0.486 | A | -0.009 | NO |
| | | PM | 0.584 | A | 0.587 | A | 0.003 | NO | 0.576 | A | -0.008 | NO |
| 16. | Santa Fe Avenue & Porter Street | AM | 0.544 | A | 0.548 | A | 0.004 | NO | 0.537 | A | -0.007 | NO |
| | | PM | 0.650 | B | 0.652 | B | 0.002 | NO | 0.642 | B | -0.008 | NO |
| 17. | Central Avenue & Olympic Boulevard | AM | 0.565 | A | 0.567 | A | 0.002 | NO | 0.557 | A | -0.008 | NO |
| | | PM | 0.811 | D | 0.818 | D | 0.007 | NO | 0.808 | D | -0.003 | NO |
| 18. | Alameda Street & Olympic Boulevard | AM | 0.663 | B | 0.679 | B | 0.016 | NO | 0.667 | B | 0.004 | NO |
| | | PM | 0.673 | B | 0.683 | B | 0.010 | NO | 0.672 | B | -0.001 | NO |
| 19. | Santa Fe Avenue & Olympic Boulevard | AM | 0.736 | C | 0.739 | C | 0.003 | NO | 0.729 | C | -0.007 | NO |
| | | PM | 0.714 | C | 0.719 | C | 0.005 | NO | 0.709 | C | -0.005 | NO |
| 20. | Alameda Street & 14th Street | AM | 0.591 | A | 0.596 | A | 0.005 | NO | 0.585 | A | -0.006 | NO |
| | | PM | 0.609 | B | 0.614 | B | 0.005 | NO | 0.603 | B | -0.006 | NO |
| 21. | Alameda Street & I-10 Eastbound Ramps | AM | 0.661 | B | 0.667 | B | 0.006 | NO | 0.656 | B | -0.005 | NO |
| | | PM | 0.680 | B | 0.688 | B | 0.008 | NO | 0.677 | B | -0.003 | NO |

**TABLE 13
FUTURE WITH PROJECT CONDITIONS (YEAR 2022)
SIGNALIZED INTERSECTION PEAK HOUR LEVELS OF SERVICE**

| No. | Signalized Intersection | Peak Hour | Future without Project Conditions | | Future with Project Conditions | | | | Future with Project with Mitigation Conditions | | | |
|-----|---------------------------------------|-----------|-----------------------------------|-----|--------------------------------|-----|---------------|--------------------|--|-----|---------------|--------------------|
| | | | V/C | LOS | V/C | LOS | Change in V/C | Significant Impact | V/C | LOS | Change in V/C | Significant Impact |
| 1. | Alameda Street & 4th Street | AM | 0.547 | A | 0.557 | A | 0.010 | NO | 0.547 | A | 0.000 | NO |
| | | PM | 0.922 | E | 0.931 | E | 0.009 | NO | 0.920 | E | -0.002 | NO |
| 2. | Central Avenue & 6th Street | AM | 0.618 | B | 0.622 | B | 0.004 | NO | 0.611 | B | -0.007 | NO |
| | | PM | 0.927 | E | 0.935 | E | 0.008 | NO | 0.924 | E | -0.003 | NO |
| 3. | Alameda Street & 6th Street | AM | 0.842 | D | 0.859 | D | 0.017 | NO | 0.846 | D | 0.004 | NO |
| | | PM | 1.144 | F | 1.172 | F | 0.028 | YES | 1.159 | F | 0.015 | YES |
| 4. | Mateo Street & 6th Street | AM | 0.505 | A | 0.512 | A | 0.007 | NO | 0.501 | A | -0.004 | NO |
| | | PM | 0.575 | A | 0.577 | A | 0.002 | NO | 0.567 | A | -0.008 | NO |
| 5. | San Pedro Street & 7th Street | AM | 0.619 | B | 0.625 | B | 0.006 | NO | 0.615 | B | -0.004 | NO |
| | | PM | 0.733 | C | 0.737 | C | 0.004 | NO | 0.727 | C | -0.006 | NO |
| 6. | Central Avenue & 7th Street | AM | 0.883 | D | 0.889 | D | 0.006 | NO | 0.878 | D | -0.005 | NO |
| | | PM | 0.925 | E | 0.944 | E | 0.019 | YES | 0.931 | E | 0.006 | NO |
| 7. | Alameda Street & 7th Street | AM | 0.953 | E | 0.983 | E | 0.030 | YES | 0.969 | E | 0.016 | YES |
| | | PM | 1.095 | F | 1.118 | F | 0.023 | YES | 1.105 | F | 0.010 | YES |
| 8. | Mateo Street & 7th Street | AM | 1.195 | F | 1.221 | F | 0.026 | YES | 1.209 | F | 0.014 | YES |
| | | PM | 1.409 | F | 1.445 | F | 0.036 | YES | 1.431 | F | 0.022 | YES |
| 9. | Santa Fe Avenue & 7th Street | AM | 1.114 | F | 1.128 | F | 0.014 | YES | 1.116 | F | 0.002 | NO |
| | | PM | 1.543 | F | 1.559 | F | 0.016 | YES | 1.547 | F | 0.004 | NO |
| 10. | Anderson Street & 7th Street | AM | 1.062 | F | 1.066 | F | 0.004 | NO | 1.055 | F | -0.007 | NO |
| | | PM | 0.833 | D | 0.839 | D | 0.006 | NO | 0.828 | D | -0.005 | NO |
| 12. | Boyle Avenue & 7th Street | AM | 0.676 | B | 0.677 | B | 0.001 | NO | 0.667 | B | -0.009 | NO |
| | | PM | 0.957 | E | 0.962 | E | 0.005 | NO | 0.951 | E | -0.006 | NO |
| 14. | Santa Fe Avenue & 8th Street | AM | 0.999 | E | 1.002 | F | 0.003 | NO | 0.991 | E | -0.008 | NO |
| | | PM | 1.019 | F | 1.021 | F | 0.002 | NO | 1.011 | F | -0.008 | NO |
| 16. | Santa Fe Avenue & Porter Street | AM | 0.835 | D | 0.838 | D | 0.003 | NO | 0.828 | D | -0.007 | NO |
| | | PM | 1.008 | F | 1.010 | F | 0.002 | NO | 1.000 | E | -0.008 | NO |
| 17. | Central Avenue & Olympic Boulevard | AM | 0.671 | B | 0.674 | B | 0.003 | NO | 0.663 | B | -0.008 | NO |
| | | PM | 0.955 | E | 0.962 | E | 0.007 | NO | 0.952 | E | -0.003 | NO |
| 18. | Alameda Street & Olympic Boulevard | AM | 0.922 | E | 0.939 | E | 0.017 | YES | 0.927 | E | 0.005 | NO |
| | | PM | 0.944 | E | 0.956 | E | 0.012 | YES | 0.943 | E | -0.001 | NO |
| 19. | Santa Fe Avenue & Olympic Boulevard | AM | 0.955 | E | 0.959 | E | 0.004 | NO | 0.948 | E | -0.007 | NO |
| | | PM | 1.047 | F | 1.053 | F | 0.006 | NO | 1.041 | F | -0.006 | NO |
| 20. | Alameda Street & 14th Street | AM | 0.706 | C | 0.712 | C | 0.006 | NO | 0.701 | C | -0.005 | NO |
| | | PM | 0.733 | C | 0.737 | C | 0.004 | NO | 0.727 | C | -0.006 | NO |
| 21. | Alameda Street & I-10 Eastbound Ramps | AM | 0.792 | C | 0.797 | C | 0.005 | NO | 0.787 | C | -0.005 | NO |
| | | PM | 0.865 | D | 0.872 | D | 0.007 | NO | 0.861 | D | -0.004 | NO |

Chapter 9

Unsignalized Intersection Analysis

As described in Chapter 1, the three unsignalized study intersections were analyzed using the HCM methodology to determine the overall intersection delay under both Existing and Future Conditions. Based on *Transportation Impact Study Guidelines*, if based on the estimated overall intersection delay, an unsignalized intersection is projected to operate at LOS E or F under Future with Project Conditions, a signal warrant analysis should be conducted to evaluate for the potential installation of a new traffic signal. The signal warrant analysis, if necessary, would follow the guidelines set forth in *Manual of Policies and Procedures* (LADOT, December 2008) and *California Manual on Uniform Traffic Control Devices* (Caltrans, 2014) (California MUTCD).

INTERSECTION LEVELS OF SERVICE

Tables 14 and 15 summarize the weekday morning and afternoon peak hour delay and corresponding LOS for the three unsignalized intersections under Existing and Future Conditions, respectively.

As shown in Table 14, two of the three unsignalized study intersections operate at LOS E or F during at least one of the analyzed peak hours under both Existing and Existing with Project Conditions. The remaining intersection of I-5 Southbound On-Ramp/US 101 Southbound Off-Ramp & 7th Street operates at LOS A during both the morning and afternoon peak hours under both Existing and Existing with Project Conditions.

As shown in Table 15, all three unsignalized intersections are anticipated to operate at LOS F during at least one of the analyzed peak hours under both Future without Project and Future with Project Conditions.

SIGNAL WARRANT ANALYSIS

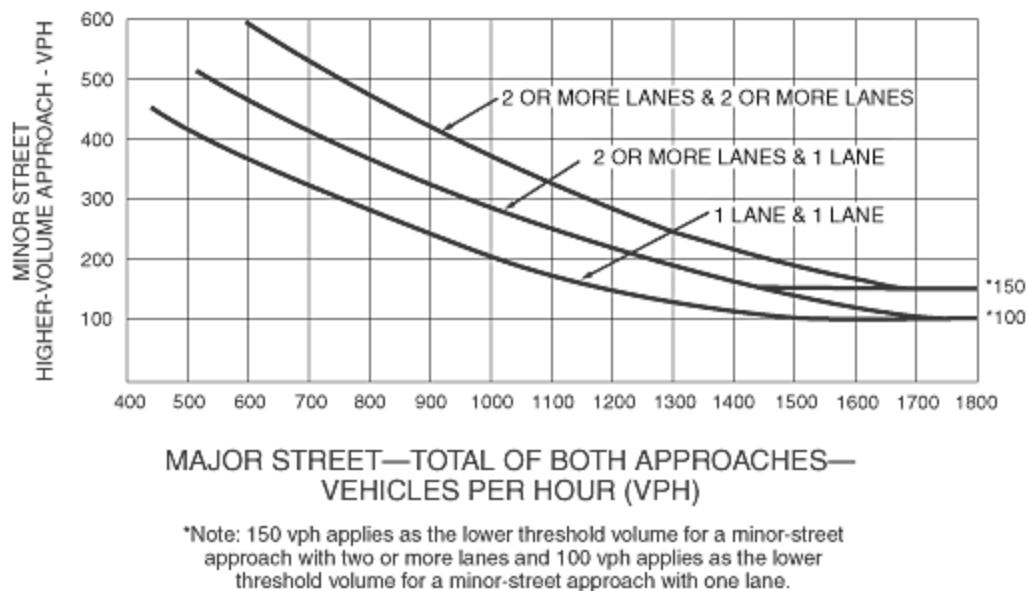
All three unsignalized study intersections are anticipated to operate at LOS F during at least one of the analyzed peak hours under Future with Project Conditions, and were therefore subject to a signal warrant analysis to determine whether the projected volumes at the intersections warrant the installation of a traffic signal control. It should be noted that the intersections operate at LOS E or F under Future without Project Conditions.

The intersections were analyzed according to Warrant 3 (peak hour). The following methodologies, as quoted from the California MUTCD, were used to evaluate signal warrants at the intersection:

Warrant 3, Peak-Hour Vehicular Volume Warrant

Signal Warrant 3 is intended for use at a location where traffic conditions are such that for a minimum of one hour of an average day, the minor-street traffic suffers undue delay when entering or crossing the major street. Combined volumes for both approaches of the major street are included while only the volume from the higher minor street approach is included. At an intersection with a high volume of left-turn traffic from the major street, the analysis may include the major street left-turn volumes plus the minor street approach volume as the total "minor street" volume. The warrant is satisfied if traffic volumes for any one hour of an average day exceed the plotted lines shown in the following figure.

Figure 4C-3. Warrant 3, Peak Hour



The unsignalized intersections of I-10 Westbound Ramps & 8th Street and I-10 Eastbound Ramps & Porter Street meet the minimum peak hour traffic volume threshold of Warrant 3 under Future with Project Conditions. It is important to note that these two unsignalized intersections already meet Warrant 3 under Existing Conditions, prior to any Project-traffic additions. The unsignalized intersection of I-5 Southbound On-Ramp/US 101 Southbound Off-Ramp & 7th Street does not meet the minimum peak hour traffic volume threshold of Warrant 3 under Future with Project Conditions. Signal warrant worksheets are provided in Appendix M.

The satisfaction of the warrant threshold alone, however, is not the same as a significance threshold for determining a significant impact and does not in itself dictate the requirement of the installation of a traffic control signal. That decision is made by the affected jurisdictions (e.g., LADOT or Caltrans) which would consider additional factors such as spacing with adjacent intersections, interruption of traffic flow on the major streets, etc.

TABLE 14
EXISTING WITH PROJECT CONDITIONS
UNSIGNALIZED INTERSECTION PEAK HOUR LEVELS OF SERVICE

| No. | Intersection | Peak Hour | Existing Conditions | | Existing with Project Conditions | |
|-----|--|--------------|---------------------|--------|----------------------------------|--------|
| | | | Delay | LOS | Delay | LOS |
| 11. | I-5 Southbound On-Ramp/US 101 Southbound Off-Ramp & 7th Street | A.M.
P.M. | 6.8
1.5 | A
A | 7.3
1.6 | A
A |
| 13. | I-10 Westbound Ramps & 8th Street | A.M.
P.M. | 37.8
81.1 | E
F | 43.7
99.0 | E
F |
| 15. | I-10 Eastbound Ramps & Porter Street | A.M.
P.M. | 174.0
15.3 | F
C | 184.0
16.4 | F
C |

Note: The intersections are 2-way stop controlled.
Reported delay is average intersection delay.

TABLE 15
FUTURE WITH PROJECT CONDITIONS (YEAR 2022)
UNSIGNALIZED INTERSECTION PEAK HOUR LEVELS OF SERVICE

| No. | Intersection | Peak Hour | Future without Project Conditions | | Future with Project Conditions | |
|-----|--|--------------|-----------------------------------|--------|--------------------------------|--------|
| | | | Delay | LOS | Delay | LOS |
| 11. | I-5 Southbound On-Ramp/US 101 Southbound Off-Ramp & 7th Street | A.M.
P.M. | 95.4
8.2 | F
A | 98.7
8.6 | F
A |
| 13. | I-10 Westbound Ramps & 8th Street | A.M.
P.M. | Overflow
Overflow | F
F | Overflow
Overflow | F
F |
| 15. | I-10 Eastbound Ramps & Porter Street | A.M.
P.M. | Overflow
Overflow | F
F | Overflow
Overflow | F
F |

Note: The intersections are 2-way stop controlled.
Reported delay is average intersection delay.

Chapter 10

Congestion Management Program Analysis

This chapter presents an analysis of the regional transportation facilities in the vicinity of the Project Site, in accordance with the procedures outlined in the CMP.

TRAFFIC IMPACT ANALYSIS GUIDELINES

The CMP requires that TIAs be performed on three types of facilities:

- Arterial Intersections
- Mainline Freeway Segments
- The Public Transit System

The CMP identifies specific arterial and freeway mainline locations for analysis.

Arterial Monitoring Intersection TIA Guidelines

The CMP requires that a TIA be performed for all CMP arterial monitoring intersections where a project would add 50 or more trips during either the weekday morning or afternoon peak hours. A detailed analysis is not required if the project adds fewer than 50 trips to an arterial monitoring intersection. The CMP analysis uses the same CMA methodology as used in earlier chapters for City intersections to determine intersection V/C ratio and LOS. A significant impact requiring mitigation occurs if project traffic causes an incremental increase in intersection V/C ratio of 0.02 or greater to a facility projected to operate at LOS F ($V/C > 1.00$) after the addition of project traffic.

Mainline Freeway Monitoring Location TIA Guidelines

The CMP requires that a TIA be performed for all CMP mainline freeway monitoring locations where a project would add 150 or more trips (in either direction) during the weekday morning or afternoon peak hours. A detailed analysis is not required if the project adds fewer than 150 trips to a mainline freeway monitoring location (in either direction) during either the weekday morning or afternoon peak hour. The CMP analysis uses a demand-to-capacity (D/C) ratio to determine facility LOS based on capacity identified in Appendix A of the CMP. Similar to arterial monitoring intersections, a significant impact requiring mitigation occurs if project traffic causes an incremental increase in intersection V/C ratio of 0.02 or greater to a facility projected to operate at LOS F ($D/C > 1.00$) after the addition of project traffic.

Transit Impact Review Guidelines

The CMP requires that a transit system analysis be performed to determine whether a project would increase transit ridership beyond the current capacity of the transit system.

ARTERIAL MONITORING STATION ANALYSIS

The CMP identifies one arterial monitoring station at the intersection of Alameda Street & Washington Boulevard, approximately one mile south of the Project Site.

Morning and afternoon peak hour traffic for this intersection, which is located outside the transportation analysis Study Area, was calculated based on the number of trips entering and leaving the transportation analysis Study Area (based on Figure 10) in the direction of the outlying CMP arterial monitoring intersection, conservatively assuming there would be no diverging trips.

Based on this methodology, the number of peak hour Project trips expected at the arterial monitoring intersection is as follows:

| Intersection | Peak Hour Trips | | Requires
CMP
Analysis? |
|---------------------------------------|-----------------|----|------------------------------|
| | AM | PM | |
| Alameda Street & Washington Boulevard | 15 | 19 | No |

The Project would add fewer than 50 peak hour trips at the arterial monitoring intersection nearest the Project Study Area. Therefore, the Project's CMP arterial intersection impacts are considered to be less than significant and no further analysis is required.

FREEWAY SEGMENT ANALYSIS

The CMP identifies one mainline freeway monitoring location along US 101 north of Vignes Street, approximately 1.25 miles north of the Project Site. The Project is projected to add the following trips to the freeway monitoring location during the morning and afternoon peak hours:

| Freeway Segment | Direction | AM Peak Hour | PM Peak Hour | Requires
CMP
Analysis? |
|-------------------------------------|-----------|--------------|--------------|------------------------------|
| US-101 north of North Vignes Street | NB | 9 | 8 | No |
| | SB | 6 | 11 | No |

As detailed above, the Project would add fewer than 150 peak hour trips in each direction during both the morning and afternoon peak hours at the mainline freeway monitoring location. Therefore, the Project's CMP mainline freeway impacts are considered to be less than significant and no further analysis is required.

REGIONAL TRANSIT IMPACT ANALYSIS

Section B.8.4 of the CMP provides a methodology for estimating the number of transit trips expected to result from a proposed project based on the number of vehicle trips. This methodology assumes an average vehicle occupancy (AVO) factor of 1.4 in order to estimate the number of person trips to and from the Project and guidance regarding the percentage of person trips that may use public transit. Based on the assumptions in the trip generation estimates shown in Table 8, a transit/walk-in adjustment of up to 15% was applied to account for the use of non-auto travel modes (e.g., rail, light-rail, bus, bicycle, walk, etc.). For the purposes of this analysis, all the transit/walk-in trip estimates from Table 8 were conservatively assumed to travel via public transit.

As shown in Table 8, prior to transit reduction adjustments and mitigation reductions, the Project is anticipated to generate approximately 363 morning peak hour trips and 446 afternoon peak hour trips. Assuming an AVO of 1.4, vehicle trips result in an estimated increase of 509 person trips during the morning peak hour and 625 person trips during the afternoon peak hour. Using the 15% mode split, the Project would generate approximately 77 net new transit trips in the morning peak hour and 94 net new transit trips in the afternoon peak hour.

As detailed in Chapter 2, the Study Area is served by numerous established transit routes. The total residual capacity of the bus lines within the Study Area during the morning and afternoon peak hours is approximately 1,036 and 979 transit trips, respectively. The Project morning and afternoon peak hour person trips by transit are projected at 77 and 94 trips, respectively, or less than 10% of the total residual capacity of the bus lines within the Study Area during morning and afternoon peak.

As detailed in Table 4, the Project Site is served by numerous bus lines. Overall, the total transit capacity along the routes of those lines can accommodate the Project's transit trips. Therefore, the Project impact to the regional transit system is anticipated to be less than significant.

Furthermore, Los Angeles County voters approved Measure R, a half-cent sales tax increase for transportation, which has allowed Metro to develop projects to improve the existing transportation system. *2009 Long Range Transportation Plan* (Metro, Adopted 2009) (the "2009 LRTP"), which outlined a range of transit and highway projects throughout Los Angeles County

that were aimed to improve mobility and address future growth, is currently in the process of an update to address transportation issues and projects identified by local jurisdictions, Councils of Governments, and transportation agencies. The *2014 Short Range Transportation Plan* (Metro, Adopted 2014) identifies projects and programs that will be implemented in accordance with the project priorities and funding schedules of the 2009 LRTP. It is recognized that with these plans in place, Metro will continue to maintain and expand regional transit service in order to accommodate cumulative demand in the region. Therefore, cumulative impacts on public transit are considered to be less than significant.

Chapter 11

Site Access and Internal Circulation

This chapter summarizes the site access and internal circulation of the Project Site.

PROJECT SITE ACCESS AND CIRCULATION

Vehicles

With development of the Project, primary vehicular access to the multi-level parking garage would be provided via one full-access driveway located along Industrial Street. A loading dock to serve the Project would be located within the parking garage at ground level. Large service and emergency vehicles would access the loading dock primarily via the driveway along Mill Street, with ancillary access via Industrial Street, and exit to Alameda Street. Service vehicle arrival and departures would generally occur outside of typical commuter peak hours. The driveway would be designed based on LADOT standards.

Pedestrians and Bicycles

Pedestrian access to the Project would be provided along Industrial Street and at the corners of Alameda Street & Industrial Street and Mill Street. The Project access locations would be designed to City standards and would provide adequate sight distance, sidewalks, crosswalks, and pedestrian movement controls that meet the City's requirements to protect pedestrian safety. All roadways and driveways intersect at right angles, and street trees and other potential impediments to adequate driver and pedestrian visibility would be minimal. Separate pedestrian entrances would provide access from the adjacent streets, parking facilities, and transit stops. In addition, the Project would remove some existing on-street parking spaces along Industrial Street to include bulb-outs, providing additional pedestrian amenities and enhancing pedestrian safety. Assuming a vehicle length of 25 feet, approximately 18 spaces of on-street parking is

currently available. With the Project, two on-street parking spaces would be removed along Industrial Street.

Visitors, patrons and employees arriving by bicycle would have the same access opportunities as pedestrian visitors. In order to facilitate bicycle use, bicycle parking spaces would be provided on-site, consistent with the Bicycle Parking Ordinance, *Los Angeles Municipal Code* (City of Los Angeles, October 24, 2016) (LAMC) Section 12.21 A16(a)(2).

Chapter 12

Parking Analysis

This chapter provides an analysis of the proposed parking and the potential parking impacts of the Project.

PARKING SUPPLY

The Project would provide 842 automobile parking spaces on-site within a multi-level parking garage. Primary vehicular access to the parking garage would be provided via one driveway along Industrial Street, with ancillary access via driveways along Mill Street and Alameda Street.

The Project would also provide 581 bicycle parking spaces on-site, including 504 long-term and 77 short-term spaces.

CODE REQUIREMENTS

Automobile Parking Requirement

The LAMC has identified the off-street automobile parking requirements of various land uses. The following automobile parking rates are indicated in Section 12.22.A25(d)(1) of the LAMC for residential uses that qualify for a density bonus and in Section 12.21A4(x)(3) of LAMC for commercial uses within an Enterprise Zone, as defined by the California Department of Commerce:

- Residential Uses
 - Studio or One Bedroom
 - One space per dwelling unit

-
- Two or Three Bedrooms
 - Two spaces per dwelling unit
 - Four or More Bedrooms
 - 2.5 spaces per dwelling unit
 - Commercial Uses
 - Two spaces per 1,000 sf

As shown in Table 16, these parking rates were applied to the proposed number of units and floor area of the Project to determine the required amount of off-street automobile parking stalls.

Code-Required Project Automobile Parking

As detailed in Table 16, the Project is required to provide 842 automobile parking spaces, which is satisfied by the 842 automobile parking spaces provided on-site. Therefore, the Project would meet its LAMC parking requirement.

Bicycle Parking Requirement

Bicycle parking requirements are subdivided into short-term and long-term parking based on LAMC Section 12.21.A.16(a)(2). Short-term bicycle parking is characterized by bicycle racks that support the bicycle frame at two points; and, long-term bicycle parking is characterized by an enclosure protecting all sides from inclement weather and secured from the general public.

LAMC Section 12.21A16(a) identifies bicycle parking requirements, which were used to determine the number of bicycle parking spaces for the Project. The following short-term and long-term bicycle parking rates are indicated in the LAMC and shown in Table 17:

- Residential
 - Short-term: One space per 10 dwelling units
 - Long-term: One space per dwelling unit

-
- Commercial
 - Short-term: One space per 2,000 sf
 - Long-term: One space per 2,000 sf

Code-Required Project Bicycle Parking

As detailed in Table 17, the Project is required to provide a total of 581 (504 long-term and 77 short-term) bicycle parking spaces. The LAMC bicycle parking requirement would be satisfied on-site, and no significant bicycle parking impacts are anticipated.

TABLE 16
CODE VEHICLE PARKING REQUIREMENTS

| Type of Room or Land Use | Units or Size | Parking Spaces |
|--|---------------|-----------------------|
| <i>Los Angeles Municipal Code Requirement</i> | | |
| Residential [a] | | |
| 0 - 1 Bedroom | | 1 space per unit |
| 2 - 3 Bedrooms | | 2 spaces per unit |
| 4 or more Bedrooms | | 2.5 spaces per unit |
| Commercial [b] | | 2 spaces per 1,000 sf |
| <i>Project Parking Requirement</i> | | |
| Residential | | |
| 0 - 1 Bedroom | 222 units | 222 |
| 2 - 3 Bedrooms | 253 units | 506 |
| 4 or more Bedrooms | units | 0 |
| Subtotal Residential | 475 units | 728 |
| Commercial | 57,000 sf | 114 |
| TOTAL CODE REQUIREMENT | | 842 |

Notes:

sf = square feet

[a] Residential parking requirement based on LAMC Section 12.22.A.25(d)(1), Parking Option 1

[b] Per Section 12.21.A4(i), for commercial uses within an Enterprise Zone, as defined by the California Department of Commerce.

TABLE 17
CODE BICYCLE PARKING REQUIREMENTS

| Land Use | Size | Short-Term | | Long-Term | |
|---|-----------|-------------------|-------------|-------------------|---------------|
| | | Rate [a] | Requirement | Rate [a] | Requirement |
| Residential | 475 du | 1.0 sp / 10 du | 48 sp | 1.0 sp / 1 du | 475 sp |
| Commercial [b] | 57,000 sf | 1.0 sp / 2,000 sf | 29 sp | 1.0 sp / 2,000 sf | 29 sp |
| Bicycle Parking Requirements | | Short-Term: | 77 sp | Long-Term: | 504 sp |
| Total Code Bicycle Parking Requirement | | | | | 581 sp |

Notes

[a] Bicycle requirements as calculated by Section 12.21.A.16(a) of *Los Angeles Municipal Code* (City of Los Angeles, revised July 24, 2013).

[b] Minimum of 2 short-term and 2 long-term bicycle parking spaces.

Chapter 13

Construction Impact Analysis

This chapter summarizes the construction schedule and construction impact analysis for the Project. The construction impact analysis relates to the temporary impacts that may result from the construction activities of the Project, which may include safety, operational, or capacity impacts, and was performed in accordance with *L.A. CEQA Thresholds Guide: Your Resource for Preparing CEQA Analyses in Los Angeles* (City of Los Angeles, 2006).

TYPES OF CONSTRUCTION IMPACTS

L.A. CEQA Thresholds Guide identifies four types of in-street construction impacts. Each of the four types of impacts refers to a particular population that could be inconvenienced by construction activities. The four types of impacts and related populations are:

1. Temporary traffic impacts – potential impacts on vehicular travelers on roadways
2. Temporary loss of access – potential impacts on vehicular and pedestrian access
3. Temporary loss of bus stops or rerouting of bus lines – potential impacts on bus travelers
4. Temporary loss of on-street parking – potential impacts on parkers

The factors used to determine the significance of a project's impacts involve the likelihood and extent to which an impact might occur, the potential inconvenience caused to a population, and consideration for public safety. Transportation impacts from construction activities could occur as a result of the following types of activities:

- Increases in truck traffic associated with export or import of fill materials and delivery of construction materials
- Increases in automobile traffic associated with construction workers traveling to and from the Project Site

-
- Reductions in existing street capacity or on-street parking from temporary lane closures necessary for the construction of roadway improvements, utility relocation, and drainage facilities
 - Blocking existing vehicle or pedestrian access to other parcels fronting streets

The impact of construction traffic (including haul trucks) would be a lessening of the capacities of access streets and haul routes due to slower movements and larger turning radii of trucks.

PROPOSED CONSTRUCTION SCHEDULE

The Project is anticipated to be constructed in phases over a period of approximately 36 months, with completion anticipated in Year 2022. The construction period would include subphases of site demolition, excavation and grading, foundations, and building construction. Peak haul truck activity occurs during excavation and grading, and peak worker activity occurs during building construction. These two subphases of construction were studied in greater detail.

EXCAVATION AND GRADING PHASE

The peak period of truck activity during construction would occur during excavation and grading of the Project Site. Based on projections compiled for the Project, approximately 185,000 cubic yards (CY) of material would be excavated and removed from the Project Site over this 62-workday period. That equates to approximately 3,000 CY of material exported each workday, requiring 214 haul trucks per workday based on an anticipated haul truck capacity of 14 CY each. Thus, up to 428 daily truck trips (214 inbound, 214 outbound) are forecast to occur during the excavation and grading period, with approximately 54 trips per hour (27 inbound, 27 outbound) uniformly over a typical eight-hour workday.

Transportation Research Circular No. 212 defines PCE for a vehicle as the number of through moving passenger cars to which it is equivalent based on the vehicle's headway and delay-creating effects. Table 8 of *Transportation Research Circular No. 212* and Exhibit 16.7 of the HCM suggest a passenger car equivalency (PCE) of 2.0 for trucks. Assuming a PCE factor of

2.0, the 428 truck trips would be equivalent to 856 daily PCE trips. The 54 hourly truck trips would be equivalent to 108 PCE trips (54 inbound, 54 outbound) per hour. In addition, during this period a maximum of 350 construction workers would work at the Project Site. Assuming minimal carpooling amongst those workers, an average vehicle occupancy (AVO) of 1.135 persons per vehicle was applied, as provided in *CEQA Air Quality Handbook* (South Coast Air Quality Management District, 1993). Therefore, 350 workers would result in a total of 308 vehicle trips to and from the Project Site on a daily basis.

With the implementation of the Construction Management Plan, which is described in more detail later in this chapter, it is anticipated that almost all haul truck activity to and from the Project Site would occur outside of the morning and afternoon peak hours. In addition, as discussed in more detail in the following section, worker trips to and from the Project Site would also occur outside of the peak hours. Further, construction-related trips are anticipated to be fewer than the trips associated with the existing uses of the Project Site that would be removed from the Study Area during construction. Therefore, no peak hour construction transportation impacts are expected during the excavation and grading phase of construction.

Haul trucks would travel on approved truck routes designated within the City. Given the Project Site's proximity to US 101, I-5, and I-10, haul truck traffic would take the most direct route to the appropriate freeway ramp.

BUILDING CONSTRUCTION PHASE

The transportation impacts associated with construction workers depends on the number of construction workers employed during various phases of construction, as well as the travel mode and travel time of the workers. In general, the hours of construction typically require workers to be onsite before the weekday commuter morning peak period and allow them to leave before or after the commuter afternoon peak period (i.e., arrive at the site prior to 7:00 AM and depart before 4:00 PM or after 6:00 PM). Therefore, most, if not all, construction worker trips would occur outside of the typical weekday commuter peak periods.

The estimated number of construction workers each day depends on the phase of construction. According to construction projections prepared for the Project, the building subphase of

construction would employ the most construction workers, with a cumulative maximum of approximately 350 workers per day for all components of the building (i.e., framing, plumbing, elevators, inspections, finishing). However, since the different building components would not be constructed or installed simultaneously this cumulative estimate overstates the number of workers that would be expected on the peak construction day. Furthermore, on most of the estimated 36 months to complete the Project, there would be far fewer workers than on the peak day. Therefore, the estimate of 350 workers per day used for the purposes of this analysis represents a higher-than-expected estimate.

Assuming an AVO of 1.135 persons per vehicle, 350 workers would result in a total of 308 vehicles that would arrive and depart from the Project Site each day. The estimated number of daily trips associated with the construction workers is approximately 616 (308 inbound and 308 outbound trips), but nearly all of those trips would occur outside of the peak hours, as described above. Further, construction-related trips are anticipated to be fewer than the trips associated with the existing uses of the Project Site that would be removed from the Study Area during construction. As such, the building phase of Project construction is not expected to cause a significant transportation impact at any of the study intersections.

During construction, adequate parking for construction workers would be secured in the vicinity of the Project Site. Restrictions against workers parking in the public right-of-way in the vicinity of (or adjacent to) the Project Site will be identified as part of the Construction Management Plan. Construction parking may require the temporary use of offsite parking areas for materials storage and truck staging.

POTENTIAL IMPACTS ON ACCESS, TRANSIT, AND PARKING

Construction activities are expected to be primarily contained within the Project Site boundaries. However, it is expected that construction fences may encroach into the public right-of-way (e.g., sidewalk and roadways) adjacent to the Project Site. Temporary traffic controls would be provided to direct traffic around any closures as required in the Construction Management Plan.

The use of the public right-of-way along Industrial Street and Alameda Street would require temporary rerouting of pedestrian traffic as the sidewalks fronting the Project Site would be

closed. The Construction Management Plan would include measures to ensure pedestrian safety along the affected sidewalks and temporary walkways (e.g., use of directional signage, maintaining continuous and unobstructed pedestrian paths, and/or providing overhead covering).

There are no bus stops adjacent to the Project Site and, therefore, no temporary impacts to transit are expected. Parking is allowed adjacent to the Project Site on Industrial Street, so the construction fences could result in the temporary loss of up to 25 unmetered parking spaces.

Project construction is not expected to create hazards for roadway travelers, bus riders, or parkers, so long as commonly practiced safety procedures for construction are followed. Such procedures and other measures (e.g., to address temporary traffic control, lane closures, sidewalk closures, etc.) have been incorporated into the Construction Management Plan. The construction-related impacts associated with access and transit are anticipated to be less than significant, and the implementation of the Construction Management Plan described below would further reduce those impacts.

CONSTRUCTION MANAGEMENT PLAN

A detailed Construction Management Plan, including street closure information, a detour plan, haul routes, and a staging plan, would be prepared and submitted to the City for review and approval. The Construction Management Plan would formalize how construction would be carried out and identify specific actions that would be required to reduce effects on the surrounding community. The Construction Management Plan shall be based on the nature and timing of the specific construction activities and other projects in the vicinity of the Project Site, and shall include, but not be limited to, the following elements, as appropriate:

- Advance notification of adjacent property owners and occupants, as well as nearby schools, of upcoming construction activities, including durations and daily hours of construction.
- Prohibition of construction worker parking on adjacent residential streets.
- Temporary pedestrian and vehicular traffic controls during all construction activities adjacent to Industrial Street and Alameda Street to ensure traffic safety on public right of

ways. These controls shall include, but are not limited to, flag people trained in pedestrian and student safety.

- Temporary traffic control during all construction activities adjacent to public rights-of-way to improve traffic flow on public roadways (e.g., flag men).
- Scheduling of construction activities to reduce the effect on traffic flow on surrounding arterial streets.
- Construction-related vehicles shall not park on surrounding public streets.
- Safety precautions for pedestrians and bicyclists through such measures as alternate routing and protection barriers as appropriate, including along all identified Los Angeles Unified School District (LAUSD) pedestrian routes to nearby schools.
- Scheduling of construction-related deliveries, haul trips, etc., so as to occur outside the commuter peak hours to the extent feasible, and so as to not impede school drop-off and pick-up activities and students using LAUSD's identified pedestrian routes to nearby schools.
- Coordination with public transit agencies to provide advanced notifications of stop relocations and durations.
- Provide advanced notification of temporary parking removals and duration of removals.
- Provide detour plans to address temporary road closures during construction.

Chapter 14

Summary and Conclusions

This study was undertaken to analyze the potential transportation impacts of the 668 S. Alameda Street mixed-use project on the local street system. The following summarizes the results of this analysis:

- The Project proposes the construction of a mixed-use development consisting of 475 live-work units with approximately 61,200 sf of commercial space. Of the 61,200 sf of commercial space, 57,000 sf includes retail, arts and production space, supermarket and restaurant uses. The remaining 4,200 sf includes parking and bicycle storage facilities ancillary to the Project. The Project would replace approximately 131,350 sf of existing warehouse space.
- Primary access to the Project via one driveway along Industrial Street, with ancillary access via driveways along Mill Street and Alameda Street.
- A detailed transportation impact analysis was conducted at a total of 21 study intersections, including 18 signalized and three unsignalized intersections. All 18 signalized study intersections currently operate at LOS D or better during both the morning and afternoon peak hours under Existing Conditions (Year 2016).
- Under Future without Project Conditions (Year 2022), five of the 18 signalized study intersections are anticipated to operate at LOS D or better during both the morning and afternoon peak hours. The remaining 13 intersections are anticipated to operate at LOS E or F during at least one of the analyzed peak hours under Future without Project Conditions (Year 2020).
- The Project is anticipated to generate a total of approximately 4,002 net new daily trips, including 289 net new morning peak hour trips and 361 net new afternoon peak hour trips.
- Analysis of anticipated Existing with Project Conditions (Year 2016) indicates that the Project is not anticipated to have a significant impact at any of the 18 signalized study intersections during the morning or afternoon peak hours, based on the LADOT significance criteria. Thus, no mitigation is recommended or required.
- Analysis of anticipated Future with Project Conditions (Year 2022) indicates that the Project is anticipated to have a significant impact at six of the 18 signalized study intersections during the morning or afternoon peak hours, based on the LADOT significance criteria. Thus, mitigation is required.

-
- The Project proposes to implement a TDM reduction program and contribute to the formation of an Arts District TMO / Arts District portion of a Downtown TMO. The Project, when fully built and occupied and with implementation of the TDM program, would generate a total of 3,555 daily trips, including 256 net new morning peak hour trips and 321 net new afternoon peak hour trips.
 - The Project proposes a physical mitigation improvement measure to restripe the northbound approach at the intersection of Mateo Street & 7th Street to provide an exclusive left-turn lane. The resulting northbound approach would consist of one left-turn lane and one shared through/right-turn lane. Based on discussion with LADOT, due to the loss of public on-street unmetered parking spaces and widening of the existing roadway width, the improvement was determined to be infeasible. Thus, the impact at the intersection would remain and be considered significant and unavoidable.
 - Analysis of anticipated Future with Project with Mitigation Conditions (Year 2022) indicates that the Project is anticipated to have a significant impact at three of the 18 signalized study intersections during the morning or afternoon peak hours. These impacts would be considered significant and unavoidable.
 - Analysis of potential impacts on the regional transportation system conducted in accordance with CMP guidelines determined that the Project would not have a significant impact on the regional freeway, arterial, or transit system.
 - Although the Project-related traffic does not meet the criteria for additional focused analysis of the Caltrans facilities, a supplemental analysis was conducted for informational purposes.
 - The Project provides adequate parking and internal circulation to accommodate vehicular traffic without impeding through traffic movements on City streets.
 - The Project is anticipated to satisfy LAMC requirements for both vehicular and bicycle parking.

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Appendix A

Memorandum of Understanding

TRAFFIC STUDY - MEMORANDUM OF UNDERSTANDING (MOU)

This MOU acknowledges that the traffic study for the following project will be prepared in accordance with the latest version of LADOT's Traffic Study Policies and Procedures:

Project Name: 668 S Alameda Street

Project Address: 668 S Alameda Street, Los Angeles, CA 90021

Project Description: The Project proposes to replace the existing 131,350 square feet (sf) of warehouse use with 475 live-work units and 34,000 sf of potential office use based on the work portion of live-work units. In addition, the Project would include approximately 50,000 sf of commercial use, including 9,000 sf of retail use, 9,000 sf of office use, 17,000 sf of restaurant use and 15,000 sf of supermarket use. (See Figure 1)

Study Intersections: (Subject to LADOT revision after initial impact analysis) (See Table 1 and Figure 2)

Geographic Distribution: N 30 % S 15 % E 20 % W 35 %

Attach graphic illustrating project trip distribution percentages at the studied intersections
(See Figure 3 for Regional Trip Distribution and Figure 4 for Local Trip Distribution)

Trip Generation Rate(s): ITE 9th Edition / Other ITE 9th Edition

Attach trip generation table with a description of the proposed land uses, ITE rates, estimated morning and afternoon peak hour volumes (ins/out/total), proposed trip credits, etc. (See Table 2 and Figure 5)

| | <u>In</u> | <u>out</u> | <u>total</u> |
|--------------|------------|------------|--------------|
| Net AM Trips | <u>120</u> | <u>184</u> | <u>304</u> |
| Net PM Trips | <u>215</u> | <u>153</u> | <u>368</u> |

Project Buildout Year: 2022

Ambient or CMP Growth Rate: 1.0 % Per Year

Related Projects: (See Table 3 and Figure 6)

Subject to Freeway Impact Analysis Screening review: YES X NO (See Tables 4 & 5)
(Freeway analysis screening filter should be included in this MOU; selecting "yes" implies that at least one criteria was satisfied)

Is the project on the High Injury Network? X YES NO

Trip Credits: (Exact amount of credit subject to approval by LADOT)

| | <u>Yes</u> | <u>No</u> |
|----------------------------------|------------|-----------|
| Transit Usage | <u>X</u> | |
| Transportation Demand Management | | <u>X</u> |
| Existing Active Land Use | <u>X</u> | |
| Previous Land Use | | <u>X</u> |
| Internal Trip | <u>X</u> | |
| Pass-By Trip | <u>X</u> | |

Consultant

Developer

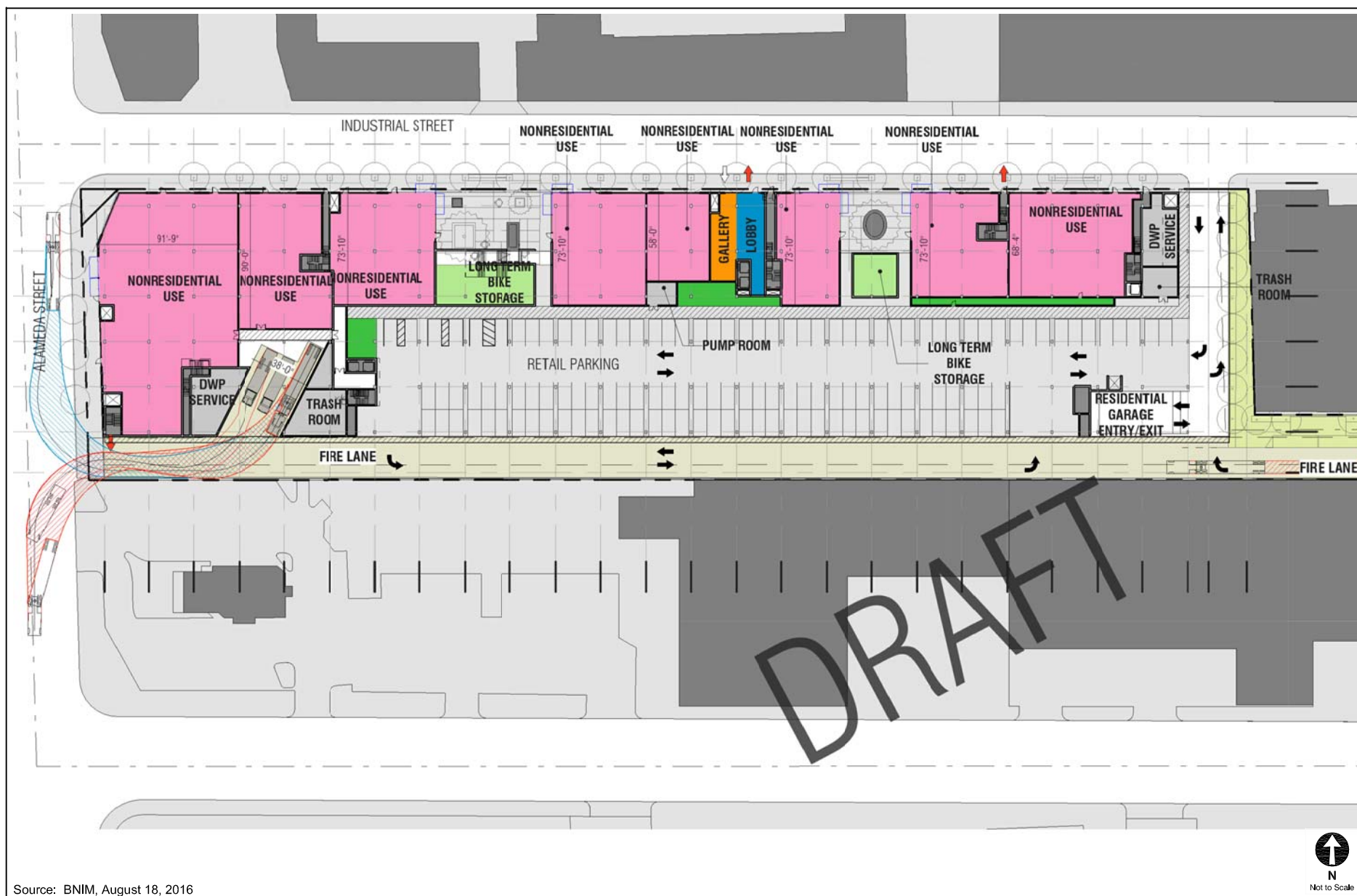
Name Gibson Transportation Consulting, Inc.
Address 523 W 6th Street, Suite 1234
Los Angeles, CA 90014
Phone No. (213) 683-0088
E-Mail sdrobis@gibsontrans.com

AvalonBay Communities, Inc.
350 S Grand Avenue #2500
Los Angeles, CA 90071
(213) 229-9548
ekhalatian@mayerbrown.com

Approved by

Casey Ford 9/22/16
Consultant's Representative Date

W. A. R. L. 9-22-16
LADOT Representative Date



SITE PLAN

FIGURE
1

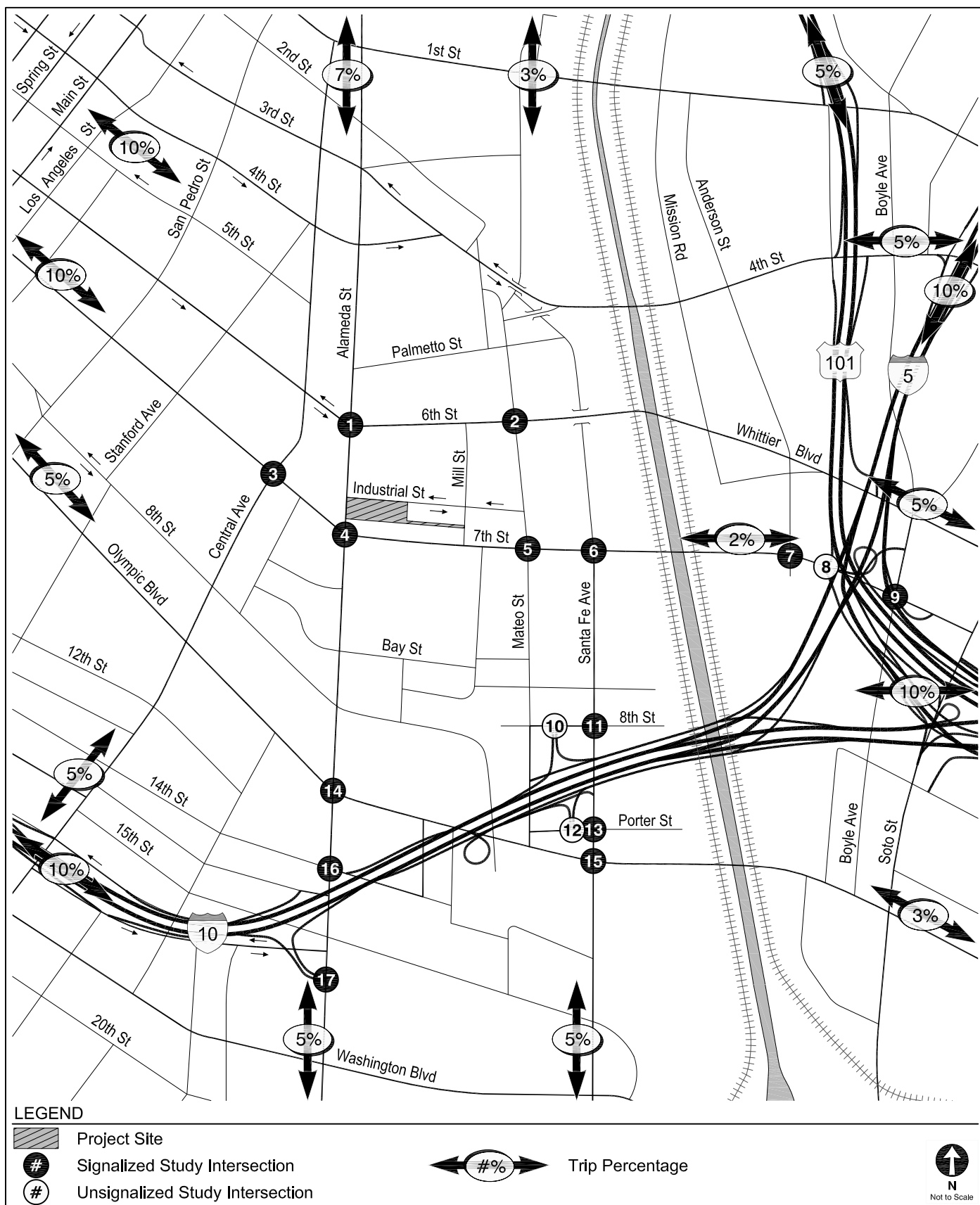


TABLE 1
STUDY INTERSECTIONS

| No | Intersection | Jurisdiction |
|-----------|--|------------------------------|
| 1. | Alameda Street & 6th Street | City of Los Angeles |
| 2. | Mateo Street & 6th Street | City of Los Angeles |
| 3. | Central Avenue & 7th Street | City of Los Angeles |
| 4. | Alameda Street & 7th Street | City of Los Angeles |
| 5. | Mateo Street & 7th Street | City of Los Angeles |
| 6. | Santa Fe Avenue & 7th Street | City of Los Angeles |
| 7. | Anderson Street & 7th Street | City of Los Angeles |
| 8. [a] | I-5 Southbound On-Ramp/US 101 Southbound Off-Ramp & 7th Street | City of Los Angeles/Caltrans |
| 9. | Boyle Avenue & 7th Street | City of Los Angeles |
| 10. [a] | I-10 Westbound Ramps & 8th Street | City of Los Angeles/Caltrans |
| 11. | Santa Fe Avenue & 8th Street | City of Los Angeles |
| 12. [a] | I-10 Eastbound Ramps & Porter Street | City of Los Angeles/Caltrans |
| 13. | Santa Fe Avenue & Porter Street | City of Los Angeles |
| 14. | Alameda Street & Olympic Boulevard | City of Los Angeles |
| 15. | Santa Fe Avenue & Olympic Boulevard | City of Los Angeles |
| 16. | Alameda Street & 14th Street | City of Los Angeles |
| 17. | Alameda Street & I-10 Eastbound Ramps | City of Los Angeles |

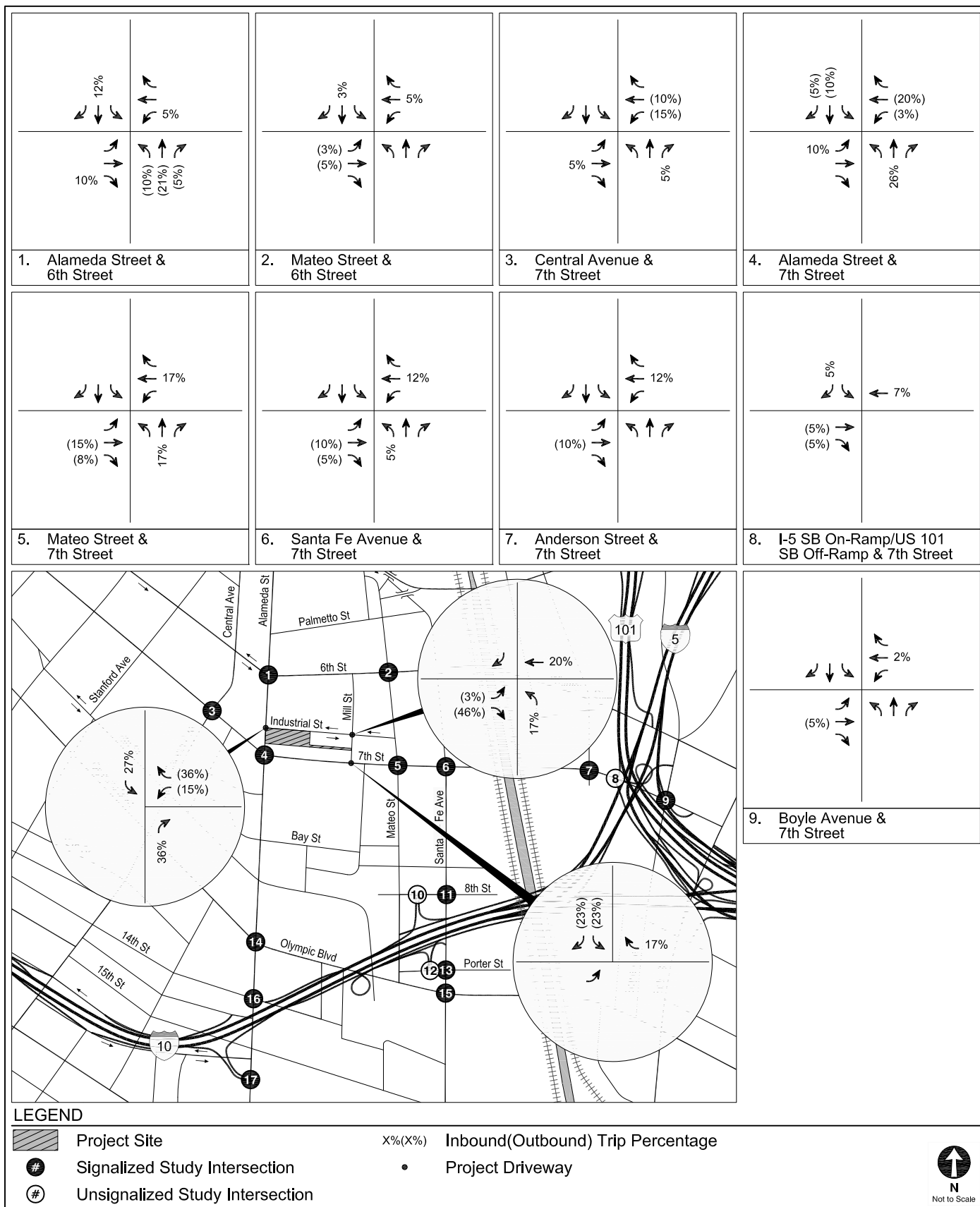
Notes

[a] Intersection is unsignalized.



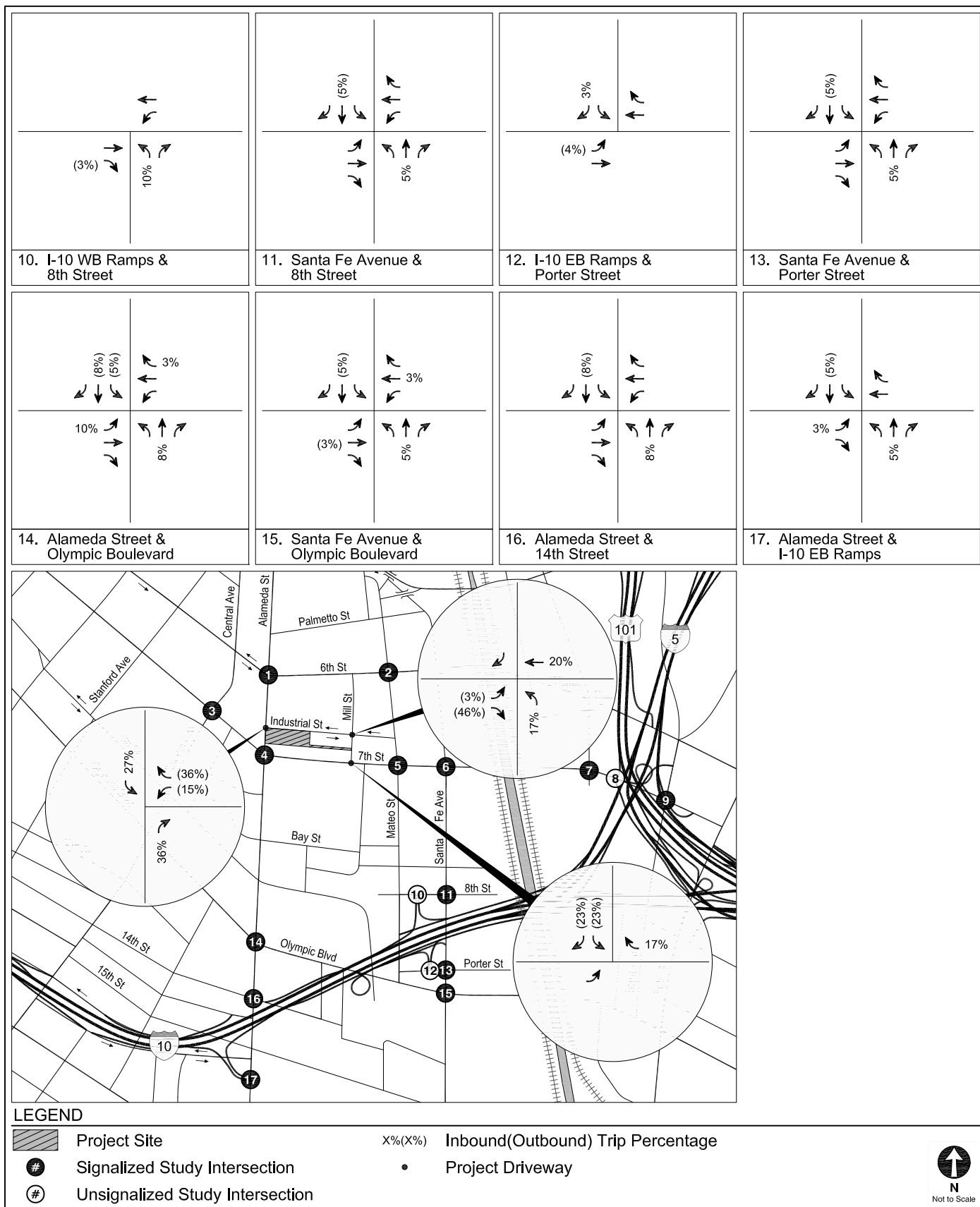
REGIONAL TRIP DISTRIBUTION

FIGURE
3



TRIP DISTRIBUTION

FIGURE
4



TRIP DISTRIBUTION

FIGURE
4 (CONT.)

TABLE 2
PROJECT TRIP GENERATION ESTIMATES

| TRIP GENERATION RATES [a] | | | | | | | | | |
|-----------------------------|--------------|---------|--------|----------------|-----|-------|----------------|-----|-------|
| Land Use | ITE Land Use | Rate | Daily | A.M. Peak Hour | | | P.M. Peak Hour | | |
| | | | | In | Out | Total | In | Out | Total |
| Warehouse | 150 | per ksf | 3.56 | 79% | 21% | 0.30 | 25% | 75% | 0.32 |
| Apartment | 220 | per du | 6.65 | 20% | 80% | 0.51 | 65% | 35% | 0.62 |
| Specialty Retail Center [b] | 826 | per ksf | 44.32 | 62% | 38% | 0.96 | 44% | 56% | 2.71 |
| General Office Building | 710 | per ksf | 11.03 | 88% | 12% | 1.56 | 17% | 83% | 1.49 |
| Restaurant | 932 | per ksf | 127.15 | 55% | 45% | 10.81 | 60% | 40% | 9.85 |
| Supermarket | 850 | per ksf | 102.24 | 62% | 38% | 3.40 | 51% | 49% | 9.48 |
| | | | | | | | | | |

| TRIP GENERATION ESTIMATES | | | | | | | | | |
|-------------------------------------|--------------|------------|-------|----------------|------|-------|----------------|------|-------|
| Land Use | ITE Land Use | Size | Daily | A.M. Peak Hour | | | P.M. Peak Hour | | |
| | | | | In | Out | Total | In | Out | Total |
| <u>Existing Uses</u> | | | | | | | | | |
| Warehouse | 150 | 131.35 ksf | 468 | 31 | 8 | 39 | 11 | 31 | 42 |
| TOTAL - EXISTING | | | 468 | 31 | 8 | 39 | 11 | 31 | 42 |
| <u>Proposed Uses</u> | | | | | | | | | |
| Live-Work Apartment [c] | 220 | 475 du | 3,159 | 48 | 194 | 242 | 192 | 103 | 295 |
| Transit/Walk-In Credit- 15% [d] | | | (474) | (7) | (29) | (36) | (29) | (15) | (44) |
| Internal Capture - 20% [e] | | | (537) | (8) | (33) | (41) | (33) | (17) | (50) |
| Live-Work Office [f] | 710 | 34 ksf | 377 | 47 | 6 | 53 | 9 | 42 | 51 |
| Transit/Walk-In Credit- 15% [d] | | | (57) | (7) | (1) | (8) | (1) | (7) | (8) |
| Live-Work Subtotal | | | 2,468 | 73 | 137 | 210 | 138 | 106 | 244 |
| Specialty Retail | 826 | 9 ksf | 399 | 6 | 3 | 9 | 11 | 13 | 24 |
| Transit/Walk-In Credit- 15% [d] | | | (60) | (1) | 0 | (1) | (2) | (2) | (4) |
| Internal Capture - 20% [e] | | | (68) | (1) | (1) | (2) | (2) | (2) | (4) |
| Passby Credit - 50% [g] | | | (136) | (2) | (1) | (3) | (4) | (4) | (8) |
| Office | 710 | 9 ksf | 99 | 12 | 2 | 14 | 2 | 11 | 13 |
| Transit/Walk-In Credit- 15% [d] | | | (15) | (2) | 0 | (2) | 0 | (2) | (2) |
| Internal Capture - 20% [e] | | | (17) | (2) | 0 | (2) | 0 | (2) | (2) |
| Restaurant | 932 | 17 ksf | 2,162 | 101 | 83 | 184 | 100 | 67 | 167 |
| Transit/Walk-In Credit- 15% [d] | | | (324) | (15) | (13) | (28) | (15) | (10) | (25) |
| Internal Capture - 20% [e] | | | (368) | (17) | (14) | (31) | (17) | (11) | (28) |
| Passby Credit - 20% [g] | | | (294) | (14) | (11) | (25) | (14) | (9) | (23) |
| Supermarket | 850 | 15 ksf | 1,534 | 32 | 19 | 51 | 72 | 70 | 142 |
| Transit/Walk-In Credit- 15% [d] | | | (230) | (5) | (3) | (8) | (11) | (10) | (21) |
| Internal Capture - 20% [e] | | | (261) | (5) | (4) | (9) | (12) | (12) | (24) |
| Passby Credit - 40% [g] | | | (417) | (9) | (5) | (14) | (20) | (19) | (39) |
| Ground Floor Commercial Subtotal | | | 2,004 | 78 | 55 | 133 | 88 | 78 | 166 |
| | | | | | | | | | |
| TOTAL - PROPOSED | | | 4,472 | 151 | 192 | 343 | 226 | 184 | 410 |
| NET NEW TRIPS (PROPOSED - EXISTING) | | | 4,004 | 120 | 184 | 304 | 215 | 153 | 368 |

Notes:

ksf: 1,000 square feet

du: dwelling units

[a] Source: *Trip Generation*, 9th Edition, Institute of Transportation Engineers, 2012.

[b] AM rate for specialty retail is not provided in *Trip Generation*, thus the AM rate for retail shopping center (ITE 820) was used.

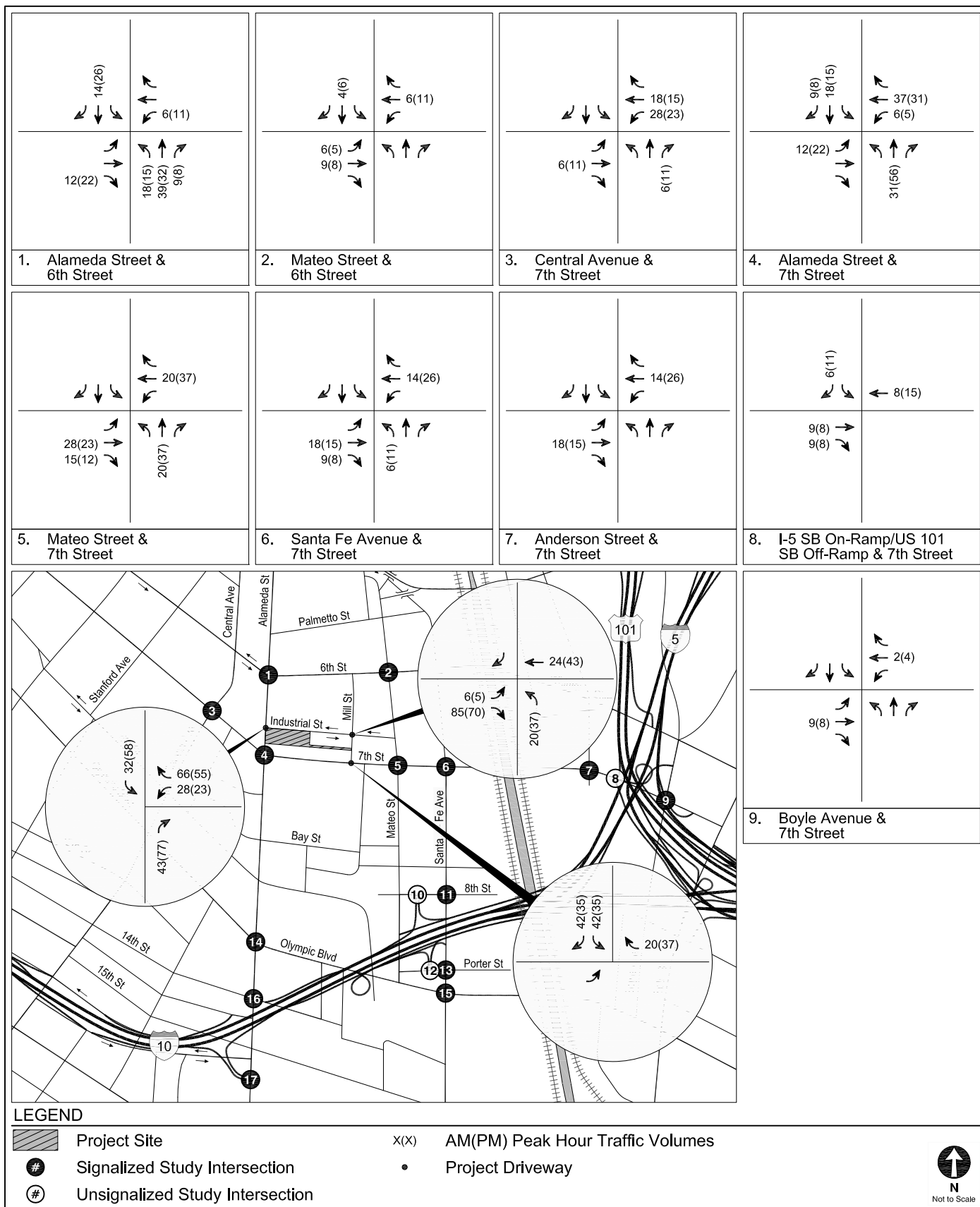
[c] Live-work units include residents living and working in conjunction and thus do not generate traditional AM outbound and PM inbound trips. Therefore, use of the apartment rates applied to all 475 live-work units provide a conservative analysis.

[d] Per LADOT's *Traffic Study Policies and Procedures* (LADOT, August 2014), the Project Site is located within 1/4 mile of a Metro RapidBus stop (Metro 760), therefore a 15% transit adjustment was applied to account for transit usage and walking visitor arrivals from the surrounding neighborhoods and adjacent commercial developments, and for arrivals via taxi, tour bus, and carpool services.

[e] Internal capture adjustments account for person trips made between distinct land uses within a mixed-use development without using an off-site road system.

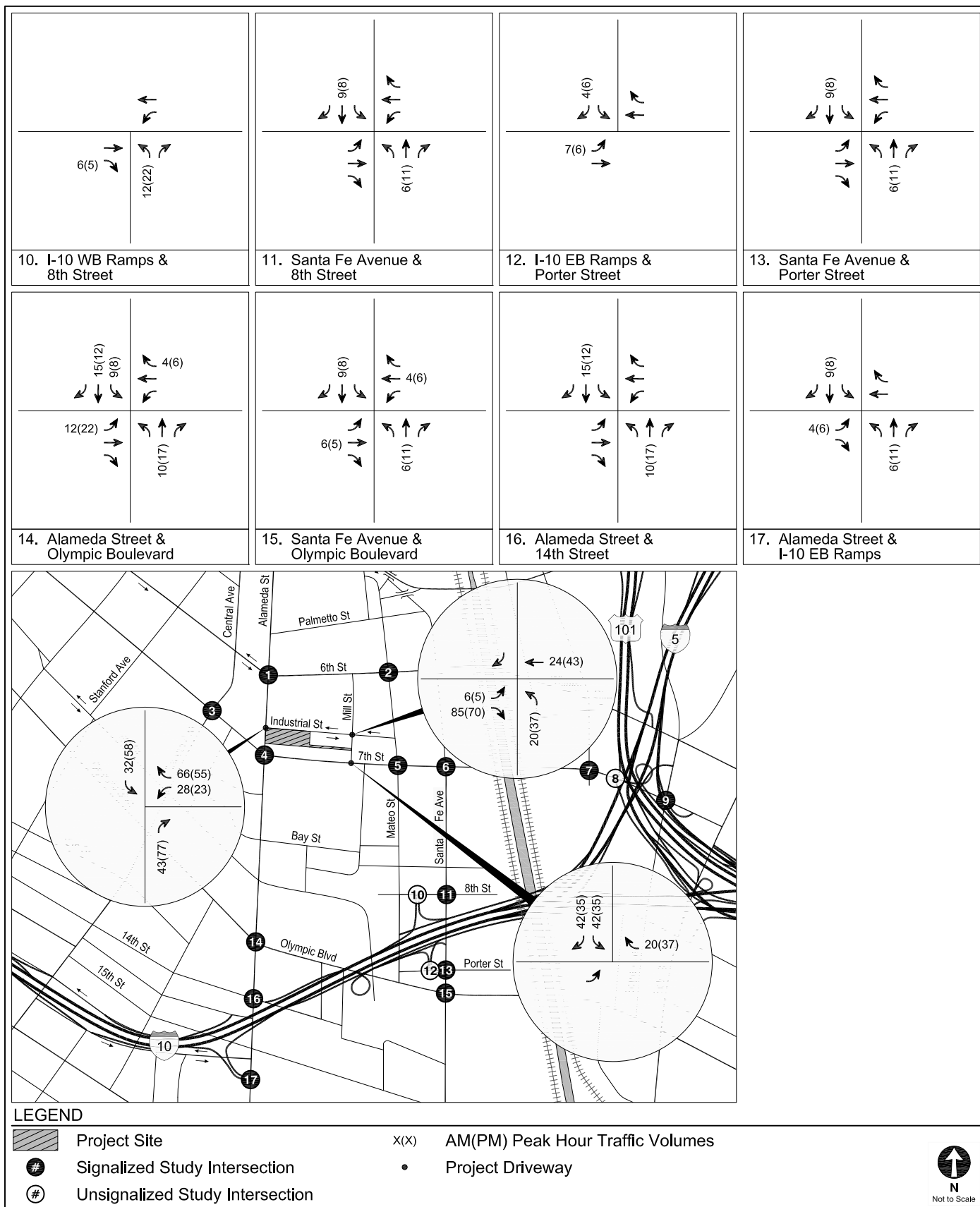
[f] Live-work units may include external trips to/from the office portion of the live-work units. Based on the minimum size requirement of the work portion in a live-work unit (150 sf) 228 units, of which can provide sufficient office space within the live-work units (greater than 1,000 sf), can be assumed to generate external office trips (e.g. employees).

[g] Pass-by adjustments account for Project trips made as an intermediate stop on the way from an origin to a primary trip destination without route diversion.



PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES



FIGURE
5

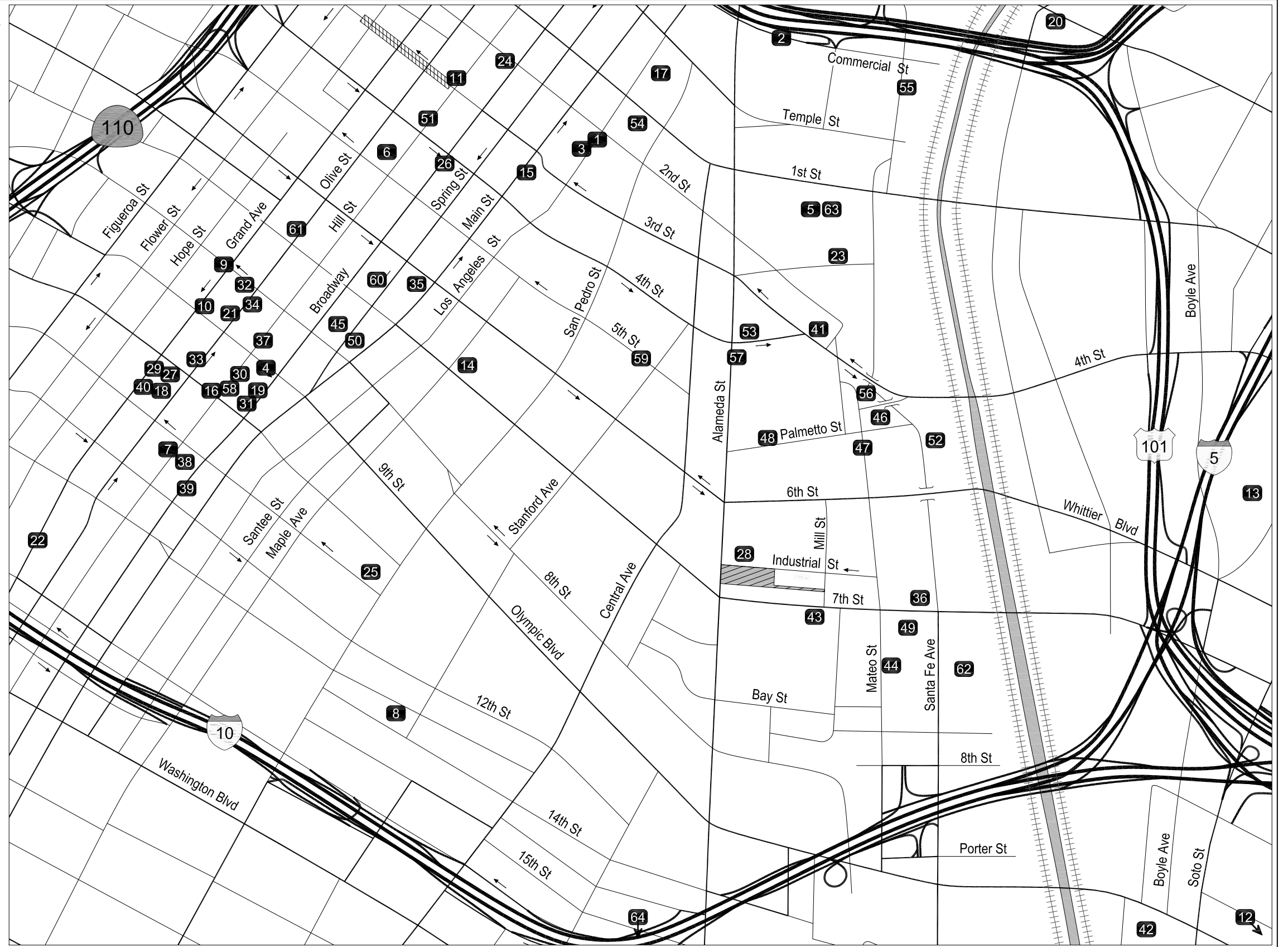


PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE
5 (CONT.)

LEGEND

-  Project Site
-  Related Project



LOCATIONS OF RELATED PROJECTS

FIGURE
6

**TABLE 3
RELATED PROJECTS**

| No. | Project | Address | Use | Size | Trip Generation [a] | | | | | | |
|-----|---|---------------------------|---|---|---------------------|--------------|----------|-------|--------------|----------|-------|
| | | | | | Daily | AM Peak Hour | | | PM Peak Hour | | |
| | | | | | | Inbound | Outbound | Total | Inbound | Outbound | Total |
| 1 | Ava Little Tokyo | 200 S. Los Angeles Street | Condominiums
Apartments
Retail | 570 du
280 du
50,000 sf | 4,331 | 59 | 189 | 248 | 187 | 147 | 334 |
| 2 | Bus Maintenance & Inspection Facility | 454 E Commercial Street | Other | 2 acres | 0 | 22 | 8 | 30 | 9 | 1 | 10 |
| 3 | Vibiana Lofts (Mixed-Use) | 225 S. Los Angeles Street | Condominiums
Retail | 300 du
3,400 sf | 1,910 | 88 | 136 | 224 | 75 | 52 | 126 |
| 4 | Northeast Tower (Mixed-Use) | 215 W. 9th Street | Condominiums
Retail | 210 du
9,000 sf | 1,140 | 14 | 56 | 70 | 64 | 38 | 102 |
| 5 | Mixed-Use Project (Megatoys) | 905 E. 2nd Street | Condominiums
Retail | 320 du
18,712 sf | 1,207 | (6) | 70 | 64 | 69 | 23 | 92 |
| 6 | 5th & Olive (formerly Park Fifth Project) | 437 S. Hill Street | Apartments
Restaurant | 600 du
13,872 sf | 3,088 | 44 | 122 | 167 | 162 | 97 | 259 |
| 7 | 11th & Hill Project | 1115 S. Hill Street | Condominiums
Restaurant | 172 du
6,850 sf | 543 | (45) | 40 | (5) | 50 | (7) | 43 |
| 8 | Stanford Regency Plaza | 810 E. Pico Boulevard | Retail | 181,620 sf | 1,889 | 54 | 34 | 88 | 59 | 63 | 122 |
| 9 | 8th/Hope/Grand Project | 609 W. 8th Street | Condominiums
Hotel
Retail
Restaurant | 225 du
200 rms
30,000 sf
32,000 sf | 4,908 | 90 | 104 | 194 | 242 | 159 | 401 |
| 10 | Embassy Tower | 848 S. Grand Avenue | Condominiums
Retail | 420 du
38,500 sf | 3,882 | 66 | 144 | 210 | 212 | 165 | 377 |
| 11 | Zen Mixed-Use Project (Kawada Tower) | 250 S. Hill Street | Condominiums
Retail | 330 du
12,000 sf | 1,217 | 21 | 73 | 94 | 66 | 42 | 108 |
| 12 | Boyle Heights MU Project (Wyvernwood) | 2901 E Olympic Boulevard | Apartments
Retail
Office
Daycare
Library | 4,400 du
185,000 sf
150,000 sf
15,000 sf
15,000 sf | 19,382 | 463 | 1,044 | 1,507 | 1,123 | 804 | 1,927 |
| 13 | Linda Vista Senior Housing and Medical Office | 610 St. Louis Street | Condominiums
Medical Office | 97 du
33,000 sf | 1,530 | 65 | 24 | 89 | 41 | 89 | 130 |
| 14 | Clinic at 7th & Wall | 649 S. Wall Street | Medical Office
Assisted Living | 66 emp
55 beds | 104 | 24 | 5 | 29 | 3 | 24 | 27 |
| 15 | Medallion Phase 2 | 300 S. Main Street | Apartments
Restaurant
Retail | 471 du
27,780 sf
5,190 sf | 4,691 | 143 | 243 | 386 | 257 | 153 | 410 |
| 16 | Olympic & Hill MU Project | 301 W. Olympic Boulevard | Apartments
Retail
Restaurant | 300 du
14,500 sf
8,500 sf | 2,496 | 30 | 104 | 134 | 143 | 82 | 225 |
| 17 | LA Civic Center Office | 150 N. Los Angeles Street | Office
Retail
Child Care | 712,500 sf
35,000 sf
2,500 sf | 13,534 | 930 | 118 | 1,048 | 435 | 942 | 1,374 |
| 18 | Apartments | 1027 S. Olive Street | Apartments | 100 du | 632 | 9 | 39 | 48 | 38 | 21 | 59 |
| 19 | Mixed-Use | 928 S. Broadway | Apartments
Condominiums
Retail
Office | 670 du
17 du
58,800 sf
34,824 sf | 4,715 | 21 | 229 | 250 | 272 | 109 | 381 |
| 20 | Mixed-Use | 534 S. Main Street | Apartments
Retail
Restaurant
Fast Food | 160 du
18,000 sf
3,500 sf
3,500 sf | 2,213 | 52 | 75 | 127 | 87 | 58 | 145 |
| 21 | Mixed-Use | 840 S. Olive Street | Condominiums
Restaurant | 303 du
9,680 sf | 3,071 | 81 | 166 | 247 | 174 | 96 | 270 |
| 22 | Mixed-Use | 710 S. Grand Avenue | Apartments
Retail
Restaurant | 700 du
27,000 sf
5,000 sf | 5,245 | 88 | 185 | 273 | 275 | 202 | 477 |
| 23 | Santa Fe Freight Yard Redevelopment | 950 E 3rd Street | School
Retail
Apartments | 532 --
30,062 sf
635 du | 6,372 | 162 | 177 | 339 | 245 | 213 | 458 |
| 24 | Retail/Restaurant | 201 S. Broadway | Retail/Restaurant | 27,765 sf | 0 | (40) | (41) | (81) | 53 | 17 | 70 |
| 25 | The City Market (Mixed-Use) | 1057 S. San Pedro Street | Apartments
Condominiums
Hotel
Office
Retail
Cinema | 877 du
68 du
210 rms
294,641 sf
224,862 sf
744 seats | 0 | 837 | 434 | 1,271 | 632 | 957 | 1,589 |

Notes

[a] Related projects located in the City of Los Angeles were provided by the Los Angeles Department of Transportation in July 2016.

**TABLE 3 (CONTINUED)
RELATED PROJECTS**

| No. | Project | Address | Use | Size | Trip Generation [a] | | | | | | |
|-----|-----------------------------------|--------------------------------------|--|--|---------------------|--------------|----------|-------|--------------|----------|-------|
| | | | | | Daily | AM Peak Hour | | | PM Peak Hour | | |
| | | | | | | Inbound | Outbound | Total | Inbound | Outbound | Total |
| 26 | Mixed-Use | 400 S. Broadway | Apartments
Retail
Bar | 450 du
10,000 sf
5,000 sf | 2,266 | 36 | 147 | 183 | 139 | 73 | 212 |
| 27 | 1001 S. Olive Street | 1001 S. Olive Street | Apartments
Restaurant | 225 du
5,000 sf | 1,581 | 22 | 79 | 101 | 94 | 51 | 145 |
| 28 | Camden Arts Mixed-Use | 1525 E Industrial Street | Apartments
Retail
Restaurant | 240 du
7,165 sf
4,110 sf | 1,729 | 37 | 59 | 96 | 69 | 44 | 113 |
| 29 | Mixed-Use | 1000 S. Grand Avenue | Apartments
Restaurant | 274 du
12,000 sf | 2,216 | 27 | 94 | 121 | 130 | 69 | 199 |
| 30 | Hill Street Mixed-Use | 920 S. Hill Street | Apartments
Retail | 239 du
5,400 sf | 1,476 | 23 | 84 | 107 | 87 | 50 | 137 |
| 31 | Broadway Mixed-Use | 955 S. Broadway | Apartments
Retail | 201 du
6,000 sf | 1,275 | 21 | 72 | 93 | 74 | 43 | 117 |
| 32 | Mixed-Use | 801 S. Olive St | Apartments
Restaurant | 331 du
10,000 sf | 2,557 | 33 | 129 | 162 | 140 | 83 | 225 |
| 33 | Olympic & Olive Mixed-Use Project | 960 S. Olive Street | Apartments
Restaurant | 263 du
14,500 sf | 2,266 | 25 | 91 | 116 | 48 | 23 | 71 |
| 34 | Mixed-Use | 820 S. Olive Street | Apartments
Retail | 589 stu
4,500 sf | 3,309 | 63 | 202 | 264 | 195 | 106 | 302 |
| 35 | Mixed-Use | 601 S. Main Street | Apartments
Retail | 452 du
25,000 sf | 2,686 | 36 | 144 | 179 | 152 | 87 | 238 |
| 36 | Mixed-Use | 2051 E 7th Street | Apartments
Retail
Restaurant | 240 du
8,000 sf
12,000 sf | 2,196 | 9 | 97 | 106 | 138 | 55 | 193 |
| 37 | Alexan South Broadway | 850 S. Hill Street | Apartments
Retail
Restaurant | 300 du
3,500 sf
3,500 sf | 1,970 | 28 | 106 | 134 | 116 | 65 | 181 |
| 38 | Mixed-Use (Herald Examiner) | 1111 S. Broadway | Apartments
Retail | 214 du
10,000 sf | 5,198 | 144 | 176 | 319 | 258 | 274 | 532 |
| 39 | Mixed-Use | 1148 S. Broadway | Apartments
Retail | 94 du
2,500 sf | 553 | 8 | 30 | 38 | 32 | 18 | 50 |
| 40 | Restaurant | 1036 S. Grand Avenue | Restaurant | 7,149 sf | 492 | 2 | 3 | 5 | 27 | 14 | 41 |
| 41 | Mixed-Use (Coca Cola) | 963 E. 4th Street | Office
Retail
Restaurant | 75,000 sf
25,000 sf
20,000 sf | 2,512 | 106 | 22 | 128 | 113 | 138 | 251 |
| 42 | Mixed-Use (Sears Project) | 2650 E Olympic Boulevard | Apartments
Retail
Restaurant
Office | 1,000 du
34,000 sf
46,000 sf
230,000 sf | 11,307 | 482 | 463 | 945 | 550 | 526 | 1,076 |
| 43 | Mixed-Use | 1800 E 7th Street | Apartments
Office | 122 du
13,600 sf | 816 | 26 | 45 | 71 | 45 | 37 | 82 |
| 44 | Mixed-Use | 826 S Mateo Street | Condominiums
Retail
Restaurant | 90 du
11,000 sf
5,600 sf | 1,267 | 11 | 34 | 45 | 62 | 39 | 101 |
| 45 | Mixed-Use | 737 S. Spring Street | Apartments
Pharmacy/Drugstore | 320 du
25,000 sf | 3,942 | 72 | 141 | 213 | 167 | 116 | 283 |
| 46 | 520 Mateo | 520 S Mateo Street | Apartments
Retail
Restaurant | 350 du
14,000 sf
14,000 sf | 3,217 | 20 | 139 | 159 | 195 | 94 | 289 |
| 47 | Retail (Palmetto & Mateo) | 555 S Mateo Street | Retail | 153,000 sf | 4,300 | 5 | 30 | 35 | 220 | 205 | 425 |
| 48 | Mixed-Use | 1147 E Palmetto | Apartments
Hotel
Restaurant | 120 du
141 rms
20,000 sf | 2,908 | 73 | 141 | 215 | 147 | 83 | 230 |
| 49 | Mixed-Use | 2030 E 7th Street | Office
Retail | 243,000 sf
40,000 sf | 2,306 | 274 | 34 | 308 | 69 | 249 | 318 |
| 50 | Mixed-Use | 732 S. Spring Street | Apartments
Drug Store | 400 du
15,000 sf | 3,409 | 59 | 152 | 211 | 164 | 104 | 268 |
| 51 | Mixed-Use | 340 S. Hill Street | Apartments
Restaurant | 428 du
6,700 sf | 2,361 | 34 | 129 | 163 | 141 | 79 | 219 |
| 52 | Office | 540 S Santa Fe Avenue | Office | 65,812 sf | 726 | 90 | 12 | 102 | 17 | 81 | 98 |
| 53 | Mixed-Use | 360 S Alameda Street | Apartments
Restaurant
Office | 55 du
2,500 sf
6,300 sf | 670 | 25 | 33 | 58 | 35 | 26 | 61 |
| 54 | Apartments | 118 S. Astronaut e.s. Onizuka Street | Apartments | 77 du | 97 | (1) | 20 | 19 | 19 | 6 | 25 |

Notes

[a] Related projects located in the City of Los Angeles were provided by the Los Angeles Department of Transportation in July 2016.

**TABLE 3 (CONTINUED)
RELATED PROJECTS**

| No. | Project | Address | Use | Size | Trip Generation [a] | | | | | | |
|-----|--|----------------------|--|---|---------------------|--------------|----------|-------|--------------|----------|-------|
| | | | | | Daily | AM Peak Hour | | | PM Peak Hour | | |
| | | | | | | Inbound | Outbound | Total | Inbound | Outbound | Total |
| 55 | Metro Emergency Security Operations Center | 410 N Center Street | Office | 110,000 sf | 1,165 | 87 | 0 | 87 | 0 | 79 | 79 |
| 56 | Restaurant | 500 S Mateo Street | Restaurant | 12,882 sf | 1,052 | 48 | 41 | 89 | 50 | 31 | 81 |
| 57 | 400 S Alameda Street | 400 S Alameda Street | Hotel
Restaurant
Retail | 66 rm
2,130 sf
840 sf | 508 | 19 | 17 | 36 | 23 | 14 | 37 |
| 58 | 940 S Hill MU | 940 S. Hill Street | Apartments
Retail | 232 du
14,000 sf | 1,881 | 20 | 80 | 100 | 115 | 53 | 168 |
| 59 | Mixed Use | 719 E 5th Street | Apartments
Retail | 160 du
10,057 sf | 1,033 | 15 | 58 | 73 | 59 | 37 | 96 |
| 60 | Spring St Hotel | 633 Spring St | Hotel
Bar
Restaurant | 176 rms
5,290 sf
8,430 sf | 2,045 | 83 | 33 | 116 | 97 | 99 | 196 |
| 61 | Giannini Place | 649 S Olive St | Hotel | 241 rms | 1,674 | 60 | 44 | 109 | 63 | 60 | 123 |
| 62 | Mixed-Use | 2130 E Violet Street | Office
Retail
Restaurant | 94,000 sf
3,500 sf
4,000 sf | 1,351 | 137 | 30 | 167 | 39 | 122 | 161 |
| 63 | Mixed-Use (Private Club) | 929 E 2nd Street | Retail
Event Space
Office
Health Club | 41,019 sf
18,261 sf
40,249 sf
5,383 sf | 2,014 | 61 | 9 | 70 | 101 | 88 | 189 |
| 64 | Restaurant | 1722 E 16th Street | Restaurant | 8,515 sf | 707 | (1) | 0 | (1) | 34 | 22 | 56 |

Notes

[a] Related projects located in the City of Los Angeles were provided by the Los Angeles Department of Transportation in July 2016.

**TABLE 4
FREEWAY SEGMENT SCREENING PROCESS
EXISTING OPERATING CONDITIONS (YEAR 2016)**

| Freeway Segment | Direction | Number of Lanes
[a] | Capacity
[b] | Volume [c] | V/C Ratio | Project Traffic | Percent of Capacity | Meets Screening Criteria?
[d] |
|--|----------------|------------------------|------------------|-----------------|--------------|-----------------|---------------------|----------------------------------|
| AM Peak Hour | | | | | | | | |
| I-10 between San Pedro St/Central Ave and Alameda Street | EB
WB | 5
5 | 10,000
10,000 | 2,890
6,304 | 0.29
0.63 | 13
20 | 0.1%
0.2% | NO
NO |
| I-10 between Alameda St and Santa Fe Ave | EB
WB | 5
5 | 10,000
10,000 | 7,756
12,719 | 0.78
1.27 | 4
6 | 0.0%
0.1% | NO
NO |
| I-10 between Santa Fe Ave and I-101 | EB
WB | 2
2 | 4,000
4,000 | 2,899
6,311 | 0.72
1.58 | 13
17 | 0.3%
0.4% | NO
NO |
| SR-60 between Lorena St and Indiana St | EB
WB | 5
5 | 10,000
10,000 | 4,555
5,603 | 0.46
0.56 | 9
6 | 0.1%
0.1% | NO
NO |
| I-5 between Indiana St and SR-60 | NB
SB | 5
5 | 10,000
10,000 | 5,929
9,210 | 0.59
0.92 | 9
6 | 0.1%
0.1% | NO
NO |
| I-5/I-10 between Fourth Street and Cesar E Chavez Ave | NB/EB
SB/WB | 5
5 | 10,000
10,000 | 7,250
7,975 | 0.73
0.80 | 10
11 | 0.1%
0.1% | NO
NO |
| US 101 Fourth St and First St | NB
SB | 3
3 | 6,000
6,000 | 3,919
3,119 | 0.65
0.52 | 0
6 | 0.0%
0.1% | NO
NO |
| PM Peak Hour | | | | | | | | |
| I-10 between San Pedro St/Central Ave and Alameda Street | EB
WB | 5
5 | 10,000
10,000 | 4,893
5,676 | 0.49
0.57 | 24
17 | 0.2%
0.2% | NO
NO |
| I-10 between Alameda St and Santa Fe Ave | EB
WB | 5
5 | 10,000
10,000 | 11,683
7,705 | 1.17
0.77 | 6
5 | 0.1%
0.1% | NO
NO |
| I-10 between Santa Fe Ave and I-101 | EB
WB | 2
2 | 4,000
4,000 | 5,686
6,321 | 1.42
1.58 | 11
30 | 0.3%
0.8% | NO
NO |
| SR-60 between Lorena St and Indiana St | EB
WB | 5
5 | 10,000
10,000 | 7,123
6,224 | 0.71
0.62 | 8
11 | 0.1%
0.1% | NO
NO |
| I-5 between Indiana St and SR-60 | NB
SB | 5
5 | 10,000
10,000 | 6,071
5,415 | 0.61
0.54 | 8
11 | 0.1%
0.1% | NO
NO |
| I-5/I-10 between Fourth Street and Cesar E Chavez Ave | NB/EB
SB/WB | 5
5 | 10,000
10,000 | 7,880
5,680 | 0.79
0.57 | 8
19 | 0.1%
0.2% | NO
NO |
| US 101 Fourth St and First St | NB
SB | 3
3 | 6,000
6,000 | 4,003
3,133 | 0.67
0.52 | 0
11 | 0.0%
0.2% | NO
NO |

Notes

[a] Auxiliary lanes and high-occupancy vehicle (carpool) lanes are not counted toward number of lanes.

[b] Lane capacity is 2,000 vehicles per hour per lane based on specifications in the screening criteria.

[c] Traffic volume data from traffic volumes published in Caltrans' Performance Measurement System (PeMS) are based on peak hour average for weekdays between May 11, 2016 and July 13, 2016.

[d] Based on the *First Amendment to the Agreement between LADOT and Caltrans District 7 on Freeway Impact Analysis Procedures* (Caltrans & LADOT, December 2015), further analysis of Caltrans facilities would be required if the freeway segment operates at LOS D and the project's peak hour trips would result in a 2% or more increase to the freeway mainline capacity, or if the freeway segment operates at LOS E or F and the project's peak hour trips would result in a 1% or more increase to the freeway mainline capacity. The Project would not result in a 1% or more increase to the freeway mainline capacity, thus, the screening criteria would not be met regardless of the freeway mainline LOS.

TABLE 5
FREEWAY OFF-RAMP SCREENING PROCESS
EXISTING OPERATING CONDITIONS (YEAR 2016)

| Freeway Off-ramp | Peak Hour | Number of Lanes | Capacity [a] | Volume [b] | V/C Ratio | Project Traffic | Percent of Capacity | Meets Screening Criteria? |
|---|-----------|-----------------|--------------|------------|-----------|-----------------|---------------------|---------------------------|
| I-10 Eastbound off to Central Avenue/Naomi Avenue | AM | 1 | 850 | 429 | 0.50 | 6 | 0.7% | NO |
| | PM | 1 | 850 | 406 | 0.48 | 11 | 1.3% | NO |
| I-10 Eastbound off to Alameda Street | AM | 1 | 850 | 800 | 0.94 | 4 | 0.5% | NO |
| | PM | 1 | 850 | 292 | 0.34 | 6 | 0.7% | NO |
| I-10 Eastbound off to Porter Street | AM | 1 | 850 | 743 | 0.87 | 4 | 0.5% | NO |
| | PM | 1 | 850 | 268 | 0.32 | 6 | 0.7% | NO |
| I-10 Westbound off to 8th Street | AM | 2 | 1,700 | 576 | 0.34 | 12 | 0.7% | NO |
| | PM | 2 | 1,700 | 687 | 0.40 | 22 | 1.3% | NO |
| I-5 Northbound off to Westbound 7th Street | AM | 1 | 850 | 187 | 0.22 | 6 | 0.7% | NO |
| | PM | 1 | 850 | 167 | 0.20 | 11 | 1.3% | NO |
| US 101 Southbound off to 7th Street | AM | 1 | 850 | 98 | 0.12 | 6 | 0.7% | NO |
| | PM | 1 | 850 | 99 | 0.12 | 11 | 1.3% | NO |

Notes

[a] Off-ramp lane capacity is 850 vehicles per hour per lane based on specifications in the screening criteria.

[b] An ambient growth rate of 1% per year was applied to the most recent traffic volume data from 2013 *Traffic Volumes on California State Highways* and 2014 *Traffic Volumes on California State Highways* (Caltrans, 2015) to reflect Existing year 2016 traffic conditions.

Appendix B

***Caltrans Agreement
and
Caltrans NOP Response Letter***

**First Amendment to the Agreement between
LADOT and Caltrans District 7 on Freeway Impact Analysis Procedures**

This first amendment to the agreement between the City of Los Angeles and Caltrans District 7 on freeway impact analysis procedures ("**Agreement**") is entered into by, between, and among the State of California, acting by and through its Department of Transportation ("**Caltrans**") and the City of Los Angeles, acting by and through its Department of Transportation ("**City**"). Caltrans and City are collectively referred to as the Parties.

RECITALS

- A. WHEREAS, the Parties entered into the Agreement in October 2013.
- B. WHEREAS, the Agreement will expire two years from the date of execution.
- C. WHEREAS, the Parties desire to amend and renew the Agreement pursuant to Section 2 of the same.

IT IS THEREFORE MUTUALLY AGREED:

- 1. That Section 3.1 of the Agreement be amended to read as follows:

3.1 City will require Project applicants to work with Caltrans and prepare a Freeway Impact Analysis, utilizing Caltrans' "Guide for the Preparation of Traffic Impact Studies" ("TIS Guide"), for land use proposals that meet any of the following criteria:

- The project's peak hour trips would result in a 1-percent or more increase to the freeway mainline capacity of a freeway segment operating at level-of-service (LOS) E or F (based on an assumed capacity of 2,000 vehicles per hour per lane); or
- The project's peak hour trips would result in a 2-percent or more increase to the freeway mainline capacity of a freeway segment operating at LOS D (based on an assumed capacity of 2,000 vehicles per hour per lane); or
- The project's peak hour trips would result in a 1-percent or more increase to the capacity of a freeway off-ramp operating at LOS E or F (based on an assumed ramp capacity of 850 vehicles per hour per lane); or

- The project's peak hour trips would result in a 2-percent or more increase to the capacity of a freeway off-ramp operating at LOS D (based on an assumed ramp capacity of 850 vehicles per hour per lane).
2. This Agreement will be extended for a period of one year after execution, or when the revisions to the California Environmental Quality Act are adopted relative to how transportation impacts are determined pursuant to Senate Bill 743, whichever occurs first.
 3. All other terms and conditions of the Agreement are herein incorporated by reference and reaffirmed by the Parties.

In Witness Whereof, the Parties hereto have executed this Amendment as set forth below.

CALIFORNIA DEPARTMENT OF TRANSPORTATION

By: Shirley Choate
for Carrie Bowen, District 7 Director

Date: 12/15/15

Approved as to Form and Procedure

By: Elizabeth Pollock
Elizabeth Pollock, Deputy Attorney III
Brandon S. Walker, Acting Assistant Chief Counsel

Date: 12-15-2015

CITY OF LOS ANGELES DEPARTMENT OF TRANSPORTATION

By: Seleta J. Reynolds
Seleta J. Reynolds, General Manager

Date: 12.2.15

Approved as to Form and Procedure

By: Michal Nagle
Michal Nagle, Deputy City Attorney

Date: 11/15/15

DEPARTMENT OF TRANSPORTATION
DISTRICT 7-OFFICE OF TRANSPORTATION PLANNING
100 S. MAIN STREET, MS 16
LOS ANGELES, CA 90012
PHONE (213) 897-9140
FAX (213) 897-1337
www.dot.ca.gov



*Serious drought.
Help save water!*

December 28, 2016

Mr. Sergio Ibarra
City of Los Angeles
200 N. Spring Street, Room 750
Los Angeles, CA 90012

RE: 668 S. Alameda Street Project
SCH # 2016121002
GTS # LA-2016-00328
Vic. LA-10, LA-101, LA-05, LA-60

Dear Mr. Ibarra:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above referenced project. The proposed Project would demolish existing cold storage facility and develop a mixed-use Project consisting of 475 live/work units and approximately 49,594 square feet of ground level commercial use. The Project would result in a total of approximately 565,695 square feet of developed floor area.

Senate Bill 743 (2013) mandated that CEQA review of transportation impacts of proposed development be modified by using Vehicle Miles Traveled (VMT) as the primary metric in identifying transportation impacts for all future development projects. However, the City may use the Level of Service (LOS) methodology until The Governor's Office of Planning and Research (OPR) complete its CEQA Guideline to implement SB743 (https://www.opr.ca.gov/s_sb743.php).

Please refer to the Freeway Impact Analysis Screening Criteria Agreement, between the City of Los Angeles and Caltrans District 7, dated October 1, 2013 and Amendment dated December 15, 2015, to determine if a traffic impact analysis is necessary. If it is determined that this project is not required to conduct additional analysis of the freeway mainline and off ramps based on the screening criteria, a cumulative traffic analysis should still be conducted to determine if there will be a significant cumulative traffic impact on State facilities when all future development projects are considered. Currently the freeway condition is operating near or at capacity.

After the screening criteria has been applied, if it is determined that a traffic analysis is necessary to evaluate the impacts of the project on State transportation facilities, it should be prepared prior to preparing the Draft Environmental Impact Report (DEIR). Please confirm the identified study/screening locations for the State facilities with Caltrans prior to preparing the Environmental Impact Report (EIR). The City should refer the project's traffic consultant to Caltrans' traffic study guide Website:

http://www.dot.ca.gov/hq/tpp/offices/ocp/igr_ceqa_files/tisguide.pdf

When preparing the traffic study, please include the following elements:

1. Presentations of assumptions and methods used to develop trip generation, trip distribution, choice of travel mode, and assignments of trips to freeway segments of I-05, I-10, US-101, and SR-60 within 2 miles radius of the project location. (The calculated LOS should be validated using PEMS data with verifiable reference) undercrossing, immediate and alternative on/off ramp accesses with peak hour LOS for the following but not limit to the ramps:
 - a. EB/WE I-10 on/off-ramps from/to Alameda St.
 - b. EB I-10 on-ramp from E. Olympic Blvd.
 - c. EB I-10 on/off-ramps from/to Porter St.
 - d. EB I-10 off-ramp to S Boyle Ave.
 - e. WB I-10 on/off-ramps from/to E 8th St.
 - f. NB/SB US-101 on/off-ramps from/to E 7th St.
 - g. NB US-101 off-ramp from E 7th St.
 - h. NB I-5 on-ramp from E 7th St.
2. Caltrans is concerned that additional traffic exiting the freeway may potentially back into the mainline through lanes if the queue exceeds the storage capacity on the off ramps. A queuing analysis should be performed using HCM methodology. The capacity of the off-ramp should be calculated by the actual length of the off-ramp between the terminuses to the gore point with some safety factor. The existing queue length should be calculated from the traffic counts, actual signal timing and the actual percent of truck assignments with an adequate passenger car equivalent factor. The analyzed result may need to be calibrated with actual signal timing when necessary.
3. Analysis of ADT, AM and PM peak-hour volumes for both the existing and future conditions in the affected area. Future conditions should include build-out of all projects and any plan-horizon years.
4. Analysis should include existing traffic, traffic generated by the project, cumulative traffic generated from all specific approved developments in the area, and traffic growth other than from the project and developments.
5. A discussion of mitigation measures appropriate to alleviate anticipated traffic impacts. Any mitigation involving transit or Transportation Demand Management (TDM) should be justified and the results conservatively estimated.
6. Fair share contributions toward pre-established or future improvements on the State Highway System is considered to be an acceptable form of mitigation. Please use the following ratio when estimating project equitable share responsibility: additional traffic volume due to project implementation is divided by the total increase in the traffic volume (see Appendix "B" of the Guide).

Please note that for purposes of determining project share of costs, the number of trips from the project on each traveling segment or element is estimated in the context of forecasted traffic volumes, which include build-out of all approved projects, project that have not yet been approved, and other sources of growth.

Caltrans staff is available to consult with the City and traffic consultant. We look forward to reviewing the traffic study and expect to receive a copy from the State Clearinghouse when the DEIR is completed. If you would like to expedite the review process or receive early feedback from the Caltrans please send a copy of the DEIR directly to our office.

If you have any questions or would like to schedule a meeting, please feel free to contact Mr. Alan Lin the project coordinator at (213) 897-8391 and refer to GTS # LA-2016-00328.

Sincerely,



DIANNA WATSON
LD-IGR/CEQA Review Branch Chief

cc: Scott Morgan, State Clearinghouse

Appendix C

Intersection Lane Configurations

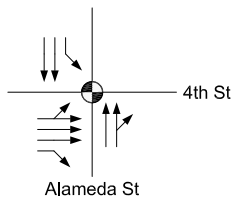
LEGEND

● Traffic Signal

**EXISTING CONDITIONS
(YEAR 2016)**

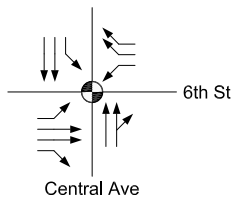
**FUTURE CONDITIONS
(YEAR 2022)**

1. Alameda Street &
4th Street



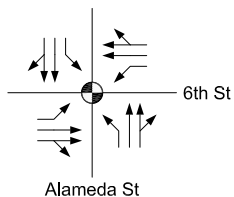
Same as
Existing Conditions

2. Central Avenue &
6th Street



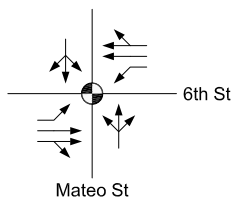
Same as
Existing Conditions

3. Alameda Street &
6th Street



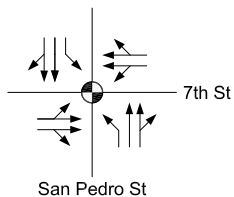
Same as
Existing Conditions

4. Mateo Street &
6th Street



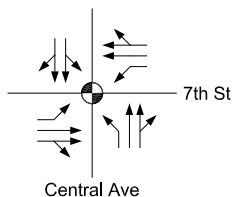
Same as
Existing Conditions

5. San Pedro Street &
7th Street



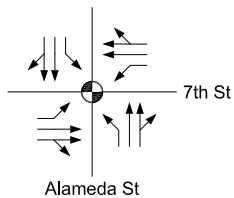
Same as
Existing Conditions

6. Central Avenue &
7th Street



Same as
Existing Conditions

7. Alameda Street &
7th Street



Same as
Existing Conditions

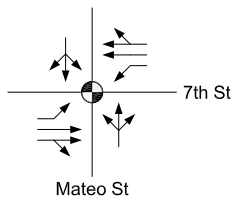
LEGEND

● Traffic Signal

**EXISTING CONDITIONS
(YEAR 2016)**

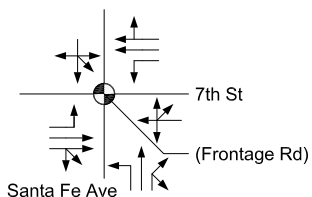
**FUTURE CONDITIONS
(YEAR 2022)**

8. Mateo Street &
7th Street



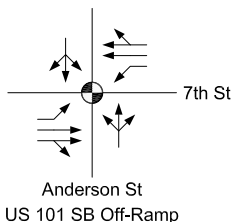
Same as
Existing Conditions

9. Santa Fe Avenue &
7th Street



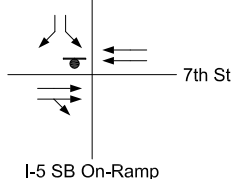
Same as
Existing Conditions

10. Anderson Street &
7th Street



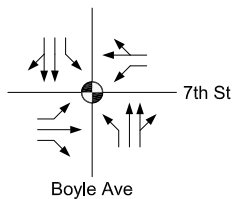
Same as
Existing Conditions

11. I-5 Southbound On-Ramp/
US 101 Southbound Off-Ramp &
7th Street



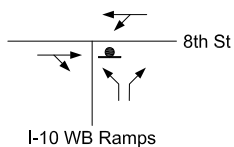
Same as
Existing Conditions

12. Boyle Avenue &
7th Street



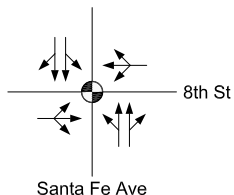
Same as
Existing Conditions

13. I-10 Westbound Ramps &
8th Street



Same as
Existing Conditions

14. Santa Fe Avenue &
8th Street



Same as
Existing Conditions

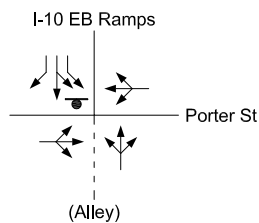
LEGEND

● Traffic Signal

**EXISTING CONDITIONS
(YEAR 2016)**

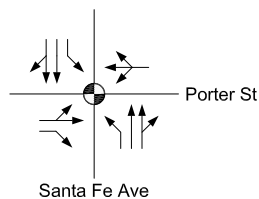
**FUTURE CONDITIONS
(YEAR 2022)**

15. I-10 Eastbound Ramps & Porter Street



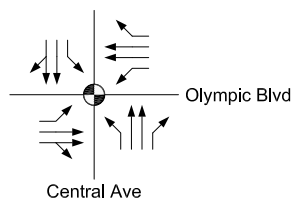
Same as Existing Conditions

16. Santa Fe Avenue & Porter Street



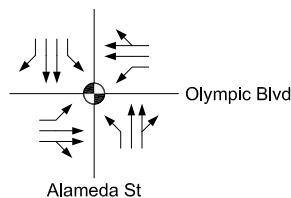
Same as Existing Conditions

17. Central Avenue & Olympic Boulevard



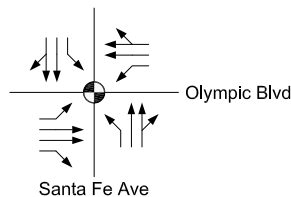
Same as Existing Conditions

18. Alameda Street & Olympic Boulevard



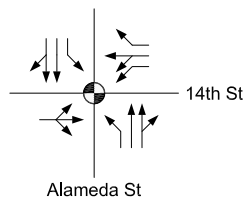
Same as Existing Conditions

19. Santa Fe Avenue & Olympic Boulevard



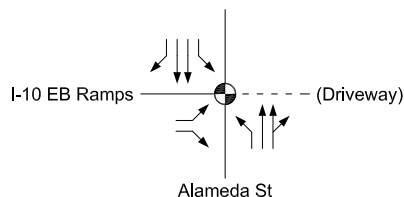
Same as Existing Conditions

20. Alameda Street & 14th Street



Same as Existing Conditions

21. Alameda Street & I-10 Eastbound Ramps



Same as Existing Conditions

Manual Traffic Count Summary

Street:

North/South

Alameda Street

East/West

4th Street

Day:

Tuesday

Date:

10/14/2014

Weather:

Sunny

Hours:

7-10AM

3-6PM

School Day:

Yes

Appendix D

Traffic Counts

| | N/B | | | S/B | | | E/B | | | W/B | | |
|-------------|-----|------|--|-----|------|--|-----|------|--|-----|------|--|
| | N/B | TIME | | S/B | TIME | | E/B | TIME | | W/B | TIME | |
| Dual-Wheel: | 268 | | | 204 | | | 199 | | | 0 | | |
| Bikes: | 10 | | | 3 | | | 2 | | | 5 | | |
| Buses: | 40 | | | 38 | | | 48 | | | 0 | | |

| | | | | | | | | | | | | |
|--------------|------|------|--|-----|------|--|------|------|--|---|------|--|
| AM PK 15 MIN | 195 | 7:30 | | 206 | 7:30 | | 121 | 8:15 | | 0 | 7:00 | |
| PM PK 15 MIN | 274 | 5:45 | | 210 | 4:45 | | 399 | 5:45 | | 0 | 3:00 | |
| AM PK HOUR | 745 | 8:00 | | 802 | 7:30 | | 442 | 9:00 | | 0 | 7:00 | |
| PM PK HOUR | 1014 | 5:00 | | 812 | 4:30 | | 1539 | 5:00 | | 0 | 3:00 | |

| NORTHBOUND Approach | | | | | SOUTHBOUND Approach | | | | | Total | | |
|---------------------|-----|------|----|-------|---------------------|----|------|-----|-------|-------|----------|----------|
| Hours | Rt | Th | Lt | Total | Hours | Rt | Th | Lt | Total | N/S | XING S/L | XING N/L |
| 7-8 | 35 | 685 | 0 | 720 | 7-8 | 0 | 698 | 47 | 745 | 1465 | 9 | 0 |
| 8-9 | 47 | 698 | 0 | 745 | 8-9 | 0 | 709 | 79 | 788 | 1533 | 19 | 0 |
| 9-10 | 42 | 596 | 0 | 638 | 9-10 | 0 | 597 | 94 | 691 | 1329 | 28 | 0 |
| 3-4 | 80 | 763 | 0 | 843 | 3-4 | 0 | 549 | 120 | 669 | 1512 | 24 | 0 |
| 4-5 | 52 | 849 | 0 | 901 | 4-5 | 0 | 693 | 106 | 799 | 1700 | 15 | 0 |
| 5-6 | 106 | 908 | 0 | 1014 | 5-6 | 0 | 650 | 98 | 748 | 1762 | 21 | 0 |
| Total | 362 | 4499 | 0 | 4861 | Total | 0 | 3896 | 544 | 4440 | 9301 | 116 | 0 |

| EASTBOUND Approach | | | | | WESTBOUND Approach | | | | | Total | | |
|--------------------|-----|------|-----|-------|--------------------|----|----|----|-------|-------|----------|----------|
| Hours | Rt | Th | Lt | Total | Hours | Rt | Th | Lt | Total | E/W | XING W/L | XING E/L |
| 7-8 | 109 | 153 | 62 | 324 | 7-8 | 0 | 0 | 0 | 0 | 324 | 12 | 0 |
| 8-9 | 111 | 239 | 69 | 419 | 8-9 | 0 | 0 | 0 | 0 | 419 | 6 | 0 |
| 9-10 | 100 | 260 | 82 | 442 | 9-10 | 0 | 0 | 0 | 0 | 442 | 8 | 0 |
| 3-4 | 102 | 673 | 114 | 889 | 3-4 | 0 | 0 | 0 | 0 | 889 | 11 | 0 |
| 4-5 | 141 | 949 | 165 | 1255 | 4-5 | 0 | 0 | 0 | 0 | 1255 | 19 | 0 |
| 5-6 | 148 | 1227 | 164 | 1539 | 5-6 | 0 | 0 | 0 | 0 | 1539 | 9 | 0 |
| Total | 711 | 3501 | 656 | 4868 | Total | 0 | 0 | 0 | 0 | 4868 | 65 | 0 |

Manual Traffic Count Summary

Street: **North/South** Alameda Street
East/West 6th Street

Day: Tuesday Date: 10/14/2014 Weather: Sunny

Hours: 7-10AM 3-6PM

School Day: Yes

| | N/B | | S/B | | E/B | | W/B | |
|--------------|------|------|------|------|-----|------|------|------|
| | N/B | TIME | S/B | TIME | E/B | TIME | W/B | TIME |
| Dual-Wheel: | 358 | | | | | | | |
| Bikes: | 20 | | 19 | | 155 | | 150 | |
| Buses: | 29 | | 34 | | 109 | | 115 | |
| | N/B | TIME | S/B | TIME | E/B | TIME | W/B | TIME |
| AM PK 15 MIN | 158 | 8:15 | 233 | 7:45 | 116 | 8:00 | 269 | 7:30 |
| PM PK 15 MIN | 269 | 5:45 | 336 | 4:30 | 222 | 5:30 | 118 | 5:30 |
| AM PK HOUR | 583 | 7:30 | 855 | 7:30 | 376 | 8:00 | 1027 | 7:15 |
| PM PK HOUR | 1000 | 5:00 | 1221 | 4:00 | 840 | 4:45 | 405 | 5:00 |

NORTHBOUND Approach

| Hours | Rt | Th | Lt | Total |
|-------|-----|------|-----|-------|
| 7-8 | 58 | 404 | 53 | 515 |
| 8-9 | 51 | 419 | 84 | 554 |
| 9-10 | 31 | 453 | 68 | 552 |
| 3-4 | 73 | 596 | 74 | 743 |
| 4-5 | 82 | 756 | 92 | 930 |
| 5-6 | 93 | 799 | 108 | 1000 |
| Total | 388 | 3427 | 479 | 4294 |

EASTBOUND Approach

| Hours | Rt | Th | Lt | Total |
|-------|-----|------|-----|-------|
| 7-8 | 87 | 177 | 31 | 295 |
| 8-9 | 102 | 198 | 76 | 376 |
| 9-10 | 75 | 163 | 67 | 305 |
| 3-4 | 94 | 488 | 92 | 674 |
| 4-5 | 101 | 530 | 85 | 716 |
| 5-6 | 82 | 651 | 98 | 831 |
| Total | 541 | 2157 | 449 | 3147 |

XING S/L

| | Ped | Sch |
|-------|-----|-----|
| | 19 | 0 |
| | 15 | 0 |
| | 16 | 0 |
| | 24 | 0 |
| | 33 | 0 |
| | 34 | 0 |
| Total | 141 | 0 |

XING W/L

| | Ped | Sch |
|-------|-----|-----|
| | 11 | 0 |
| | 14 | 0 |
| | 13 | 0 |
| | 25 | 0 |
| | 30 | 0 |
| | 16 | 0 |
| Total | 109 | 0 |

XING N/L

| | Ped | Sch |
|-------|-----|-----|
| | 20 | 0 |
| | 26 | 0 |
| | 31 | 0 |
| | 47 | 0 |
| | 43 | 0 |
| | 39 | 0 |
| Total | 206 | 0 |

XING E/L

| | Ped | Sch |
|-------|-----|-----|
| | 40 | 0 |
| | 30 | 0 |
| | 29 | 0 |
| | 27 | 0 |
| | 46 | 0 |
| | 31 | 0 |
| Total | 203 | 0 |

SOUTHBOUND Approach

| Hours | Rt | Th | Lt | Total |
|-------|-----|------|-----|-------|
| 7-8 | 53 | 687 | 52 | 792 |
| 8-9 | 64 | 685 | 52 | 801 |
| 9-10 | 85 | 647 | 49 | 781 |
| 3-4 | 100 | 827 | 69 | 996 |
| 4-5 | 94 | 1022 | 105 | 1221 |
| 5-6 | 99 | 830 | 109 | 1038 |
| Total | 495 | 4698 | 436 | 5629 |

WESTBOUND Approach

| Hours | Rt | Th | Lt | Total |
|-------|-----|------|-----|-------|
| 7-8 | 138 | 713 | 126 | 977 |
| 8-9 | 127 | 674 | 121 | 922 |
| 9-10 | 108 | 363 | 49 | 520 |
| 3-4 | 65 | 218 | 49 | 332 |
| 4-5 | 57 | 192 | 58 | 307 |
| 5-6 | 58 | 292 | 55 | 405 |
| Total | 553 | 2452 | 458 | 3463 |

City Of Los Angeles Department Of Transportation MANUAL TRAFFIC COUNT SUMMARY

STREET: North/South Central Ave
East/West 6th St

Day: TUESDAY Date: April 23, 2013 Weather: SUNNY
Hours: 7-10AM & 3-6PM Checks: NDS

School Day: YES District: I/S CODE

| School Day | YES | | DISTRICT | | US CODE | |
|------------------------------------|-----|-------|----------|-------|---------|-------|
| | N/B | S/B | N/B | S/B | E/B | W/B |
| DUAL-
WHEELED
BIKES
BUSES | 123 | 74 | | | 111 | 125 |
| | 45 | 29 | | | 29 | 106 |
| | 129 | 15 | | | 179 | |
| | N/B | TIME | S/B | TIME | E/B | TIME |
| AM PK 15 MIN | 121 | 8:30 | 140 | 7:45 | 124 | 8:00 |
| PM PK 15 MIN | 263 | 17:45 | 103 | 16:30 | 266 | 17:15 |
| AM PK HOUR | 460 | 8:00 | 510 | 7:45 | 452 | 7:30 |
| PM PK HOUR | 909 | 17:00 | 379 | 16:30 | 951 | 17:00 |

SOUTHBOUND Approach

| Hours | Lt | Th | Rt | Total |
|-------|-----|------|----|-------|
| 7-8 | 18 | 377 | 0 | 395 |
| 8-9 | 19 | 470 | 0 | 489 |
| 9-10 | 32 | 523 | 0 | 555 |
| 15-16 | 20 | 364 | 0 | 384 |
| 16-17 | 30 | 323 | 0 | 353 |
| 17-18 | 26 | 318 | 0 | 344 |
| TOTAL | 146 | 2117 | 0 | 2263 |

XING S/L

| | |
|-----|---|
| 192 | 4 |
|-----|---|

TOTAL

| | N-S | Ped | Sch |
|--|------|-----|-----|
| | 790 | 231 | 1 |
| | 849 | 321 | 1 |
| | 969 | 321 | 0 |
| | 832 | 351 | 0 |
| | 938 | 291 | 0 |
| | 1253 | 331 | 2 |
| | 5551 | 192 | 4 |

XING N/L

| | |
|-----|----|
| 359 | 12 |
|-----|----|

WESTBOUND Approach

| Hours | Lt | Th | Rt | Total |
|-------|------|----|------|-------|
| 7-8 | 269 | 0 | 434 | 703 |
| 8-9 | 291 | 0 | 510 | 801 |
| 9-10 | 214 | 0 | 299 | 513 |
| 15-16 | 162 | 0 | 208 | 370 |
| 16-17 | 161 | 0 | 215 | 376 |
| 17-18 | 172 | 0 | 301 | 473 |
| TOTAL | 1289 | 0 | 1957 | 3246 |

XING W/L

| | |
|------|---|
| 1086 | 4 |
|------|---|

TOTAL

| | E-W | Ped | Sch |
|--|------|-----|-----|
| | 1086 | 441 | 4 |
| | 1242 | 331 | 0 |
| | 929 | 281 | 0 |
| | 1022 | 341 | 0 |
| | 1113 | 201 | 0 |
| | 1424 | 401 | 1 |
| | 6820 | 199 | 3 |

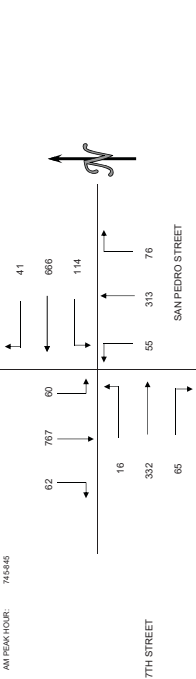
WILTEC

INTERSECTION CAR/PED/BK/BIKE TRAFFIC COUNT RESULTS SUMMARY

Tel: (626) 954-1944 Fax: (626) 954-0969 info@wiltecsa.com

CLIENT: GIBSON TRANSPORTATION CONSULTING, INC.
PROJECT: AVALON BAY ARTS DISTRICT RESIDENTIAL TRAFFIC COUNTS
COUNT PERIOD: 10/01/2015 TO 10/05/2015
PERIOD: 7:00 AM TO 10:00 AM
INTERSECTION: N/S SAN PEDRO STREET
CITY: E/W 7TH STREET
LOS ANGELES

| VEHICLE COUNTS | | | | | | | | | | | | |
|----------------|-----|------|------|------|------|------|------|------|------|------|------|------|
| 15 MIN COUNTS | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| PERIOD | SRT | SBTH | SBTL | WBRT | WBTH | WBTL | NBRT | NBTH | NBTL | EBRT | EBTH | EBTL |
| 7:00-7:15 | 11 | 108 | 9 | 10 | 178 | 28 | 14 | 63 | 12 | 14 | 60 | 3 |
| 7:15-7:30 | 12 | 169 | 10 | 10 | 172 | 28 | 14 | 63 | 12 | 14 | 60 | 3 |
| 7:30-7:45 | 11 | 169 | 10 | 6 | 148 | 21 | 10 | 80 | 5 | 16 | 50 | 3 |
| 7:45-8:00 | 21 | 229 | 23 | 14 | 186 | 26 | 25 | 91 | 17 | 18 | 75 | 3 |
| 8:00-8:15 | 21 | 206 | 18 | 7 | 179 | 29 | 17 | 74 | 9 | 18 | 68 | 4 |
| 8:15-8:30 | 19 | 173 | 12 | 7 | 136 | 32 | 18 | 71 | 14 | 13 | 53 | 8 |
| 8:30-8:45 | 11 | 159 | 7 | 13 | 163 | 27 | 15 | 77 | 15 | 16 | 66 | 1 |
| 8:45-9:00 | 18 | 190 | 9 | 4 | 180 | 26 | 13 | 94 | 10 | 13 | 64 | 8 |
| 9:00-9:15 | 22 | 124 | 17 | 14 | 157 | 19 | 14 | 86 | 14 | 14 | 69 | 6 |
| 9:15-9:30 | 10 | 113 | 7 | 9 | 142 | 26 | 16 | 68 | 5 | 19 | 68 | 9 |
| 9:30-9:45 | 17 | 118 | 9 | 13 | 136 | 28 | 19 | 82 | 14 | 9 | 72 | 6 |
| 9:45-10:00 | 22 | 118 | 12 | 12 | 121 | 21 | 10 | 100 | 8 | 7 | 61 | 5 |
| HOURLY TOTALS | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| PERIOD | SRT | SBTH | SBTL | WBRT | WBTH | WBTL | NBRT | NBTH | NBTL | EBRT | EBTH | EBTL |
| 7:00-8:00 | 45 | 631 | 48 | 37 | 672 | 90 | 64 | 316 | 50 | 60 | 257 | 10 |
| 7:15-8:15 | 55 | 729 | 58 | 34 | 674 | 90 | 67 | 327 | 47 | 64 | 259 | 13 |
| 7:30-8:30 | 62 | 774 | 63 | 34 | 651 | 108 | 70 | 316 | 49 | 65 | 321 | 18 |
| 7:45-8:45 | 69 | 718 | 46 | 31 | 658 | 114 | 64 | 316 | 48 | 60 | 321 | 21 |
| 8:00-9:00 | 70 | 638 | 45 | 38 | 636 | 104 | 61 | 328 | 53 | 58 | 292 | 23 |
| 8:15-9:15 | 11 | 503 | 32 | 19 | 565 | 80 | 32 | 244 | 44 | 27 | 207 | 30 |
| 8:30-9:30 | 41 | 503 | 43 | 43 | 615 | 95 | 62 | 303 | 41 | 50 | 273 | 30 |
| 8:45-9:45 | 67 | 467 | 43 | 51 | 568 | 97 | 63 | 341 | 42 | 47 | 281 | 27 |
| 9:00-10:00 | 71 | 467 | 43 | 51 | 568 | 97 | 63 | 341 | 42 | 47 | 281 | 27 |



| PEDESTRIAN COUNTS | | | | | |
|-------------------|-----------|----------|-----------|----------|-------|
| 15 MIN COUNTS | NORTH LEG | EAST LEG | SOUTH LEG | WEST LEG | TOTAL |
| PERIOD | LEG | LEG | LEG | LEG | |
| 7:00-7:15 | 48 | 27 | 37 | 45 | 158 |
| 7:15-7:30 | 35 | 26 | 32 | 40 | 135 |
| 7:30-7:45 | 54 | 39 | 27 | 51 | 171 |
| 7:45-8:00 | 42 | 42 | 40 | 34 | 158 |
| 8:00-8:15 | 57 | 27 | 38 | 46 | 168 |
| 8:15-8:30 | 30 | 25 | 36 | 38 | 129 |
| 8:30-8:45 | 40 | 24 | 19 | 26 | 109 |
| 8:45-9:00 | 34 | 21 | 28 | 21 | 104 |
| 9:00-9:15 | 37 | 21 | 28 | 21 | 107 |
| 9:15-9:30 | 24 | 18 | 19 | 21 | 82 |
| 9:30-9:45 | 25 | 18 | 33 | 26 | 102 |
| 9:45-10:00 | 40 | 36 | 25 | 23 | 124 |
| HOURLY TOTALS | NORTH LEG | EAST LEG | SOUTH LEG | WEST LEG | TOTAL |
| PERIOD | LEG | LEG | LEG | LEG | |
| 7:00-8:00 | 180 | 136 | 158 | 170 | 622 |
| 7:15-8:15 | 188 | 136 | 137 | 171 | 632 |
| 7:30-8:30 | 183 | 133 | 141 | 169 | 626 |
| 7:45-8:45 | 169 | 131 | 132 | 157 | 589 |
| 8:00-9:00 | 167 | 97 | 133 | 127 | 527 |
| 8:15-9:15 | 141 | 97 | 120 | 115 | 473 |
| 8:30-9:30 | 135 | 90 | 103 | 98 | 426 |
| 8:45-9:45 | 120 | 84 | 117 | 98 | 419 |
| 9:00-10:00 | 128 | 99 | 103 | 94 | 424 |

| BICYCLE COUNTS | | | | | |
|----------------|-----------|----------|-----------|----------|-------|
| 15 MIN COUNTS | NORTH LEG | EAST LEG | SOUTH LEG | WEST LEG | TOTAL |
| PERIOD | LEG | LEG | LEG | LEG | |
| 7:00-7:15 | 4 | 2 | 6 | 0 | 11 |
| 7:15-7:30 | 1 | 4 | 2 | 3 | 10 |
| 7:30-7:45 | 5 | 0 | 6 | 6 | 17 |
| 7:45-8:00 | 11 | 5 | 8 | 1 | 25 |
| 8:00-8:15 | 2 | 3 | 1 | 1 | 7 |
| 8:15-8:30 | 6 | 1 | 14 | 1 | 22 |
| 8:30-8:45 | 6 | 3 | 6 | 2 | 17 |
| 8:45-9:00 | 5 | 3 | 3 | 1 | 12 |
| 9:00-9:15 | 2 | 6 | 3 | 3 | 14 |
| 9:15-9:30 | 2 | 4 | 8 | 5 | 19 |
| 9:30-9:45 | 6 | 6 | 5 | 6 | 26 |
| 9:45-10:00 | 3 | 1 | 5 | 2 | 11 |
| HOURLY TOTALS | NORTH LEG | EAST LEG | SOUTH LEG | WEST LEG | TOTAL |
| PERIOD | LEG | LEG | LEG | LEG | |
| 7:00-8:00 | 21 | 11 | 21 | 10 | 63 |
| 7:15-8:15 | 19 | 10 | 19 | 11 | 59 |
| 7:30-8:30 | 24 | 7 | 31 | 9 | 71 |
| 7:45-8:45 | 12 | 8 | 30 | 5 | 55 |
| 8:00-9:00 | 15 | 8 | 30 | 6 | 62 |
| 8:15-9:15 | 18 | 13 | 30 | 7 | 68 |
| 8:30-9:30 | 15 | 16 | 24 | 11 | 66 |
| 8:45-9:45 | 18 | 19 | 23 | 15 | 75 |
| 9:00-10:00 | 15 | 17 | 21 | 16 | 72 |

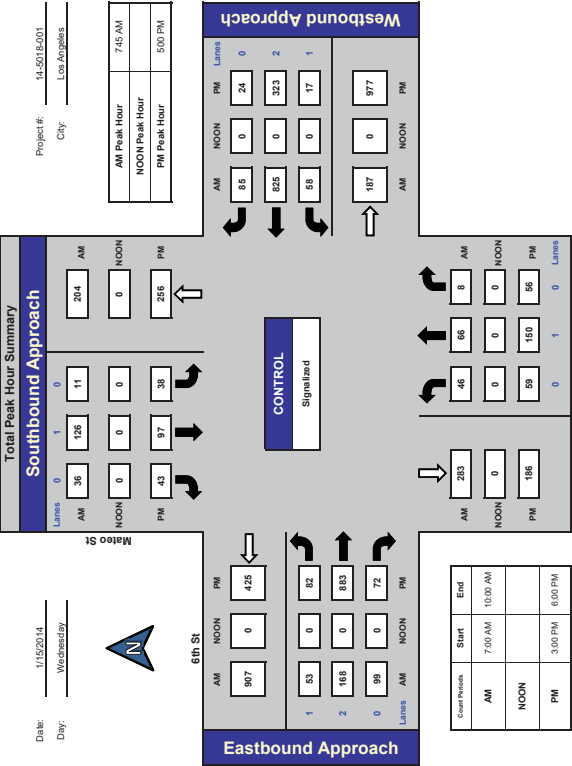
ITM Peak Hour Summary

Prepared by:



National Data & Surveying Services

Mateo St and 6th St, Los Angeles



Total Ins & Outs

| North Leg | | | South Leg | | |
|-----------|------|-----|-----------|------|-----|
| AM | 173 | 234 | AM | 253 | 120 |
| NOON | 0 | 0 | NOON | 0 | 0 |
| PM | 178 | 256 | PM | 186 | 285 |
| East Leg | 988 | 0 | East Leg | 187 | 0 |
| West Leg | 320 | 0 | West Leg | 1037 | 0 |
| AM | 907 | 0 | AM | 423 | 0 |
| NOON | 0 | 0 | NOON | 0 | 0 |
| PM | 1037 | 0 | PM | 187 | 0 |

Total Volume Per Leg

| North Leg | | | South Leg | | |
|-----------|------|---|-----------|------|---|
| AM | 377 | 0 | AM | 403 | 0 |
| NOON | 0 | 0 | NOON | 0 | 0 |
| PM | 434 | 0 | PM | 481 | 0 |
| East Leg | 1155 | 0 | East Leg | 1341 | 0 |
| West Leg | 1227 | 0 | West Leg | 1482 | 0 |
| AM | 1227 | 0 | AM | 1482 | 0 |
| NOON | 0 | 0 | NOON | 0 | 0 |
| PM | 1482 | 0 | PM | 1482 | 0 |



City of Los Angeles
Department of Transportation
MANUAL TRAFFIC COUNT SUMMARY

STREET: North/South
7th St
Date: April 23, 2013
Weather: SUNNY
Time: 7:10AM & 3-6PM
NDS
District: J/S CODE
School Day: YES
N/B: N/B
S/B: S/B
E/B: E/B
W/B: W/B
DUAL: 191
WHEELED: 126
BUSES: 61
BUSES: 53
BUSES: 68
BUSES: 76
N/B TIME: 176 8.30
S/B TIME: 237 8.00
E/B TIME: 121 9.30
W/B TIME: 250 8.15
AM PK 15 MIN: 281 17.30
PM PK 15 MIN: 168 17.15
AM PK HOUR: 610 7.45
PM PK HOUR: 967 17.00

| NORTHERN APPROACH | | | | | | | | | |
|-------------------|-----|------|-----|------|-------|-----|------|-----|------|
| Hours | Lt | Th | Rt | Totl | Hours | Lt | Th | Rt | Totl |
| 7-8 | 60 | 347 | 133 | 540 | 7-8 | 31 | 562 | 107 | 700 |
| 8-9 | 63 | 409 | 132 | 604 | 8-9 | 33 | 601 | 140 | 854 |
| 9-10 | 79 | 370 | 140 | 589 | 9-10 | 33 | 474 | 99 | 506 |
| 10-11 | 51 | 408 | 126 | 585 | 10-11 | 30 | 468 | 126 | 524 |
| 11-12 | 52 | 486 | 130 | 668 | 11-12 | 30 | 512 | 63 | 605 |
| 12-1 | 54 | 480 | 130 | 664 | 12-1 | 31 | 520 | 59 | 610 |
| 1-2 | 56 | 778 | 133 | 967 | 1-2 | 41 | 520 | 59 | 620 |
| TOTAL | 387 | 2794 | 794 | 3975 | TOTAL | 231 | 3214 | 541 | 3986 |

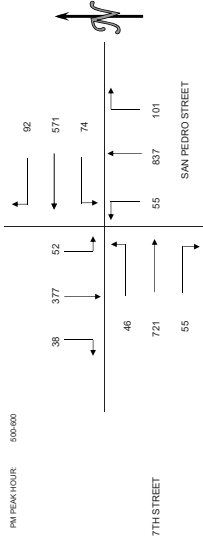
| SOUTHERN APPROACH | | | | | | | | | |
|-------------------|-----|------|-----|------|-------|-----|------|-----|------|
| Hours | Lt | Th | Rt | Totl | Hours | Lt | Th | Rt | Totl |
| 7-8 | 29 | 263 | 44 | 336 | 7-8 | 129 | 676 | 59 | 864 |
| 8-9 | 51 | 292 | 52 | 395 | 8-9 | 170 | 704 | 83 | 957 |
| 9-10 | 44 | 353 | 50 | 447 | 9-10 | 105 | 601 | 76 | 782 |
| 10-11 | 69 | 531 | 65 | 665 | 10-11 | 73 | 399 | 66 | 538 |
| 11-12 | 62 | 572 | 79 | 713 | 11-12 | 73 | 399 | 66 | 538 |
| 12-1 | 62 | 572 | 79 | 713 | 12-1 | 73 | 399 | 66 | 538 |
| 1-2 | 91 | 772 | 79 | 950 | 1-2 | 94 | 450 | 60 | 604 |
| TOTAL | 346 | 2783 | 361 | 3490 | TOTAL | 665 | 3170 | 410 | 4245 |

| EASTBOUND APPROACH | | | | | | | | | |
|--------------------|-----|------|-----|------|-------|-----|------|-----|------|
| Hours | Lt | Th | Rt | Totl | Hours | Lt | Th | Rt | Totl |
| 7-8 | 29 | 263 | 44 | 336 | 7-8 | 129 | 676 | 59 | 864 |
| 8-9 | 51 | 292 | 52 | 395 | 8-9 | 170 | 704 | 83 | 957 |
| 9-10 | 44 | 353 | 50 | 447 | 9-10 | 105 | 601 | 76 | 782 |
| 10-11 | 69 | 531 | 65 | 665 | 10-11 | 73 | 399 | 66 | 538 |
| 11-12 | 62 | 572 | 79 | 713 | 11-12 | 73 | 399 | 66 | 538 |
| 12-1 | 62 | 572 | 79 | 713 | 12-1 | 73 | 399 | 66 | 538 |
| 1-2 | 91 | 772 | 79 | 950 | 1-2 | 94 | 450 | 60 | 604 |
| TOTAL | 346 | 2783 | 361 | 3490 | TOTAL | 665 | 3170 | 410 | 4245 |

WILTEC

INTERSECTION CARP/BICYCLE TRAFFIC COUNT RESULTS SUMMARY
CLIENT: GIBSON TRANSPORTATION CONSULTING, INC.
PROJECT: AVALON BAY ARTS DISTRICT RESIDENTIAL TRAFFIC COUNTS
COUNT PERIOD: 10/10/2015
PERIOD: 10/10/2015
INTERSECTION: N/S SAN PEDRO STREET
E/W 7TH STREET
CITY: LOS ANGELES

| VEHICLE COUNTS | | | | | | | | | | | |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| PERIOD | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 300-315 | 14 | 112 | 9 | 16 | 98 | 25 | 18 | 132 | 11 | 22 | 124 |
| 315-330 | 11 | 96 | 18 | 5 | 96 | 23 | 27 | 107 | 10 | 17 | 146 |
| 330-345 | 9 | 904 | 10 | 18 | 86 | 15 | 20 | 111 | 11 | 13 | 138 |
| 345-360 | 17 | 117 | 7 | 15 | 107 | 18 | 23 | 123 | 11 | 11 | 136 |
| 360-375 | 13 | 136 | 9 | 11 | 108 | 12 | 18 | 130 | 13 | 11 | 148 |
| 375-390 | 8 | 100 | 10 | 11 | 121 | 13 | 23 | 134 | 11 | 14 | 145 |
| 390-405 | 15 | 106 | 8 | 9 | 114 | 12 | 29 | 152 | 22 | 19 | 174 |
| 405-420 | 8 | 108 | 14 | 25 | 143 | 20 | 30 | 192 | 14 | 15 | 168 |
| 420-435 | 13 | 108 | 13 | 25 | 148 | 26 | 25 | 201 | 12 | 16 | 190 |
| 435-450 | 9 | 96 | 12 | 26 | 145 | 15 | 23 | 200 | 11 | 12 | 195 |
| 450-465 | 11 | 103 | 13 | 12 | 115 | 17 | 21 | 118 | 10 | 15 | 123 |
| 465-480 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 480-495 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 495-510 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 510-525 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 525-540 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 540-555 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 555-570 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 570-585 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 585-600 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| TOTAL | 208 | 138 | 117 | 148 | 611 | 208 | 138 | 117 | 148 | 611 | 611 |



| PEDESTRIAN COUNTS | | | | | | | | | | | |
|-------------------|-----|-----|-----|-----|-----|---------|-----|-----|-----|-----|-----|
| PERIOD | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 300-315 | 46 | 23 | 38 | 33 | 138 | 300-315 | 46 | 23 | 38 | 33 | 138 |
| 315-330 | 32 | 24 | 37 | 10 | 103 | 315-330 | 32 | 24 | 37 | 10 | 103 |
| 330-345 | 32 | 29 | 24 | 14 | 99 | 330-345 | 32 | 29 | 24 | 14 | 99 |
| 345-360 | 25 | 21 | 45 | 4 | 95 | 345-360 | 25 | 21 | 45 | 4 | 95 |
| 360-375 | 34 | 27 | 38 | 15 | 114 | 360-375 | 34 | 27 | 38 | 15 | 114 |
| 375-390 | 40 | 20 | 25 | 12 | 97 | 375-390 | 40 | 20 | 25 | 12 | 97 |
| 390-405 | 33 | 18 | 39 | 33 | 123 | 390-405 | 33 | 18 | 39 | 33 | 123 |
| 405-420 | 41 | 27 | 32 | 48 | 150 | 405-420 | 41 | 27 | 32 | 48 | 150 |
| 420-435 | 41 | 27 | 32 | 48 | 150 | 420-435 | 41 | 27 | 32 | 48 | 150 |
| 435-450 | 44 | 33 | 33 | 36 | 144 | 435-450 | 44 | 33 | 33 | 36 | 144 |
| 450-465 | 42 | 20 | 30 | 41 | 133 | 450-465 | 42 | 20 | 30 | 41 | 133 |
| 465-480 | 56 | 33 | 29 | 38 | 158 | 465-480 | 56 | 33 | 29 | 38 | 158 |
| 480-495 | 134 | 97 | 144 | 61 | 436 | 480-495 | 134 | 97 | 144 | 61 | 436 |
| 495-510 | 131 | 97 | 132 | 45 | 405 | 495-510 | 131 | 97 | 132 | 45 | 405 |
| 510-525 | 142 | 95 | 134 | 48 | 419 | 510-525 | 142 | 95 | 134 | 48 | 419 |
| 525-540 | 146 | 92 | 134 | 108 | 480 | 525-540 | 146 | 92 | 134 | 108 | 480 |
| 540-555 | 178 | 117 | 122 | 127 | 544 | 540-555 | 178 | 117 | 122 | 127 | 544 |
| 555-570 | 182 | 130 | 126 | 150 | 591 | 555-570 | 182 | 130 | 126 | 150 | 591 |
| 570-585 | 191 | 132 | 120 | 158 | 601 | 570-585 | 191 | 132 | 120 | 158 | 601 |
| 585-600 | 208 | 138 | 117 | 148 | 611 | 585-600 | 208 | 138 | 117 | 148 | 611 |
| TOTAL | 208 | 138 | 117 | 148 | 611 | TOTAL | 208 | 138 | 117 | 148 | 611 |

| BICYCLE COUNTS | | | | | | | | | | | |
|----------------|-----|-----|-----|-----|-----|---------|-----|-----|-----|-----|-----|
| PERIOD | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 300-315 | 46 | 23 | 38 | 33 | 138 | 300-315 | 46 | 23 | 38 | 33 | 138 |
| 315-330 | 32 | 24 | 37 | 10 | 103 | 315-330 | 32 | 24 | 37 | 10 | 103 |
| 330-345 | 32 | 29 | 24 | 14 | 99 | 330-345 | 32 | 29 | 24 | 14 | 99 |
| 345-360 | 25 | 21 | 45 | 4 | 95 | 345-360 | 25 | 21 | 45 | 4 | 95 |
| 360-375 | 34 | 27 | 38 | 15 | 114 | 360-375 | 34 | 27 | 38 | 15 | 114 |
| 375-390 | 40 | 20 | 25 | 12 | 97 | 375-390 | 40 | 20 | 25 | 12 | 97 |
| 390-405 | 33 | 18 | 39 | 33 | 123 | 390-405 | 33 | 18 | 39 | 33 | 123 |
| 405-420 | 41 | 27 | 32 | 48 | 150 | 405-420 | 41 | 27 | 32 | 48 | 150 |
| 420-435 | 41 | 27 | 32 | 48 | 150 | 420-435 | 41 | 27 | 32 | 48 | 150 |
| 435-450 | 44 | 33 | 33 | 36 | 144 | 435-450 | 44 | 33 | 33 | 36 | 144 |
| 450-465 | 42 | 20 | 30 | 41 | 133 | 450-465 | 42 | 20 | 30 | 41 | 133 |
| 465-480 | 56 | 33 | 29 | 38 | 158 | 465-480 | 56 | 33 | 29 | 38 | 158 |
| 480-495 | 134 | 97 | 144 | 61 | 436 | 480-495 | 134 | 97 | 144 | 61 | 436 |
| 495-510 | 131 | 97 | 132 | 45 | 405 | 495-510 | 131 | 97 | 132 | 45 | 405 |
| 510-525 | 142 | 95 | 134 | 48 | 419 | 510-525 | 142 | 95 | 134 | 48 | 419 |
| 525-540 | 146 | 92 | 134 | 108 | 480 | 525-540 | 146 | 92 | 134 | 108 | 480 |
| 540-555 | 178 | 117 | 122 | 127 | 544 | 540-555 | 178 | 117 | 122 | 127 | 544 |
| 555-570 | 182 | 130 | 126 | 150 | 591 | 555-570 | 182 | 130 | 126 | 150 | 591 |
| 570-585 | 191 | 132 | 120 | 158 | 601 | 570-585 | 191 | 132 | 120 | 158 | 601 |
| 585-600 | 208 | 138 | 117 | 148 | 611 | 585-600 | 208 | 138 | 117 | 148 | 611 |
| TOTAL | 208 | 138 | 117 | 148 | 611 | TOTAL | 208 | 138 | 117 | 148 | 611 |

Manual Traffic Count Summary

ITM Peak Hour Summary

Prepared by:
NDS
National Data & Surveying Services

Street:
North/South Mateo Street
East/West 7th Street

Date: 10/14/2014 Weather: Sunny

Day: Tuesday Date: 10/14/2014 Weather: Sunny

Hours: 7-10AM 3-6PM

School Day: Yes

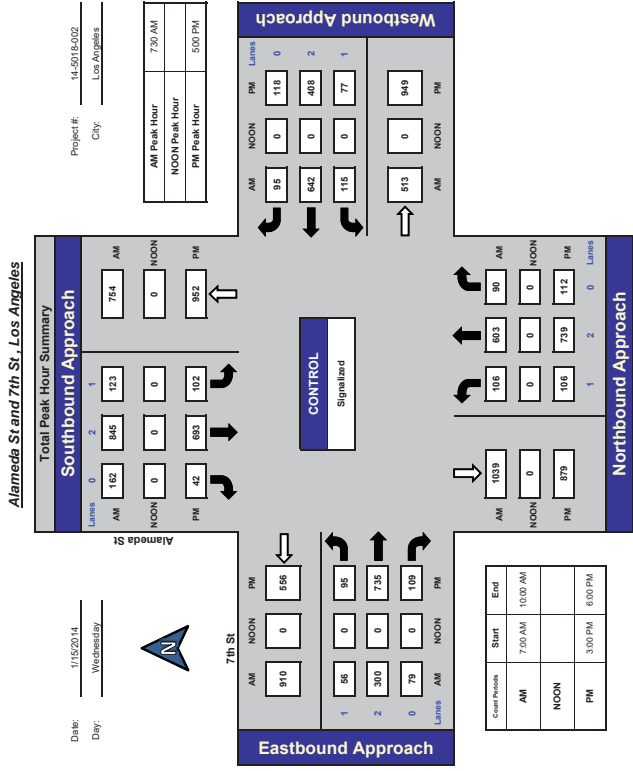
Project #: 14-5018-002
City: Los Angeles

| | | | | |
|-------------|-----|-----|-----|-----|
| | N/B | S/B | E/B | W/B |
| Dual-Wheel: | 166 | 161 | 279 | 307 |
| Bikes: | 14 | 6 | 13 | 15 |
| Buses: | 8 | 9 | 149 | 117 |

| | N/B | S/B | E/B | W/B | TIME |
|--------------|-----|-----|------|-----|------|
| AM PK 15 MIN | 58 | 75 | 815 | 106 | 9:45 |
| PM PK 15 MIN | 103 | 58 | 3:45 | 196 | 5:45 |
| AM PK HOUR | 199 | 266 | 7:45 | 364 | 8:00 |
| PM PK HOUR | 350 | 217 | 3:15 | 714 | 5:00 |

| NORTHBOUND Approach | | | | | SOUTHBOUND Approach | | | | | Total | | XING S/L | | XING N/L | | |
|---------------------|-----|-----|-----|-------|---------------------|-----|-----|-----|-------|-------|-----|----------|-----|----------|-----|---|
| Hours | Rt | Th | Lt | Total | Hours | Rt | Th | Lt | Total | N/S | Ped | Sch | Sch | Sch | Sch | |
| 7-8 | 20 | 71 | 84 | 175 | 7-8 | 51 | 111 | 19 | 181 | 356 | 30 | 0 | 21 | 0 | 21 | 0 |
| 8-9 | 32 | 82 | 68 | 182 | 8-9 | 49 | 162 | 40 | 251 | 433 | 21 | 0 | 19 | 0 | 19 | 0 |
| 9-10 | 26 | 85 | 73 | 184 | 9-10 | 43 | 115 | 31 | 189 | 373 | 13 | 0 | 16 | 0 | 16 | 0 |
| 3-4 | 41 | 102 | 52 | 195 | 3-4 | 50 | 123 | 42 | 215 | 410 | 26 | 0 | 16 | 0 | 16 | 0 |
| 4-5 | 50 | 103 | 83 | 236 | 4-5 | 39 | 114 | 38 | 191 | 427 | 24 | 0 | 17 | 0 | 17 | 0 |
| 5-6 | 49 | 172 | 129 | 350 | 5-6 | 27 | 107 | 33 | 167 | 517 | 40 | 0 | 32 | 0 | 32 | 0 |
| Total | 218 | 615 | 489 | 1322 | Total | 259 | 732 | 203 | 1194 | 2516 | 154 | 0 | 121 | 0 | 121 | 0 |

| EASTBOUND Approach | | | | | WESTBOUND Approach | | | | | Total | | XING E/W | |
|--------------------|-----|------|-----|-------|--------------------|-----|------|-----|-------|-------|-----|----------|--|
| Hours | Rt | Th | Lt | Total | Hours | Rt | Th | Lt | Total | E/W | Ped | Sch | |
| 7-8 | 35 | 233 | 22 | 290 | 7-8 | 22 | 545 | 96 | 663 | 953 | 24 | 0 | |
| 8-9 | 37 | 295 | 32 | 364 | 8-9 | 38 | 513 | 111 | 662 | 1026 | 13 | 0 | |
| 9-10 | 34 | 290 | 34 | 358 | 9-10 | 34 | 482 | 87 | 603 | 961 | 15 | 0 | |
| 3-4 | 76 | 459 | 47 | 582 | 3-4 | 15 | 248 | 52 | 315 | 897 | 17 | 0 | |
| 4-5 | 72 | 493 | 38 | 603 | 4-5 | 31 | 277 | 37 | 345 | 948 | 16 | 0 | |
| 5-6 | 77 | 564 | 73 | 714 | 5-6 | 29 | 292 | 52 | 373 | 1087 | 23 | 0 | |
| Total | 331 | 2334 | 246 | 2911 | Total | 169 | 2357 | 435 | 2961 | 5872 | 107 | 0 | |



Total Ins & Outs

| North Leg | | East Leg | | South Leg | | West Leg | |
|-----------|------|----------|-----|-----------|-----|----------|------|
| AM | NOON | PM | AM | NOON | PM | AM | NOON |
| 910 | 0 | 586 | 852 | 0 | 663 | 1029 | 759 |
| 435 | 0 | 833 | 513 | 0 | 949 | 879 | 957 |

Total Volume Per Leg

| North Leg | | East Leg | | South Leg | | West Leg | |
|-----------|------|----------|------|-----------|------|----------|------|
| AM | NOON | PM | AM | NOON | PM | AM | NOON |
| 1864 | 0 | 1582 | 1838 | 0 | 1582 | 1838 | 0 |

| | | | |
|---------------------|---------|-----------------|------------|
| Street: | | Santa Fe Street | |
| North/South | | 7th Street | |
| East/West | | | |
| Day: | Tuesday | Date: | 10/14/2014 |
| Weather: | | Sunny | |
| Hours: 7-10AM | | 3-6PM | |
| School Day: | Yes | | |
| Dual-Wheel: | | N/B | S/B |
| Bikes: | | 282 | 149 |
| Buses: | | 0 | 15 |
| | | 97 | 3 |
| | | N/B | S/B |
| | | 130 | 7-30 |
| AM PK 15 MIN | | 185 | 5:45 |
| PM PK 15 MIN | | 466 | 7:00 |
| AM PK HOUR | | 611 | 5:00 |
| PM PK HOUR | | | |
| NORTHBOUND Approach | | Hours | 7-8 |
| | | Rt | Th |
| | | 80 | 274 |
| | | 112 | 466 |
| | | 7-8 | |
| | | 104 | 246 |
| | | 91 | 441 |
| | | 8-9 | |
| | | 86 | 197 |
| | | 102 | 385 |
| | | 9-10 | |
| | | 141 | 212 |
| | | 86 | 439 |
| | | 3-4 | |
| | | 107 | 253 |
| | | 70 | 430 |
| | | 4-5 | |
| | | 157 | 350 |
| | | 104 | 611 |
| | | 5-6 | |
| Total | | 675 | 1532 |
| | | 565 | 2772 |
| SOUTHBOUND Approach | | Hours | 7-8 |
| | | Rt | Th |
| | | 18 | 155 |
| | | 24 | 197 |
| | | 7-8 | |
| | | 19 | 128 |
| | | 30 | 177 |
| | | 8-9 | |
| | | 14 | 148 |
| | | 30 | 192 |
| | | 9-10 | |
| | | 29 | 222 |
| | | 51 | 302 |
| | | 3-4 | |
| | | 24 | 280 |
| | | 46 | 350 |
| | | 4-5 | |
| | | 12 | 252 |
| | | 36 | 300 |
| | | 5-6 | |
| Total | | 116 | 1185 |
| | | 217 | 1518 |
| WESTBOUND Approach | | Hours | 7-8 |
| | | Rt | Th |
| | | 150 | 562 |
| | | 286 | 998 |
| | | 7-8 | |
| | | 104 | 620 |
| | | 277 | 1001 |
| | | 8-9 | |
| | | 93 | 523 |
| | | 239 | 855 |
| | | 9-10 | |
| | | 31 | 237 |
| | | 204 | 472 |
| | | 3-4 | |
| | | 36 | 276 |
| | | 211 | 523 |
| | | 4-5 | |
| | | 64 | 284 |
| | | 248 | 596 |
| | | 5-6 | |
| Total | | 478 | 2502 |
| | | 1465 | 4445 |

Location ID: 1
North/South: Anderson Street
East/West: 7th Street

Date: 10/25/16
City: Los Angeles, CA

| | Southbound | | | Westbound | | | Northbound | | | Eastbound | | | |
|----------------|------------|----|-----|-----------|------|----|------------|----|-----|-----------|------|-----|---------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | Totals: |
| Movements: | R | T | L | R | T | L | R | T | L | R | T | L | |
| 7:00 | 29 | 0 | 2 | 37 | 412 | 0 | 0 | 0 | 1 | 5 | 76 | 18 | 580 |
| 7:15 | 18 | 0 | 4 | 66 | 477 | 0 | 1 | 1 | 3 | 4 | 96 | 13 | 683 |
| 7:30 | 29 | 0 | 8 | 69 | 504 | 1 | 0 | 1 | 2 | 4 | 84 | 17 | 719 |
| 7:45 | 23 | 0 | 10 | 75 | 471 | 1 | 2 | 0 | 4 | 0 | 91 | 17 | 694 |
| 8:00 | 20 | 0 | 7 | 76 | 508 | 4 | 1 | 0 | 4 | 1 | 118 | 18 | 757 |
| 8:15 | 20 | 0 | 12 | 74 | 453 | 3 | 4 | 1 | 2 | 2 | 113 | 12 | 696 |
| 8:30 | 13 | 0 | 8 | 67 | 413 | 4 | 2 | 0 | 3 | 3 | 100 | 18 | 631 |
| 8:45 | 28 | 0 | 6 | 45 | 446 | 4 | 2 | 0 | 4 | 2 | 94 | 13 | 644 |
| 9:00 | 20 | 0 | 9 | 42 | 445 | 3 | 0 | 0 | 2 | 8 | 101 | 9 | 639 |
| 9:15 | 16 | 0 | 7 | 48 | 451 | 3 | 3 | 0 | 1 | 1 | 109 | 13 | 652 |
| 9:30 | 12 | 0 | 12 | 29 | 408 | 1 | 0 | 0 | 4 | 4 | 123 | 10 | 603 |
| 9:45 | 23 | 0 | 10 | 46 | 415 | 2 | 1 | 1 | 1 | 0 | 109 | 6 | 614 |
| Total Volume: | 251 | 0 | 95 | 674 | 5403 | 26 | 16 | 4 | 31 | 34 | 1214 | 164 | 7912 |
| Approach % | 73% | 0% | 27% | 11% | 89% | 0% | 31% | 8% | 61% | 2% | 86% | 12% | |
| Peak Hr Begin: | 7:30 | | | | | | | | | | | | |
| PHV | 92 | 0 | 37 | 294 | 1936 | 9 | 7 | 2 | 12 | 7 | 406 | 64 | 2866 |
| PHF | 0.872 | | | 0.952 | | | 0.750 | | | 0.870 | | | 0.946 |

Turning Movement Count Report PM

Location ID: 1
 North/South: Anderson Street
 East/West: 7th Street

Date: 10/25/16
 City: Los Angeles, CA

| | Southbound | | | Westbound | | | Northbound | | | Eastbound | | | |
|------------|------------|---|----|-----------|-----|---|------------|---|---|-----------|-----|----|---------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | Totals: |
| Movements: | R | T | L | R | T | L | R | T | L | R | T | L | |
| 15:00 | 23 | 0 | 14 | 21 | 146 | 5 | 2 | 0 | 3 | 1 | 202 | 6 | 423 |
| 15:15 | 27 | 0 | 15 | 29 | 151 | 4 | 12 | 1 | 3 | 1 | 201 | 18 | 462 |
| 15:30 | 25 | 0 | 33 | 25 | 166 | 0 | 13 | 0 | 4 | 0 | 208 | 28 | 502 |
| 15:45 | 20 | 0 | 25 | 30 | 139 | 3 | 6 | 0 | 0 | 0 | 236 | 19 | 478 |
| 16:00 | 33 | 0 | 19 | 26 | 161 | 2 | 0 | 0 | 0 | 1 | 228 | 17 | 487 |
| 16:15 | 32 | 0 | 13 | 23 | 133 | 2 | 2 | 0 | 0 | 1 | 219 | 15 | 440 |
| 16:30 | 53 | 0 | 24 | 25 | 141 | 1 | 0 | 0 | 0 | 0 | 240 | 17 | 501 |
| 16:45 | 38 | 0 | 19 | 22 | 149 | 0 | 1 | 0 | 0 | 0 | 256 | 27 | 512 |
| 17:00 | 29 | 0 | 36 | 15 | 147 | 0 | 0 | 0 | 0 | 0 | 241 | 20 | 488 |
| 17:15 | 31 | 0 | 30 | 23 | 170 | 1 | 1 | 0 | 0 | 0 | 261 | 26 | 543 |
| 17:30 | 37 | 0 | 28 | 37 | 187 | 1 | 0 | 0 | 0 | 0 | 288 | 33 | 611 |
| 17:45 | 24 | 0 | 18 | 44 | 173 | 0 | 0 | 0 | 0 | 0 | 244 | 42 | 545 |

| | | | | | | | | | | | | | |
|---------------|-----|----|-----|-----|------|----|-----|----|-----|----|------|-----|------|
| Total Volume: | 372 | 0 | 274 | 320 | 1863 | 19 | 37 | 1 | 10 | 4 | 2824 | 268 | 5992 |
| Approach % | 58% | 0% | 42% | 15% | 85% | 1% | 77% | 2% | 21% | 0% | 91% | 9% | |

| | | | | | | | | | | | | | |
|----------------|-------|-------|-----|-----|-------|---|---|-------|---|---|-------|-----|-------|
| Peak Hr Begin: | 17:00 | | | | | | | | | | | | |
| PHV | 121 | 0 | 112 | 119 | 677 | 2 | 1 | 0 | 0 | 0 | 1034 | 121 | 2187 |
| PHF | | 0.896 | | | 0.887 | | | 0.250 | | | 0.900 | | 0.895 |

Prepared by City Count, LLC. (www.citycount.com)

Pedestrian/Bicycle Count Report

| | North | | East | | South | | West | |
|------|-------|---------|------|---------|-------|---------|------|---------|
| Leg: | Peds | Bicycle | Peds | Bicycle | Peds | Bicycle | Peds | Bicycle |
| 7:00 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:15 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 7:30 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 3 | 0 | 4 | 0 | 4 | 0 | 0 | 0 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 8:30 | 2 | 0 | 2 | 0 | 3 | 0 | 1 | 0 |
| 8:45 | 1 | 0 | 2 | 0 | 7 | 0 | 2 | 0 |
| 9:00 | 2 | 0 | 0 | 0 | 3 | 1 | 0 | 0 |
| 9:15 | 1 | 0 | 2 | 0 | 1 | 0 | 0 | 0 |
| 9:30 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| 9:45 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |

| | North | | East | | South | | West | |
|-------|-------|---------|------|---------|-------|---------|------|---------|
| Leg: | Peds | Bicycle | Peds | Bicycle | Peds | Bicycle | Peds | Bicycle |
| 15:00 | 2 | 0 | 0 | 0 | 3 | 1 | 2 | 0 |
| 15:15 | 2 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 15:30 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 |
| 15:45 | 4 | 0 | 1 | 0 | 0 | 0 | 2 | 1 |
| 16:00 | 0 | 0 | 1 | 0 | 2 | 1 | 2 | 0 |
| 16:15 | 2 | 1 | 0 | 0 | 0 | 0 | 2 | 0 |
| 16:30 | 1 | 1 | 1 | 0 | 2 | 0 | 1 | 0 |
| 16:45 | 1 | 1 | 1 | 0 | 2 | 0 | 0 | 0 |
| 17:00 | 3 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 17:15 | 3 | 0 | 0 | 0 | 1 | 0 | 3 | 0 |
| 17:30 | 4 | 0 | 2 | 0 | 2 | 2 | 0 | 0 |
| 17:45 | 1 | 0 | 1 | 0 | 2 | 0 | 2 | 0 |

Turning Movement Count Report AM

Location ID: 2
 North/South: US 101 SB Off-Ramp/I-5 SB On-Ramp
 East/West: 7th Street

Date: 10/25/16
 City: Los Angeles, CA

| | Southbound | | | Westbound | | | Northbound | | | Eastbound | | | Totals: |
|------------|------------|---|---|-----------|-----|---|------------|---|---|-----------|----|----|---------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | |
| Movements: | R | T | L | R | T | L | R | T | L | R | T | L | |
| 7:00 | 29 | 0 | 2 | 0 | 412 | 0 | 0 | 0 | 0 | 26 | 51 | 0 | 520 |
| 7:15 | 22 | 0 | 2 | 0 | 516 | 1 | 0 | 0 | 0 | 24 | 63 | 0 | 628 |
| 7:30 | 42 | 0 | 6 | 0 | 529 | 1 | 0 | 0 | 0 | 30 | 65 | 0 | 673 |
| 7:45 | 35 | 0 | 5 | 0 | 509 | 1 | 0 | 0 | 0 | 35 | 64 | 0 | 649 |
| 8:00 | 46 | 0 | 4 | 0 | 540 | 0 | 0 | 0 | 0 | 36 | 95 | 0 | 721 |
| 8:15 | 28 | 0 | 6 | 0 | 494 | 0 | 0 | 0 | 0 | 37 | 85 | 0 | 650 |
| 8:30 | 57 | 0 | 5 | 0 | 426 | 0 | 0 | 0 | 0 | 35 | 78 | 0 | 601 |
| 8:45 | 47 | 0 | 5 | 0 | 458 | 2 | 0 | 0 | 0 | 38 | 67 | 0 | 617 |
| 9:00 | 42 | 0 | 8 | 0 | 454 | 0 | 0 | 0 | 0 | 28 | 74 | 0 | 606 |
| 9:15 | 40 | 0 | 4 | 0 | 461 | 1 | 0 | 0 | 0 | 44 | 67 | 0 | 617 |
| 9:30 | 49 | 0 | 3 | 0 | 385 | 1 | 0 | 0 | 0 | 45 | 88 | 0 | 571 |
| 9:45 | 57 | 0 | 3 | 0 | 409 | 0 | 0 | 0 | 0 | 34 | 90 | 0 | 593 |

| | | | | | | | | | | | | | |
|---------------|-----|----|-----|----|------|----|----|----|----|-----|-----|----|------|
| Total Volume: | 494 | 0 | 53 | 0 | 5593 | 7 | 0 | 0 | 0 | 412 | 887 | 0 | 7446 |
| Approach % | 90% | 0% | 10% | 0% | 100% | 0% | 0% | 0% | 0% | 32% | 68% | 0% | |

| | | | | | | | | | | | | | |
|----------------|-------|---|----|-------|------|---|-------|---|---|-------|-----|---|-------|
| Peak Hr Begin: | 7:30 | | | | | | | | | | | | |
| PHV | 151 | 0 | 21 | 0 | 2072 | 2 | 0 | 0 | 0 | 138 | 309 | 0 | 2693 |
| PHF | 0.860 | | | 0.960 | | | 0.000 | | | 0.853 | | | 0.934 |

Prepared by City Count, LLC. (www.citycount.com)

Turning Movement Count Report PM

Location ID: 2
 North/South: US 101 SB Off-Ramp/I-5 SB On-Ramp
 East/West: 7th Street

Date: 10/25/16
 City: Los Angeles, CA

| | Southbound | | | Westbound | | | Northbound | | | Eastbound | | | Totals: |
|------------|------------|---|----|-----------|-----|---|------------|---|---|-----------|-----|----|---------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | |
| Movements: | R | T | L | R | T | L | R | T | L | R | T | L | |
| 15:00 | 24 | 1 | 18 | 0 | 140 | 0 | 0 | 0 | 0 | 59 | 163 | 0 | 405 |
| 15:15 | 30 | 0 | 22 | 0 | 152 | 0 | 0 | 0 | 0 | 48 | 169 | 0 | 421 |
| 15:30 | 36 | 0 | 11 | 0 | 173 | 0 | 0 | 0 | 0 | 46 | 220 | 0 | 486 |
| 15:45 | 29 | 1 | 13 | 0 | 141 | 0 | 0 | 0 | 0 | 34 | 216 | 0 | 434 |
| 16:00 | 27 | 0 | 7 | 0 | 154 | 0 | 0 | 0 | 0 | 42 | 217 | 0 | 447 |
| 16:15 | 15 | 0 | 9 | 0 | 149 | 0 | 0 | 0 | 0 | 37 | 196 | 0 | 406 |
| 16:30 | 25 | 0 | 14 | 0 | 144 | 0 | 0 | 0 | 0 | 28 | 230 | 0 | 441 |
| 16:45 | 21 | 0 | 11 | 0 | 149 | 0 | 0 | 0 | 0 | 41 | 239 | 0 | 461 |
| 17:00 | 18 | 0 | 11 | 0 | 141 | 0 | 0 | 0 | 0 | 35 | 249 | 0 | 454 |
| 17:15 | 25 | 0 | 11 | 0 | 157 | 0 | 0 | 0 | 0 | 34 | 248 | 0 | 475 |
| 17:30 | 18 | 0 | 16 | 0 | 200 | 0 | 0 | 0 | 0 | 33 | 277 | 0 | 544 |
| 17:45 | 14 | 0 | 12 | 0 | 205 | 0 | 0 | 0 | 0 | 36 | 232 | 0 | 499 |

| | | | | | | | | | | | | | |
|---------------|-----|----|-----|----|------|----|----|----|----|-----|------|----|------|
| Total Volume: | 282 | 2 | 155 | 0 | 1905 | 0 | 0 | 0 | 0 | 473 | 2656 | 0 | 5473 |
| Approach % | 64% | 0% | 35% | 0% | 100% | 0% | 0% | 0% | 0% | 15% | 85% | 0% | |

| | | | | | | | | | | | | | |
|----------------|-------|---|----|-------|-----|---|-------|---|---|-------|------|---|-------|
| Peak Hr Begin: | 17:00 | | | | | | | | | | | | |
| PHV | 75 | 0 | 50 | 0 | 703 | 0 | 0 | 0 | 0 | 138 | 1006 | 0 | 1972 |
| PHF | 0.868 | | | 0.857 | | | 0.000 | | | 0.923 | | | 0.906 |

Prepared by City Count, LLC. (www.citycount.com)

Pedestrian/Bicycle Count Report

| Leg: | North | | East | | South | | West | |
|------|-------|---------|------|---------|-------|---------|------|---------|
| | Peds | Bicycle | Peds | Bicycle | Peds | Bicycle | Peds | Bicycle |
| 7:00 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:15 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 3 | 0 | 0 | 0 | 3 | 0 | 0 | 0 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 |
| 9:00 | 2 | 0 | 0 | 0 | 3 | 0 | 0 | 0 |
| 9:15 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:30 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 |
| 9:45 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |

| Leg: | North | | East | | South | | West | |
|-------|-------|---------|------|---------|-------|---------|------|---------|
| | Peds | Bicycle | Peds | Bicycle | Peds | Bicycle | Peds | Bicycle |
| 15:00 | 2 | 1 | 0 | 0 | 2 | 0 | 0 | 0 |
| 15:15 | 2 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| 15:30 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 15:45 | 3 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 16:00 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 16:15 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:30 | 2 | 2 | 0 | 0 | 2 | 0 | 0 | 0 |
| 16:45 | 2 | 2 | 0 | 0 | 3 | 0 | 0 | 0 |
| 17:00 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 17:15 | 2 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 17:30 | 9 | 0 | 0 | 0 | 2 | 0 | 1 | 0 |
| 17:45 | 6 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |

ITM Peak Hour Summary

Prepared by:

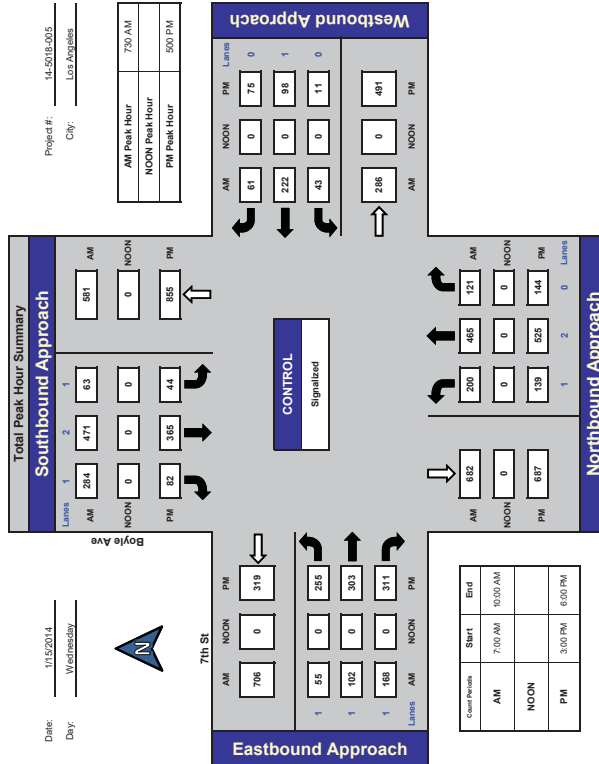


National Data & Surveying Services

Boyle Ave and 7th St., Los Angeles

Date: 4/15/2014
Day: Wednesday

Project #: 14-5018-005
City: Los Angeles



Total Volume Per Leg

| Leg | AM | NOON | PM |
|-----------|------|------|------|
| North Leg | 1339 | 0 | 1346 |
| East Leg | 612 | 0 | 675 |
| West Leg | 1031 | 0 | 1188 |
| South Leg | 1468 | 0 | 1495 |

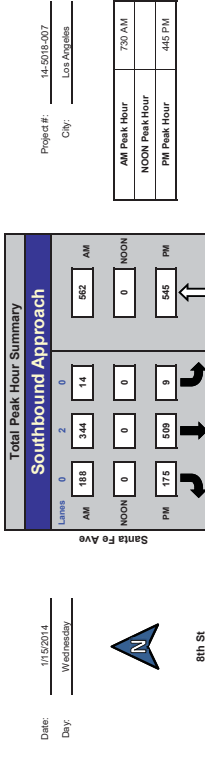
Total Ins & Outs

| Leg | AM | NOON | PM |
|-----------|-----|------|-----|
| North Leg | 818 | 0 | 855 |
| East Leg | 325 | 0 | 314 |
| West Leg | 706 | 0 | 869 |
| South Leg | 687 | 0 | 687 |

ITM Peak Hour Summary

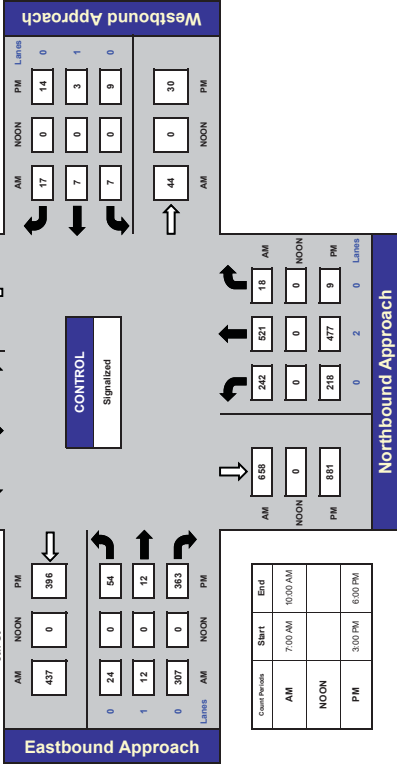
Prepared by:
NDS
National Data & Surveying Services

Santa Fe Ave and 8th St., Los Angeles



Date: 1/15/2014
Day: Wednesday

Project #: 14-5018-007
City: Los Angeles



WILTEC

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

Phone: (858) 594-1944 Fax: (858) 594-1944 E-mail: info@witecusa.com

CLIENT: FERR & PETERS
PROJECT: BOYLE HEIGHTS MIXED USE PROJECT
PERIOD: FROM 01/01/2009 TO 01/12/2009
INTERSECTION: 39 NIS CENTRAL AVENUE
EW OLYMPIC BOULEVARD

| 15-MIN COUNTS | 1 SBRT | | 2 SBTH | | 3 SBLT | | 4 WBRT | | 5 WBTH | | 6 WBLT | |
|---------------|--------|--------|--------|------|--------|-------|--------|--------|--------|------|--------|-------|
| | CARS | TRUCKS | TOTAL | CARS | TRUCKS | TOTAL | CARS | TRUCKS | TOTAL | CARS | TRUCKS | TOTAL |
| W-910 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 |
| W-915 | 9 | 0 | 9 | 5 | 1 | 6 | 2 | 0 | 2 | 1 | 0 | 2 |
| W-920 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-925 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-930 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-935 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-940 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-945 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-950 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-955 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-960 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-965 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-970 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-975 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-980 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-985 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-990 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-995 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1000 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1005 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1010 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1015 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1020 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1025 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1030 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1035 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1040 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1045 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1050 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1055 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1060 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1065 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1070 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1075 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1080 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1085 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1090 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1095 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1100 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1105 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1110 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1115 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1120 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1125 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1130 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1135 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1140 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1145 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1150 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1155 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1160 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1165 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1170 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1175 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1180 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1185 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1190 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1195 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1200 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1205 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1210 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1215 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1220 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1225 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1230 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1235 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1240 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1245 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1250 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1255 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1260 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1265 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1270 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1275 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1280 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1285 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1290 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1295 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1300 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1305 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1310 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1315 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1320 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1325 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1330 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1335 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1340 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1345 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1350 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1355 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1360 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1365 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1370 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1375 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1380 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1385 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1390 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1395 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1400 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1405 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1410 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1415 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1420 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1425 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1430 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1435 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1440 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1445 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1450 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1455 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1460 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1465 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1470 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1475 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1480 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1485 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1490 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1495 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1500 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1505 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1510 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1515 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1520 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1525 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1530 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1535 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1540 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1545 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1550 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1555 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1560 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1565 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1570 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1575 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1580 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1585 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1590 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1595 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1600 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1605 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 |
| W-1610 | 1 | 0 | | | | | | | | | | |

WILTEC

INTERSECTION CAR/PED/BK TRAFFIC COUNT RESULTS SUMMARY

CLIENT: GIBSON TRANSPORTATION CONSULTING, INC.
PROJECT: AVALON BAY ARTS DISTRICT RESIDENTIAL TRAFFIC COUNTS
PERIOD: JANUARY 10, 2015
INTERSECTION: N/S ALAMEDA STREET
CITY: LOS ANGELES

WILTEC

INTERSECTION CAR/PED/BK TRAFFIC COUNT RESULTS SUMMARY

CLIENT: GIBSON TRANSPORTATION CONSULTING, INC.
PROJECT: AVALON BAY ARTS DISTRICT RESIDENTIAL TRAFFIC COUNTS
PERIOD: JANUARY 10, 2015
INTERSECTION: N/S ALAMEDA STREET
CITY: LOS ANGELES

| VEHICLE COUNTS | | | | | | | | | | | | |
|----------------|-----|------|------|------|------|------|------|------|------|------|------|------|
| 15 MIN COUNTS | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| PERIOD | SRT | SBTH | SBLT | WBRT | WBTH | NBLT | NBLT | NBLT | NBLT | EBRT | EBTH | EBLT |
| 300-315 | 48 | 213 | 32 | 12 | 162 | 17 | 46 | 133 | 16 | 14 | 244 | 15 |
| 315-330 | 51 | 181 | 31 | 12 | 155 | 17 | 46 | 133 | 16 | 14 | 244 | 15 |
| 330-345 | 36 | 194 | 21 | 10 | 183 | 15 | 42 | 152 | 18 | 10 | 233 | 16 |
| 345-400 | 47 | 223 | 33 | 6 | 176 | 19 | 31 | 156 | 20 | 16 | 240 | 21 |
| 400-415 | 30 | 199 | 26 | 7 | 169 | 13 | 34 | 148 | 13 | 5 | 219 | 24 |
| 415-430 | 41 | 216 | 29 | 13 | 219 | 18 | 27 | 157 | 26 | 13 | 266 | 21 |
| 430-445 | 48 | 202 | 18 | 12 | 210 | 22 | 39 | 172 | 18 | 26 | 230 | 16 |
| 445-500 | 28 | 199 | 22 | 9 | 236 | 16 | 37 | 199 | 18 | 9 | 235 | 15 |
| 500-515 | 24 | 222 | 36 | 11 | 244 | 21 | 42 | 193 | 17 | 8 | 245 | 13 |
| 515-530 | 26 | 242 | 22 | 6 | 201 | 16 | 63 | 209 | 21 | 9 | 232 | 17 |
| 530-545 | 30 | 218 | 20 | 14 | 225 | 20 | 57 | 173 | 21 | 7 | 200 | 14 |
| 545-600 | 34 | 219 | 14 | 14 | 212 | 5 | 163 | 16 | 8 | 210 | 14 | 1621 |
| HOURLY TOTALS | | | | | | | | | | | | |
| PERIOD | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 300-400 | 154 | 813 | 118 | 41 | 683 | 73 | 190 | 594 | 81 | 55 | 995 | 74 |
| 315-415 | 136 | 769 | 112 | 36 | 710 | 69 | 148 | 599 | 78 | 46 | 970 | 83 |
| 330-430 | 156 | 830 | 111 | 36 | 767 | 65 | 134 | 618 | 78 | 44 | 978 | 82 |
| 345-445 | 147 | 816 | 96 | 41 | 854 | 69 | 137 | 676 | 75 | 53 | 950 | 62 |
| 415-515 | 141 | 839 | 105 | 43 | 908 | 77 | 145 | 771 | 78 | 56 | 978 | 65 |
| 430-530 | 126 | 863 | 94 | 33 | 926 | 75 | 130 | 774 | 4 | 32 | 912 | 59 |
| 445-545 | 128 | 862 | 94 | 33 | 926 | 75 | 130 | 776 | 83 | 32 | 908 | 54 |
| 500-600 | 114 | 865 | 96 | 38 | 885 | 77 | 219 | 768 | 82 | 30 | 908 | 54 |
| TOTAL | | | | | | | | | | | | |
| PERIOD | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 300-400 | 154 | 813 | 118 | 41 | 683 | 73 | 190 | 594 | 81 | 55 | 995 | 74 |
| 315-415 | 136 | 769 | 112 | 36 | 710 | 69 | 148 | 599 | 78 | 46 | 970 | 83 |
| 330-430 | 156 | 830 | 111 | 36 | 767 | 65 | 134 | 618 | 78 | 44 | 978 | 82 |
| 345-445 | 147 | 816 | 96 | 41 | 854 | 69 | 137 | 676 | 75 | 53 | 950 | 62 |
| 415-515 | 141 | 839 | 105 | 43 | 908 | 77 | 145 | 771 | 78 | 56 | 978 | 65 |
| 430-530 | 126 | 863 | 94 | 33 | 926 | 75 | 130 | 774 | 4 | 32 | 912 | 59 |
| 445-545 | 128 | 862 | 94 | 33 | 926 | 75 | 130 | 774 | 4 | 32 | 912 | 59 |
| 500-600 | 114 | 865 | 96 | 38 | 885 | 77 | 219 | 768 | 82 | 30 | 908 | 54 |
| TOTAL | | | | | | | | | | | | |
| PERIOD | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 300-400 | 154 | 813 | 118 | 41 | 683 | 73 | 190 | 594 | 81 | 55 | 995 | 74 |
| 315-415 | 136 | 769 | 112 | 36 | 710 | 69 | 148 | 599 | 78 | 46 | 970 | 83 |
| 330-430 | 156 | 830 | 111 | 36 | 767 | 65 | 134 | 618 | 78 | 44 | 978 | 82 |
| 345-445 | 147 | 816 | 96 | 41 | 854 | 69 | 137 | 676 | 75 | 53 | 950 | 62 |
| 415-515 | 141 | 839 | 105 | 43 | 908 | 77 | 145 | 771 | 78 | 56 | 978 | 65 |
| 430-530 | 126 | 863 | 94 | 33 | 926 | 75 | 130 | 774 | 4 | 32 | 912 | 59 |
| 445-545 | 128 | 862 | 94 | 33 | 926 | 75 | 130 | 774 | 4 | 32 | 912 | 59 |
| 500-600 | 114 | 865 | 96 | 38 | 885 | 77 | 219 | 768 | 82 | 30 | 908 | 54 |
| TOTAL | | | | | | | | | | | | |
| PERIOD | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 300-400 | 154 | 813 | 118 | 41 | 683 | 73 | 190 | 594 | 81 | 55 | 995 | 74 |
| 315-415 | 136 | 769 | 112 | 36 | 710 | 69 | 148 | 599 | 78 | 46 | 970 | 83 |
| 330-430 | 156 | 830 | 111 | 36 | 767 | 65 | 134 | 618 | 78 | 44 | 978 | 82 |
| 345-445 | 147 | 816 | 96 | 41 | 854 | 69 | 137 | 676 | 75 | 53 | 950 | 62 |
| 415-515 | 141 | 839 | 105 | 43 | 908 | 77 | 145 | 771 | 78 | 56 | 978 | 65 |
| 430-530 | 126 | 863 | 94 | 33 | 926 | 75 | 130 | 774 | 4 | 32 | 912 | 59 |
| 445-545 | 128 | 862 | 94 | 33 | 926 | 75 | 130 | 774 | 4 | 32 | 912 | 59 |
| 500-600 | 114 | 865 | 96 | 38 | 885 | 77 | 219 | 768 | 82 | 30 | 908 | 54 |
| TOTAL | | | | | | | | | | | | |
| PERIOD | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 300-400 | 154 | 813 | 118 | 41 | 683 | 73 | 190 | 594 | 81 | 55 | 995 | 74 |
| 315-415 | 136 | 769 | 112 | 36 | 710 | 69 | 148 | 599 | 78 | 46 | 970 | 83 |
| 330-430 | 156 | 830 | 111 | 36 | 767 | 65 | 134 | 618 | 78 | 44 | 978 | 82 |
| 345-445 | 147 | 816 | 96 | 41 | 854 | 69 | 137 | 676 | 75 | 53 | 950 | 62 |
| 415-515 | 141 | 839 | 105 | 43 | 908 | 77 | 145 | 771 | 78 | 56 | 978 | 65 |
| 430-530 | 126 | 863 | 94 | 33 | 926 | 75 | 130 | 774 | 4 | 32 | 912 | 59 |
| 445-545 | 128 | 862 | 94 | 33 | 926 | 75 | 130 | 774 | 4 | 32 | 912 | 59 |
| 500-600 | 114 | 865 | 96 | 38 | 885 | 77 | 219 | 768 | 82 | 30 | 908 | 54 |
| TOTAL | | | | | | | | | | | | |

WILTEC

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: FEHR & PEERS
PROJECT: BOYLE HEIGHTS/WARD USE PROJECT
LOCATION: 52 N 14TH STREET
INTERSECTION: 52 N 14TH STREET

Phone: (826) 564-1944 Fax: (826) 564-1944 E-mail: info@wilteca.com

| 15-MIN COUNTS | 1 SBRT | | | 2 SBRT | | | 3 SBRT | | | 4 WBRT | | | 5 WBTH | | | 6 WBTL | | |
|---------------|--------|--------|-------|--------|--------|-------|--------|--------|-------|--------|--------|-------|--------|--------|-------|--------|--------|-------|
| | CARS | TRUCKS | TOTAL | CARS | TRUCKS | TOTAL | CARS | TRUCKS | TOTAL | CARS | TRUCKS | TOTAL | CARS | TRUCKS | TOTAL | CARS | TRUCKS | TOTAL |
| 7:00-7:15 | 4 | 0 | 4 | 3 | 1 | 4 | 3 | 2 | 5 | 2 | 4 | 1 | 2 | 3 | 133 | 133 | 133 | 133 |
| 7:15-7:30 | 4 | 0 | 4 | 141 | 34 | 175 | 0 | 0 | 15 | 5 | 20 | 41 | 1 | 2 | 120 | 133 | 133 | 133 |
| 7:30-7:45 | 9 | 0 | 9 | 166 | 29 | 195 | 7 | 1 | 8 | 18 | 4 | 22 | 44 | 4 | 149 | 149 | 149 | 149 |
| 7:45-8:00 | 6 | 0 | 6 | 106 | 20 | 126 | 4 | 1 | 5 | 13 | 4 | 22 | 47 | 3 | 133 | 133 | 133 | 133 |
| 8:00-8:15 | 6 | 0 | 6 | 106 | 20 | 126 | 4 | 1 | 5 | 13 | 4 | 22 | 47 | 3 | 133 | 133 | 133 | 133 |
| 8:15-8:30 | 6 | 0 | 6 | 106 | 20 | 126 | 4 | 1 | 5 | 13 | 4 | 22 | 47 | 3 | 133 | 133 | 133 | 133 |
| 8:30-8:45 | 6 | 0 | 6 | 106 | 40 | 203 | 5 | 0 | 19 | 7 | 26 | 47 | 5 | 3 | 130 | 130 | 130 | 130 |
| 8:45-9:00 | 6 | 1 | 7 | 105 | 26 | 135 | 4 | 0 | 15 | 3 | 18 | 30 | 4 | 32 | 132 | 132 | 132 | 132 |
| 9:00-9:15 | 4 | 0 | 4 | 152 | 49 | 201 | 1 | 1 | 13 | 1 | 23 | 41 | 1 | 13 | 143 | 143 | 143 | 143 |
| 9:15-9:30 | 27 | 2 | 29 | 60 | 134 | 194 | 12 | 1 | 13 | 65 | 16 | 82 | 159 | 12 | 171 | 534 | 46 | 576 |
| 9:30-9:45 | 30 | 1 | 31 | 69 | 133 | 203 | 16 | 1 | 17 | 67 | 17 | 84 | 176 | 10 | 196 | 521 | 43 | 564 |
| 9:45-10:00 | 32 | 2 | 34 | 60 | 142 | 202 | 18 | 1 | 19 | 68 | 18 | 86 | 165 | 14 | 210 | 484 | 41 | 525 |
| 10:00-10:15 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 10:15-10:30 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 10:30-10:45 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 10:45-11:00 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 11:00-11:15 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 11:15-11:30 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 11:30-11:45 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 11:45-12:00 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 12:00-12:15 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 12:15-12:30 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 12:30-12:45 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 12:45-1:00 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 1:00-1:15 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 1:15-1:30 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 1:30-1:45 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 1:45-2:00 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 2:00-2:15 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 2:15-2:30 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 2:30-2:45 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 2:45-3:00 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 3:00-3:15 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 3:15-3:30 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 3:30-3:45 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 3:45-4:00 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 4:00-4:15 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 4:15-4:30 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 4:30-4:45 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 4:45-5:00 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 5:00-5:15 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 5:15-5:30 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 5:30-5:45 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 5:45-6:00 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 6:00-6:15 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 6:15-6:30 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 6:30-6:45 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 6:45-7:00 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 7:00-7:15 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 7:15-7:30 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 7:30-7:45 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 7:45-8:00 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 8:00-8:15 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 8:15-8:30 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 8:30-8:45 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 8:45-9:00 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 9:00-9:15 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 9:15-9:30 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 9:30-9:45 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 9:45-10:00 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 10:00-10:15 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 10:15-10:30 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 10:30-10:45 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 10:45-11:00 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 11:00-11:15 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 11:15-11:30 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 11:30-11:45 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 11:45-12:00 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 12:00-12:15 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 12:15-12:30 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 12:30-12:45 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 12:45-1:00 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 1:00-1:15 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 1:15-1:30 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 1:30-1:45 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 1:45-2:00 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 2:00-2:15 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 2:15-2:30 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 2:30-2:45 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 2:45-3:00 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 3:00-3:15 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | 47 | 511 |
| 3:15-3:30 | 27 | 1 | 28 | 64 | 15 | 79 | 15 | 2 | 17 | 70 | 16 | 86 | 165 | 17 | 152 | 464 | | |

WILTEC

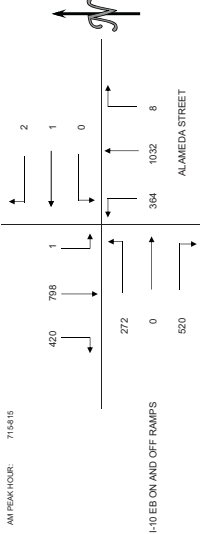
INTERSECTION CAR/PED/BK TRAFFIC COUNT RESULTS SUMMARY

Tel: (626) 564-1944 Fax: (626) 564-0969 info@wiltecsa.com

CLIENT: GIBSON TRANSPORTATION CONSULTING, INC.
PROJECT: AVALON BAY ARTS DISTRICT RESIDENTIAL TRAFFIC COUNTS
PERIOD: 7:00 AM TO 10:00 AM
INTERSECTION: N/S ALAMEDA STREET
CITY: LOS ANGELES

| VEHICLE COUNTS | | | | | | | | | | | | | |
|----------------|-----|------|------|------|------|------|------|------|------|-------|-----|------|------|
| 15 MIN COUNTS | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| PERIOD | SRT | SBTH | SBTL | WBTH | WBTL | NBTH | NBTL | EBTH | EBTL | TOTAL | | | |
| 7:07-15 | 96 | 199 | 0 | 1 | 0 | 0 | 254 | 107 | 129 | 1 | 561 | 832 | |
| 7:15-23 | 135 | 177 | 0 | 1 | 0 | 0 | 240 | 105 | 117 | 0 | 597 | 829 | |
| 7:23-31 | 112 | 197 | 1 | 0 | 0 | 0 | 260 | 88 | 117 | 0 | 711 | 897 | |
| 7:31-39 | 86 | 209 | 0 | 0 | 0 | 3 | 203 | 84 | 147 | 0 | 73 | 865 | |
| 7:45-53 | 92 | 225 | 0 | 1 | 0 | 0 | 5 | 245 | 96 | 120 | 0 | 64 | 848 |
| 7:53-60 | 79 | 197 | 0 | 0 | 0 | 1 | 273 | 73 | 143 | 0 | 57 | 823 | |
| 8:00-845 | 60 | 190 | 1 | 0 | 1 | 0 | 238 | 61 | 129 | 0 | 65 | 785 | |
| 8:45-900 | 79 | 195 | 2 | 1 | 0 | 1 | 229 | 70 | 117 | 0 | 55 | 751 | |
| 9:00-915 | 76 | 190 | 1 | 0 | 0 | 0 | 226 | 78 | 124 | 0 | 44 | 723 | |
| 9:15-930 | 69 | 194 | 4 | 4 | 1 | 0 | 228 | 64 | 104 | 0 | 63 | 724 | |
| 9:30-945 | 68 | 210 | 2 | 3 | 0 | 2 | 187 | 63 | 94 | 0 | 59 | 684 | |
| 9:45-1000 | 92 | 210 | 2 | 3 | 0 | 2 | 167 | 63 | 93 | 0 | 55 | 681 | |
| HOURL TOTALS | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | |
| PERIOD | SRT | SBTH | SBTL | WBTH | WBTL | NBTH | NBTL | EBTH | EBTL | TOTAL | | | |
| 7:00-8:00 | 423 | 772 | 1 | 2 | 1 | 0 | 3 | 1041 | 375 | 520 | 1 | 263 | 3402 |
| 7:15-8:15 | 420 | 769 | 1 | 2 | 1 | 0 | 8 | 1032 | 364 | 520 | 0 | 272 | 3418 |
| 7:30-8:30 | 369 | 626 | 1 | 1 | 1 | 0 | 9 | 1001 | 341 | 527 | 0 | 265 | 3403 |
| 7:45-8:45 | 337 | 621 | 1 | 1 | 1 | 0 | 9 | 1019 | 334 | 539 | 0 | 259 | 3321 |
| 8:00-9:00 | 330 | 608 | 3 | 2 | 1 | 1 | 7 | 995 | 320 | 509 | 0 | 241 | 3027 |
| 8:15-9:15 | 314 | 763 | 4 | 1 | 1 | 2 | 966 | 303 | 513 | 0 | 221 | 3069 | |
| 8:30-9:30 | 314 | 763 | 4 | 1 | 1 | 2 | 966 | 303 | 513 | 0 | 221 | 3069 | |
| 8:45-9:45 | 302 | 760 | 7 | 6 | 2 | 1 | 2 | 870 | 296 | 439 | 0 | 221 | 2907 |
| 9:00-10:00 | 285 | 787 | 7 | 7 | 2 | 0 | 3 | 807 | 293 | 415 | 0 | 221 | 2917 |

AM PEAK HOUR: 7:15-8:15



I-10 EB ON AND OFF RAMP

| PEDESTRIAN COUNTS | | | | | |
|-------------------|-------|------|-------|------|-------|
| 15 MIN COUNTS | NORTH | EAST | SOUTH | WEST | TOTAL |
| PERIOD | LEG | LEG | LEG | LEG | |
| 7:07-15 | 0 | 5 | 0 | 0 | 5 |
| 7:15-730 | 1 | 1 | 0 | 2 | 4 |
| 7:30-745 | 0 | 1 | 0 | 3 | 4 |
| 7:45-800 | 0 | 1 | 0 | 1 | 2 |
| 8:00-815 | 0 | 0 | 0 | 1 | 1 |
| 8:15-830 | 0 | 1 | 0 | 1 | 2 |
| 8:30-845 | 0 | 2 | 0 | 0 | 2 |
| 8:45-900 | 0 | 1 | 0 | 1 | 2 |
| 9:00-915 | 0 | 1 | 0 | 1 | 2 |
| 9:15-930 | 0 | 1 | 0 | 2 | 3 |
| 9:30-945 | 0 | 0 | 0 | 0 | 0 |
| 9:45-1000 | 0 | 0 | 0 | 3 | 3 |
| HOURL TOTALS | NORTH | EAST | SOUTH | WEST | TOTAL |
| PERIOD | LEG | LEG | LEG | LEG | |
| 7:00-8:00 | 1 | 8 | 0 | 6 | 15 |
| 7:15-8:15 | 1 | 3 | 0 | 7 | 11 |
| 7:30-8:30 | 0 | 3 | 0 | 6 | 9 |
| 7:45-8:45 | 0 | 1 | 0 | 2 | 3 |
| 8:00-9:00 | 0 | 3 | 0 | 2 | 5 |
| 8:15-9:15 | 0 | 4 | 0 | 2 | 6 |
| 8:30-9:30 | 0 | 4 | 0 | 3 | 7 |
| 8:45-9:45 | 0 | 2 | 0 | 3 | 5 |
| 9:00-10:00 | 0 | 2 | 0 | 6 | 8 |

| BICYCLE COUNTS | | | | | |
|----------------|-------|------|-------|------|-------|
| 15 MIN COUNTS | NORTH | EAST | SOUTH | WEST | TOTAL |
| PERIOD | LEG | LEG | LEG | LEG | |
| 7:07-15 | 0 | 0 | 1 | 0 | 1 |
| 7:15-730 | 0 | 1 | 0 | 0 | 1 |
| 7:30-745 | 0 | 2 | 0 | 3 | 5 |
| 7:45-800 | 0 | 2 | 0 | 1 | 3 |
| 8:00-815 | 0 | 0 | 0 | 0 | 0 |
| 8:15-830 | 0 | 1 | 0 | 0 | 1 |
| 8:30-845 | 0 | 2 | 0 | 1 | 3 |
| 8:45-900 | 0 | 0 | 0 | 0 | 0 |
| 9:00-915 | 0 | 0 | 0 | 0 | 0 |
| 9:15-930 | 0 | 1 | 0 | 1 | 2 |
| 9:30-945 | 0 | 2 | 0 | 0 | 2 |
| 9:45-1000 | 0 | 1 | 0 | 0 | 1 |
| HOURL TOTALS | NORTH | EAST | SOUTH | WEST | TOTAL |
| PERIOD | LEG | LEG | LEG | LEG | |
| 7:00-8:00 | 0 | 6 | 0 | 4 | 10 |
| 7:15-8:15 | 0 | 5 | 0 | 4 | 9 |
| 7:30-8:30 | 0 | 5 | 0 | 4 | 9 |
| 7:45-8:45 | 0 | 3 | 0 | 1 | 4 |
| 8:00-9:00 | 0 | 3 | 0 | 1 | 4 |
| 8:15-9:15 | 0 | 3 | 0 | 1 | 4 |
| 8:30-9:30 | 0 | 4 | 0 | 2 | 6 |
| 8:45-9:45 | 0 | 3 | 0 | 1 | 4 |
| 9:00-10:00 | 0 | 4 | 0 | 1 | 5 |

WILTEC

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

Phone: (626) 564-1944 Fax: (626) 564-1944 E-mail: info@wiltecsa.com

CLIENT: FEHR & PEERS
PROJECT: BOYLE HEIGHTS MIXED USE PROJECT
PERIOD: 7:00 AM TO 12:00 PM
INTERSECTION: S2 N/S ALAMEDA AVENUE
E/W 14TH STREET

| 15-MIN COUNTS | | | | | | | | | | | |
|---------------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|
| 1 | | 2 | | 3 | | 4 | | 5 | | 6 | |
| CARS | TRUCKS | CARS | TRUCKS | CARS | TRUCKS | CARS | TRUCKS | CARS | TRUCKS | CARS | TRUCKS |
| 00-15 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-15 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-30 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-45 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-60 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-75 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-90 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-105 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-120 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-135 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-150 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-165 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-180 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-195 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-210 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-225 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-240 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-255 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-270 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-285 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-300 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-315 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-330 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-345 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-360 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-375 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-390 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-405 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-420 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-435 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-450 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-465 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-480 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-495 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-510 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-525 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-540 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-555 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-570 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-585 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-600 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-615 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-630 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-645 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-660 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-675 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-690 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-705 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-720 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-735 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-750 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-765 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-780 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-795 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-810 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-825 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-840 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-855 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-870 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-885 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-900 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-915 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-930 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-945 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-960 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-975 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-990 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1005 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1020 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1035 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1050 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1065 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1080 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1095 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1110 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1125 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1140 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1155 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1170 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1185 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1200 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1215 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1230 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1245 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1260 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1275 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1290 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1305 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1320 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1335 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1350 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1365 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1380 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1395 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1410 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1425 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1440 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1455 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1470 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1485 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1500 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1515 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1530 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1545 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1560 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1575 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1590 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1605 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1620 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1635 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1650 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1665 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1680 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1695 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1710 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1725 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1740 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1755 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1770 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1785 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1800 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1815 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1830 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1845 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1860 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1875 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1890 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00-15-1905 | 0 | 15 | 240 | 2 | 271 | 1 | 20 | 20 | 20 | 32 | 107 |
| 00 | | | | | | | | | | | |

Appendix E
Level of Service Worksheets

WILTEC

INTERSECTION CARP/BIKE TRAFFIC COUNT RESULTS SUMMARY

Tel: (626) 594-1944 Fax: (626) 554-0969 info@wiltca.com

CLIENT: GIBSON TRANSPORTATION CONSULTING, INC.
PROJECT: AVALON BAY ARTS DISTRICT RESIDENTIAL TRAFFIC COUNTS
COUNT PERIOD: 10/10/2015
PERIOD: 3:00 PM TO 4:00 PM
INTERSECTION: N/S ALAMEDA STREET
E/W I-10 EB ON AND OFF RAMP
CITY: LOS ANGELES

| VEHICLE COUNTS | | | | | | | | | | | | |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| 15 MIN COUNTS | | | | | | | | | | | | |
| PERIOD | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| SBRT | SETH | SBLT | WBRT | WBTH | WBLT | NBRT | NBLT | NBLT | NBLT | EBRT | EBTH | EBLT |
| 300-315 | 131 | 259 | 0 | 3 | 0 | 0 | 1 | 197 | 98 | 40 | 0 | 30 |
| 315-330 | 109 | 231 | 0 | 0 | 0 | 0 | 1 | 175 | 84 | 0 | 0 | 24 |
| 330-345 | 100 | 231 | 0 | 2 | 2 | 0 | 1 | 222 | 99 | 66 | 0 | 43 |
| 345-400 | 84 | 222 | 0 | 1 | 0 | 0 | 1 | 212 | 99 | 57 | 0 | 38 |
| 400-415 | 110 | 248 | 0 | 1 | 0 | 0 | 0 | 211 | 74 | 79 | 0 | 30 |
| 415-430 | 109 | 241 | 0 | 1 | 0 | 0 | 0 | 228 | 96 | 79 | 0 | 27 |
| 430-445 | 132 | 272 | 1 | 8 | 0 | 0 | 1 | 231 | 98 | 59 | 0 | 25 |
| 445-500 | 105 | 205 | 1 | 5 | 0 | 1 | 1 | 204 | 101 | 65 | 0 | 29 |
| 500-515 | 92 | 265 | 0 | 6 | 0 | 0 | 0 | 240 | 114 | 68 | 0 | 15 |
| 515-530 | 116 | 302 | 0 | 0 | 0 | 0 | 0 | 232 | 99 | 52 | 0 | 22 |
| 530-545 | 138 | 302 | 0 | 1 | 0 | 0 | 0 | 278 | 101 | 48 | 0 | 20 |
| 545-600 | 114 | 302 | 0 | 0 | 0 | 0 | 0 | 250 | 99 | 45 | 0 | 19 |
| HOUR TOTALS | | | | | | | | | | | | |
| PERIOD | SBRT | SETH | SBLT | WBRT | WBTH | WBLT | NBRT | NBLT | NBLT | EBRT | EBTH | EBLT |
| 300-400 | 432 | 869 | 0 | 11 | 2 | 0 | 4 | 850 | 336 | 228 | 0 | 133 |
| 315-415 | 414 | 858 | 0 | 9 | 2 | 0 | 3 | 864 | 352 | 267 | 0 | 133 |
| 330-430 | 409 | 842 | 0 | 5 | 2 | 0 | 2 | 873 | 364 | 281 | 0 | 138 |
| 345-445 | 432 | 983 | 1 | 11 | 0 | 0 | 2 | 882 | 367 | 274 | 0 | 120 |
| 400-500 | 453 | 967 | 2 | 15 | 0 | 1 | 2 | 934 | 399 | 292 | 0 | 111 |
| 415-515 | 438 | 985 | 2 | 20 | 0 | 1 | 2 | 963 | 409 | 271 | 0 | 98 |
| 430-530 | 455 | 1048 | 2 | 25 | 0 | 1 | 2 | 977 | 412 | 284 | 0 | 98 |
| 445-545 | 457 | 1038 | 2 | 13 | 0 | 1 | 2 | 971 | 407 | 253 | 0 | 94 |
| 500-600 | 467 | 1160 | 0 | 7 | 0 | 0 | 0 | 1001 | 414 | 221 | 0 | 68 |
| HOUR TOTALS | | | | | | | | | | | | |
| PERIOD | SBRT | SETH | SBLT | WBRT | WBTH | WBLT | NBRT | NBLT | NBLT | EBRT | EBTH | EBLT |
| 300-400 | 432 | 869 | 0 | 11 | 2 | 0 | 4 | 850 | 336 | 228 | 0 | 133 |
| 315-415 | 414 | 858 | 0 | 9 | 2 | 0 | 3 | 864 | 352 | 267 | 0 | 133 |
| 330-430 | 409 | 842 | 0 | 5 | 2 | 0 | 2 | 873 | 364 | 281 | 0 | 138 |
| 345-445 | 432 | 883 | 1 | 11 | 0 | 0 | 2 | 882 | 367 | 274 | 0 | 120 |
| 400-500 | 453 | 967 | 2 | 15 | 0 | 1 | 2 | 934 | 399 | 292 | 0 | 111 |
| 415-515 | 438 | 985 | 2 | 20 | 0 | 1 | 2 | 963 | 409 | 271 | 0 | 98 |
| 430-530 | 455 | 1048 | 2 | 25 | 0 | 1 | 2 | 977 | 412 | 284 | 0 | 98 |
| 445-545 | 457 | 1038 | 2 | 13 | 0 | 1 | 2 | 971 | 407 | 253 | 0 | 94 |
| 500-600 | 467 | 1160 | 0 | 7 | 0 | 0 | 0 | 1001 | 414 | 221 | 0 | 68 |
| HOUR TOTALS | | | | | | | | | | | | |
| PERIOD | SBRT | SETH | SBLT | WBRT | WBTH | WBLT | NBRT | NBLT | NBLT | EBRT | EBTH | EBLT |
| 300-400 | 432 | 869 | 0 | 11 | 2 | 0 | 4 | 850 | 336 | 228 | 0 | 133 |
| 315-415 | 414 | 858 | 0 | 9 | 2 | 0 | 3 | 864 | 352 | 267 | 0 | 133 |
| 330-430 | 409 | 842 | 0 | 5 | 2 | 0 | 2 | 873 | 364 | 281 | 0 | 138 |
| 345-445 | 432 | 883 | 1 | 11 | 0 | 0 | 2 | 882 | 367 | 274 | 0 | 120 |
| 400-500 | 453 | 967 | 2 | 15 | 0 | 1 | 2 | 934 | 399 | 292 | 0 | 111 |
| 415-515 | 438 | 985 | 2 | 20 | 0 | 1 | 2 | 963 | 409 | 271 | 0 | 98 |
| 430-530 | 455 | 1048 | 2 | 25 | 0 | 1 | 2 | 977 | 412 | 284 | 0 | 98 |
| 445-545 | 457 | 1038 | 2 | 13 | 0 | 1 | 2 | 971 | 407 | 253 | 0 | 94 |
| 500-600 | 467 | 1160 | 0 | 7 | 0 | 0 | 0 | 1001 | 414 | 221 | 0 | 68 |
| HOUR TOTALS | | | | | | | | | | | | |
| PERIOD | SBRT | SETH | SBLT | WBRT | WBTH | WBLT | NBRT | NBLT | NBLT | EBRT | EBTH | EBLT |
| 300-400 | 432 | 869 | 0 | 11 | 2 | 0 | 4 | 850 | 336 | 228 | 0 | 133 |
| 315-415 | 414 | 858 | 0 | 9 | 2 | 0 | 3 | 864 | 352 | 267 | 0 | 133 |
| 330-430 | 409 | 842 | 0 | 5 | 2 | 0 | 2 | 873 | 364 | 281 | 0 | 138 |
| 345-445 | 432 | 883 | 1 | 11 | 0 | 0 | 2 | 882 | 367 | 274 | 0 | 120 |
| 400-500 | 453 | 967 | 2 | 15 | 0 | 1 | 2 | 934 | 399 | 292 | 0 | 111 |
| 415-515 | 438 | 985 | 2 | 20 | 0 | 1 | 2 | 963 | 409 | 271 | 0 | 98 |
| 430-530 | 455 | 1048 | 2 | 25 | 0 | 1 | 2 | 977 | 412 | 284 | 0 | 98 |
| 445-545 | 457 | 1038 | 2 | 13 | 0 | 1 | 2 | 971 | 407 | 253 | 0 | 94 |
| 500-600 | 467 | 1160 | 0 | 7 | 0 | 0 | 0 | 1001 | 414 | 221 | 0 | 68 |
| HOUR TOTALS | | | | | | | | | | | | |
| PERIOD | SBRT | SETH | SBLT | WBRT | WBTH | WBLT | NBRT | NBLT | NBLT | EBRT | EBTH | EBLT |
| 300-400 | 432 | 869 | 0 | 11 | 2 | 0 | 4 | 850 | 336 | 228 | 0 | 133 |
| 315-415 | 414 | 858 | 0 | 9 | 2 | 0 | 3 | 864 | 352 | 267 | 0 | 133 |
| 330-430 | 409 | 842 | 0 | 5 | 2 | 0 | 2 | 873 | 364 | 281 | 0 | 138 |
| 345-445 | 432 | 883 | 1 | 11 | 0 | 0 | 2 | 882 | 367 | 274 | 0 | 120 |
| 400-500 | 453 | 967 | 2 | 15 | 0 | 1 | 2 | 934 | 399 | 292 | 0 | 111 |
| 415-515 | 438 | 985 | 2 | 20 | 0 | 1 | 2 | 963 | 409 | 271 | 0 | 98 |
| 430-530 | 455 | 1048 | 2 | 25 | 0 | 1 | 2 | 977 | 412 | 284 | 0 | 98 |
| 445-545 | 457 | 1038 | 2 | 13 | 0 | 1 | 2 | 971 | 407 | 253 | 0 | 94 |
| 500-600 | 467 | 1160 | 0 | 7 | 0 | 0 | 0 | 1001 | 414 | 221 | 0 | 68 |
| HOUR TOTALS | | | | | | | | | | | | |
| PERIOD | SBRT | SETH | SBLT | WBRT | WBTH | WBLT | NBRT | NBLT | NBLT | EBRT | EBTH | EBLT |
| 300-400 | 432 | 869 | 0 | 11 | 2 | 0 | 4 | 850 | 336 | 228 | 0 | 133 |
| 315-415 | 414 | 858 | 0 | 9 | 2 | 0 | 3 | 864 | 352 | 267 | 0 | 133 |
| 330-430 | 409 | 842 | 0 | 5 | 2 | 0 | 2 | 873 | 364 | 281 | 0 | 138 |
| 345-445 | 432 | 883 | 1 | 11 | 0 | 0 | 2 | 882 | 367 | 274 | 0 | 120 |
| 400-500 | 453 | 967 | 2 | 15 | 0 | 1 | 2 | 934 | 399 | 292 | 0 | 111 |
| 415-515 | 438 | 985 | 2 | 20 | 0 | 1 | 2 | 963 | 409 | 271 | 0 | 98 |
| 430-530 | 455 | 1048 | 2 | 25 | 0 | 1 | 2 | 977 | 412 | 284 | 0 | 98 |
| 445-545 | 457 | 1038 | 2 | 13 | 0 | 1 | 2 | 971 | 407 | 253 | 0 | 94 |
| 500-600 | 467 | 1160 | 0 | 7 | 0 | 0 | 0 | 1001 | 414 | 221 | 0 | 68 |
| HOUR TOTALS | | | | | | | | | | | | |
| PERIOD | SBRT | SETH | SBLT | WBRT | WBTH | WBLT | NBRT | NBLT | NBLT | EBRT | EBTH | EBLT |
| 300-400 | 432 | 869 | 0 | 11 | 2 | 0 | 4 | 850 | 336 | 228 | 0 | 133 |
| 315-415 | 414 | 858 | 0 | 9 | 2 | 0 | 3 | 864 | 352 | 267 | 0 | 133 |
| 330-430 | 409 | 842 | 0 | 5 | 2 | 0 | 2 | 873 | 364 | 281 | 0 | 138 |
| 345-445 | 432 | 883 | 1 | 11 | 0 | 0 | 2 | 882 | 367 | 274 | 0 | 120 |
| 400-500 | 453 | 967 | 2 | 15 | 0 | 1 | 2 | 934 | 399 | 292 | 0 | 111 |
| 415-515 | 438 | 985 | 2 | 20 | 0 | 1 | 2 | 963 | 409 | 271 | 0 | 98 |
| 430-530 | 455 | 1048 | 2 | 25 | 0 | 1 | 2 | 977 | 412 | 284 | 0 | 98 |
| 445-545 | 457 | 1038 | 2 | 13 | 0 | 1 | 2 | 971 | 407 | 253 | 0 | 94 |
| 500-600 | 467 | 1160 | 0 | 7 | 0 | 0 | 0 | 1001 | 414 | 221 | 0 | 68 |
| HOUR TOTALS | | | | | | | | | | | | |

Level of Service Worksheet (Circular 212 Method)



| I/S #: | North-South Street: | Alameda St | | | Year of Count: 2016 | | Ambient Growth: (%): 1 | | | | Conducted by: GTC | | Date: June 2017 | |
|--|---------------------|------------|--|--|-----------------------|--|------------------------|--|--|--|-------------------|--|-----------------------------------|--|
| 1 | East-West Street: | 4th St | | | Projection Year: 2022 | | Peak Hour: AM | | | | Reviewed by: | | Project: 68 S Alameda St Mixed-Us | |
| No. of Phases
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?
Right Turns: FREE-1, NRTOR-2 or OLA-3?
ATSAC-1 or ATSAC+ATCS-2?
Override Capacity | | | | | | | | | | | | | | |
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REMARKS:
Version: 1i Beta; 8/4/2011

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|-------------------------------|-------|
| PROJECT IMPACT | |
| Change in v/c due to project: | 0.010 |
| Significant impacted? | NO |
| Δw/c after mitigation: | 0.010 |
| Fully mitigated? | N/A |

6/13/2017-12:54

1

J1419 - Avalon Bay - AM.xls

Level of Service Worksheet (Circular 212 Method)



| I/S #: | North-South Street: | Central Ave | | | Year of Count: 2016 | | Ambient Growth: (%) | | 1 | Conducted by: | | GTC | Date: | June 2017 | | | |
|--------|---------------------|--|--|--|-----------------------|--|---------------------|--|----|---------------|---|-----|----------|--------------------------|---|--|--|
| 2 | East-West Street: | 6th St | | | Projection Year: 2022 | | Peak Hour: | | AM | Reviewed by: | | | Project: | 68 S Alameda St Mixed-Us | | | |
| | | No. of Phases | | | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | | |
| | | Opposed Ø'ing: N/S-1, E/W-2 or Both-3? | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | |
| | | Right Turns: FREE-1, NRTOR-2 or OLA-3? | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | |
| | | ATSAC-1 or ATSAC+ATCS-2? | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | |
| | | Override Capacity | | | 2 | | 2 | | 2 | | 2 | | 2 | | 2 | | |
| | | | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | |
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REMARKS:
Version: 1i Beta; 8/4/2011

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|-------------------------------|-------|
| PROJECT IMPACT | |
| Change in v/c due to project: | 0.004 |
| Significant impacted? | NO |
| Δw/c after mitigation: | 0.003 |
| Fully mitigated? | N/A |

6/13/2017-12:54

2

J1419 - Avalon Bay - AM.xls

Level of Service Worksheet (Circular 212 Method)



| I/S #: | North-South Street: | | Alameda St | | Year of Count: | | 2016 | | Ambient Growth: (%) | | 1 | | Conducted by: | | GTC | | Date: | | June 2017 | |
|--|---------------------|-----|--|--------------|------------------|--|--------------|-------------|---|--------------|--------------|---|-----------------------------|--------------|---|-------------|---------------------------------|---------------|--------------------------|-------------|
| 3 | East-West Street: | | 6th St | | Projection Year: | | 2022 | | Peak Hour: | | AM | | Reviewed by: | | | | Project: | | 68 S Alameda St Mixed-Us | |
| No. of Phases | | | 3 | | | 3 | | | 3 | | | 3 | | | 3 | | | 3 | | |
| Opposed Ø'ing: N/S-1, E/W-2 or Both-3? | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| Right Turns: FREE-1, NRTOR-2 or OLA-3? | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | |
| ATSAC-1 or ATSAC+ATCS-2? | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | |
| Override Capacity | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | |
| | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| MOVEMENT | | | EXISTING CONDITION | | | EXISTING PLUS PROJECT | | | FUTURE CONDITION W/O PROJECT | | | | FUTURE CONDITION W/ PROJECT | | | | FUTURE W/ PROJECT W/ MITIGATION | | | |
| | | | Volume | No. of Lanes | Lane Volume | Project Traffic | Total Volume | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume |
| NORTHBOUND | Left | 86 | 1 | 86 | 18 | 104 | 104 | 21 | 112 | 1 | 112 | 18 | 130 | 1 | 130 | -2 | 128 | 1 | 128 | |
| | Left-Through | | 0 | | | | | | 0 | | | | 0 | | | | 0 | | | |
| | Through | 427 | 1 | 240 | 38 | 465 | 263 | 159 | 612 | 1 | 392 | 38 | 650 | 1 | 416 | -4 | 646 | 1 | 413 | |
| | Through-Right | | 1 | | | | | | 1 | | | | 1 | | | | 1 | | | |
| | Right | 52 | 0 | 52 | 9 | 61 | 61 | 117 | 172 | 0 | 172 | 9 | 181 | 0 | 181 | -1 | 180 | 0 | 180 | |
| | Left-Through-Right | | 0 | | | | | | 0 | | | | 0 | | | | 0 | | | |
| | Left-Right | | 0 | | | | | | 0 | | | | 0 | | | | 0 | | | |
| SOUTHBOUND | Left | 53 | 1 | 53 | 0 | 53 | 53 | 142 | 198 | 1 | 198 | 0 | 198 | 1 | 198 | 0 | 198 | 1 | 198 | |
| | Left-Through | | 0 | | | | | | 0 | | | | 0 | | | | 0 | | | |
| | Through | 699 | 1 | 382 | 13 | 712 | 389 | 300 | 1042 | 1 | 556 | 13 | 1055 | 1 | 562 | -2 | 1053 | 1 | 561 | |
| | Through-Right | | 1 | | | | | | 1 | | | | 1 | | | | 1 | | | |
| | Right | 65 | 0 | 65 | 0 | 65 | 65 | 0 | 69 | 0 | 69 | 0 | 69 | 0 | 69 | 0 | 69 | 0 | 69 | |
| | Left-Through-Right | | 0 | | | | | | 0 | | | | 0 | | | | 0 | | | |
| | Left-Right | | 0 | | | | | | 0 | | | | 0 | | | | 0 | | | |
| EASTBOUND | Left | 78 | 1 | 78 | 0 | 78 | 78 | 0 | 83 | 1 | 83 | 0 | 83 | 1 | 83 | 0 | 83 | 1 | 83 | |
| | Left-Through | | 0 | | | | | | 0 | | | | 0 | | | | 0 | | | |
| | Through | 202 | 1 | 153 | 0 | 202 | 159 | 107 | 321 | 1 | 217 | 0 | 321 | 1 | 223 | 0 | 321 | 1 | 222 | |
| | Through-Right | | 1 | | | | | | 1 | | | | 1 | | | | 1 | | | |
| | Right | 104 | 0 | 104 | 11 | 115 | 115 | 3 | 113 | 0 | 113 | 11 | 124 | 0 | 124 | -1 | 123 | 0 | 123 | |
| | Left-Through-Right | | 0 | | | | | | 0 | | | | 0 | | | | 0 | | | |
| | Left-Right | | 0 | | | | | | 0 | | | | 0 | | | | 0 | | | |
| WESTBOUND | Left | 123 | 1 | 123 | 5 | 128 | 128 | 146 | 277 | 1 | 277 | 5 | 282 | 1 | 282 | -1 | 281 | 1 | 281 | |
| | Left-Through | | 0 | | | | | | 0 | | | | 0 | | | | 0 | | | |
| | Through | 687 | 1 | 409 | 0 | 687 | 409 | 187 | 916 | 1 | 591 | 0 | 916 | 1 | 591 | 0 | 916 | 1 | 591 | |
| | Through-Right | | 1 | | | | | | 1 | | | | 1 | | | | 1 | | | |
| | Right | 130 | 0 | 130 | 0 | 130 | 130 | 128 | 266 | 0 | 266 | 0 | 266 | 0 | 266 | 0 | 266 | 0 | 266 | |
| | Left-Through-Right | | 0 | | | | | | 0 | | | | 0 | | | | 0 | | | |
| | Left-Right | | 0 | | | | | | 0 | | | | 0 | | | | 0 | | | |
| CRITICAL VOLUMES | | | North-South: 468
East-West: 487
SUM: 955 | | | North-South: 493
East-West: 487
SUM: 980 | | | North-South: 668
East-West: 674
SUM: 1342 | | | North-South: 692
East-West: 674
SUM: 1366 | | | North-South: 689
East-West: 674
SUM: 1363 | | | | | |
| VOLUME/CAPACITY (V/C) RATIO: | | | 0.670 | | | 0.688 | | | 0.942 | | | 0.959 | | | 0.956 | | | | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | | 0.570 | | | 0.588 | | | 0.842 | | | 0.859 | | | 0.856 | | | | | |
| LEVEL OF SERVICE (LOS): | | | A | | | A | | | D | | | D | | | D | | | | | |

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in v/c due to project: **0.017** Δw/c after mitigation: **0.014**
Significant impacted? **NO** Fully mitigated? **N/A**

6/13/2017-12:54

3

J1419 - Avalon Bay - AM.xls

Level of Service Worksheet (Circular 212 Method)



| I/S #: | North-South Street: | Mateo St | | | Year of Count: 2016 | | Ambient Growth: (%) | | 1 | Conducted by: | | GTC | Date: | June 2017 | | | | |
|---------------------------------|---------------------|--|---|--------------------|-----------------------|-------------|-----------------------|----------------|-------------|------------------------------|----------------|--------------|-----------------------------|--------------------------|--------------|---------------------------------|----------------|--|
| 4 | East-West Street: | 6th St | | | Projection Year: 2022 | | Peak Hour: | | AM | Reviewed by: | | | Project: | 68 S Alameda St Mixed-Us | | | | |
| | | No. of Phases | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | |
| | | Opposed Ø'ing: N/S-1, E/W-2 or Both-3? | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| | | Right Turns: FREE-1, NRTOR-2 or OLA-3? | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| | | ATSAC-1 or ATSAC+ATCS-2? | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| | | Override Capacity | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | |
| | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| | | | | EXISTING CONDITION | | | EXISTING PLUS PROJECT | | | FUTURE CONDITION W/O PROJECT | | | FUTURE CONDITION W/ PROJECT | | | FUTURE W/ PROJECT W/ MITIGATION | | |
| MOVEMENT | | | | Volume | No. of Lanes | Lane Volume | Project Traffic | Total Volume | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | |
| NORTHBOUND | Left | 47 | 0 | 47 | 0 | 47 | 47 | 29 | 79 | 0 | 79 | 0 | 79 | 0 | 79 | 0 | 79 | |
| | Left-Through | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | Through | 67 | 0 | 122 | 0 | 67 | 122 | 4 | 75 | 0 | 162 | 0 | 75 | 0 | 162 | 0 | 162 | |
| | Through-Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | Right | 8 | 0 | 0 | 0 | 8 | 0 | 0 | 8 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | |
| | Left-Through-Right | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | |
| | Left-Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| SOUTHBOUND | Left | 11 | 0 | 11 | 0 | 11 | 11 | 15 | 27 | 0 | 27 | 0 | 27 | 0 | 27 | 0 | 27 | |
| | Left-Through | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | Through | 129 | 0 | 177 | 3 | 132 | 180 | 6 | 143 | 0 | 226 | 3 | 146 | 0 | 229 | 0 | 229 | |
| | Through-Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | Right | 37 | 0 | 0 | 0 | 37 | 0 | 17 | 56 | 0 | 0 | 0 | 56 | 0 | 0 | 0 | 0 | |
| | Left-Through-Right | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | |
| | Left-Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| EASTBOUND | Left | 54 | 1 | 54 | 5 | 59 | 59 | 11 | 68 | 1 | 68 | 5 | 73 | 1 | 73 | -1 | 72 | |
| | Left-Through | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Through | 171 | 1 | 136 | 9 | 180 | 141 | 85 | 267 | 1 | 204 | 9 | 276 | 1 | 208 | -1 | 275 | |
| | Through-Right | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| | Right | 101 | 0 | 101 | 0 | 101 | 101 | 33 | 140 | 0 | 140 | 0 | 140 | 0 | 140 | 0 | 140 | |
| | Left-Through-Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Left-Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| WESTBOUND | Left | 59 | 1 | 59 | 0 | 59 | 59 | 0 | 63 | 1 | 63 | 0 | 63 | 1 | 63 | 0 | 63 | |
| | Left-Through | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Through | 842 | 1 | 465 | 5 | 847 | 467 | 75 | 969 | 1 | 535 | 5 | 974 | 1 | 537 | -1 | 973 | |
| | Through-Right | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| | Right | 87 | 0 | 87 | 0 | 87 | 87 | 8 | 100 | 0 | 100 | 0 | 100 | 0 | 100 | 0 | 100 | |
| | Left-Through-Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Left-Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| CRITICAL VOLUMES | | | | North-South: 224 | East-West: 519 | SUM: 743 | North-South: 227 | East-West: 526 | SUM: 753 | North-South: 305 | East-West: 603 | SUM: 908 | North-South: 308 | East-West: 610 | SUM: 918 | North-South: 308 | East-West: 609 | |
| | | | | | | | | | | | | | | | | | | |
| VOLUME/CAPACITY (V/C) RATIO: | | | | 0.495 | | | 0.502 | | | 0.605 | | | 0.612 | | | 0.611 | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | | | 0.395 | | | 0.402 | | | 0.505 | | | 0.512 | | | 0.511 | | |
| LEVEL OF SERVICE (LOS): | | | | A | | | A | | | A | | | A | | | A | | |

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

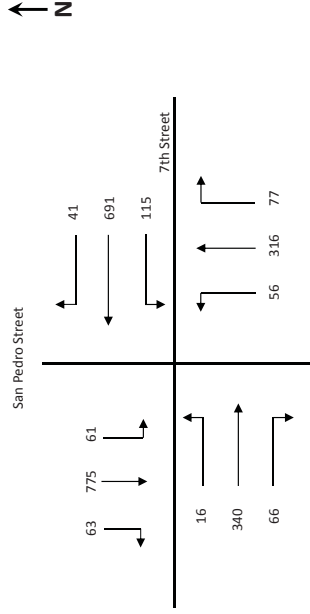
Change in v/c due to project: **0.007** Δw/c after mitigation: **0.006**
Significant impacted? **NO** Fully mitigated? **N/A**

6/13/2017-12:54

4

J1419 - Avalon Bay - AM.xls

Intersection 5 - San Pedro Street & 7th Street
Existing with Project Conditions (Year 2016) - AM Peak Hour



1) Critical volume calculation for eastbound/westbound traffic on 7th Street

| | | |
|------------------------------------|--|-----|
| Eastbound Left : | 16 | and |
| Westbound Left + Throughs + Right: | $\frac{115 + 691 + 41}{2} = \frac{847}{2} = 424$ | or |
| Westbound Left: | 115 | and |
| Eastbound Left + Throughs + Right: | $\frac{16 + 340 + 66}{2} = \frac{422}{2} = 211$ | |
| Critical Volume #1 (CV1): | 440 | |

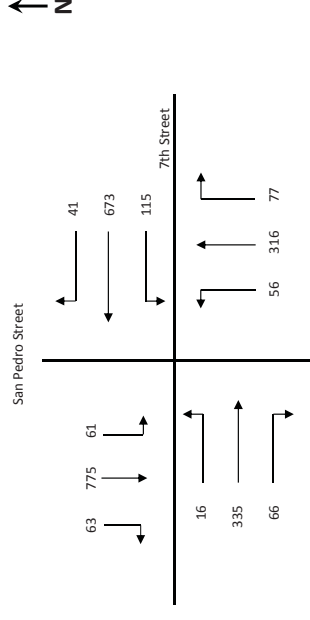
2) Critical volume calculation for northbound/southbound traffic on San Pedro Street

| | | |
|------------------------------|--|-----|
| Northbound Left : | 56 | and |
| Southbound Throughs + Right: | $\frac{775 + 63}{2} = \frac{838}{2} = 419$ | or |
| Southbound Left: | 61 | and |
| Northbound Throughs + Right: | $\frac{316 + 77}{2} = \frac{393}{2} = 197$ | |
| Critical Volume #1 (CV1): | 475 | |

| | | |
|-------------------------|----------------------|-------------|
| Critical Volume: | 440 + 475 = | 915 |
| Intersection V/C: | $\frac{915}{1500} =$ | 0.61 |
| ATSAC/ATCS Credit: | 0.10 | |
| Final Intersection V/C: | 0.510 | |

Intersection LOS: **A**

Intersection 5 - San Pedro Street & 7th Street
Existing Conditions (Year 2016) - AM Peak Hour



1) Critical volume calculation for eastbound/westbound traffic on 7th Street

| | | |
|------------------------------------|--|-----|
| Eastbound Left : | 16 | and |
| Westbound Left + Throughs + Right: | $\frac{115 + 673 + 41}{2} = \frac{829}{2} = 415$ | or |
| Westbound Left: | 115 | and |
| Eastbound Left + Throughs + Right: | $\frac{16 + 335 + 66}{2} = \frac{417}{2} = 209$ | |
| Critical Volume #1 (CV1): | 431 | |

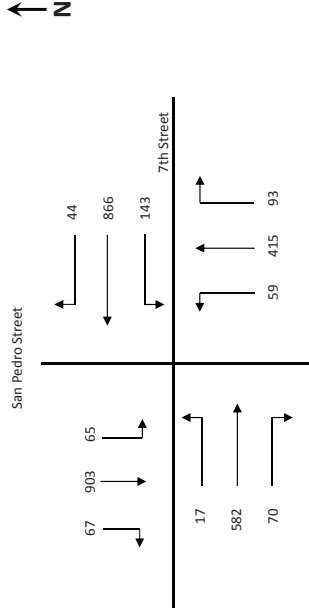
2) Critical volume calculation for northbound/southbound traffic on San Pedro Street

| | | |
|------------------------------|--|-----|
| Northbound Left : | 56 | and |
| Southbound Throughs + Right: | $\frac{775 + 63}{2} = \frac{838}{2} = 419$ | or |
| Southbound Left: | 61 | and |
| Northbound Throughs + Right: | $\frac{316 + 77}{2} = \frac{393}{2} = 197$ | |
| Critical Volume #1 (CV1): | 475 | |

| | | |
|-------------------------|----------------------|--------------|
| Critical Volume: | 431 + 475 = | 906 |
| Intersection V/C: | $\frac{906}{1500} =$ | 0.604 |
| ATSAC/ATCS Credit: | 0.10 | |
| Final Intersection V/C: | 0.504 | |

Intersection LOS: **A**

Intersection 5 - San Pedro Street & 7th Street
Future with Project Conditions (Year 2022) - AM Peak Hour



1) Critical volume calculation for eastbound/westbound traffic on 7th Street

$$\begin{array}{l} \text{Eastbound Left : } 17 \\ \text{Westbound Left + Throughs + Right: } \\ \frac{143 + 866 + 44}{2} = \frac{1,053}{2} = 527 \end{array} \quad \text{and} \quad \text{or} \quad \begin{array}{l} \text{Westbound Left: } 143 \\ \text{Eastbound Left + Throughs + Right: } \\ \frac{17 + 582 + 70}{2} = \frac{669}{2} = 335 \end{array}$$

Critical Volume #1 (CV1): **544**

2) Critical volume calculation for northbound/southbound traffic on San Pedro Street

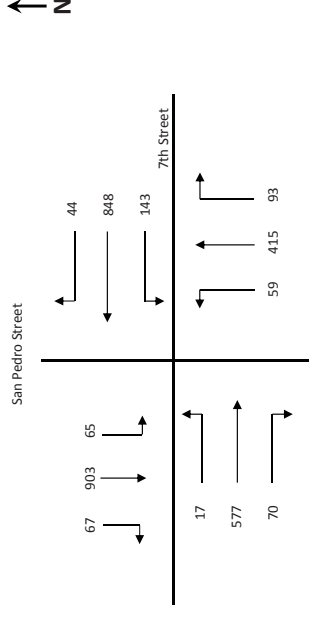
$$\begin{array}{l} \text{Northbound Left : } 59 \\ \text{Southbound Throughs + Right: } \\ \frac{903 + 67}{2} = \frac{970}{2} = 485 \end{array} \quad \text{and} \quad \text{or} \quad \begin{array}{l} \text{Southbound Left: } 65 \\ \text{Northbound Throughs + Right: } \\ \frac{415 + 93}{2} = \frac{508}{2} = 254 \end{array}$$

Critical Volume #1 (CV1): **544**

$$\begin{array}{l} \text{Critical Volume: } 544 + 544 = \mathbf{1088} \\ \text{Intersection V/C: } \frac{1088}{1500} = \mathbf{0.725} \\ \text{ATSAC/ATCS Credit: } 0.10 \\ \text{Final Intersection V/C: } \mathbf{0.625} \end{array}$$

Intersection LOS: **B**

Intersection 5 - San Pedro Street & 7th Street
Future without Project Conditions (Year 2022) - AM Peak Hour



1) Critical volume calculation for eastbound/westbound traffic on 7th Street

$$\begin{array}{l} \text{Eastbound Left : } 17 \\ \text{Westbound Left + Throughs + Right: } \\ \frac{143 + 848 + 44}{2} = \frac{1,035}{2} = 518 \end{array} \quad \text{and} \quad \text{or} \quad \begin{array}{l} \text{Westbound Left: } 143 \\ \text{Eastbound Left + Throughs + Right: } \\ \frac{17 + 577 + 70}{2} = \frac{664}{2} = 332 \end{array}$$

Critical Volume #1 (CV1): **535**

2) Critical volume calculation for northbound/southbound traffic on San Pedro Street

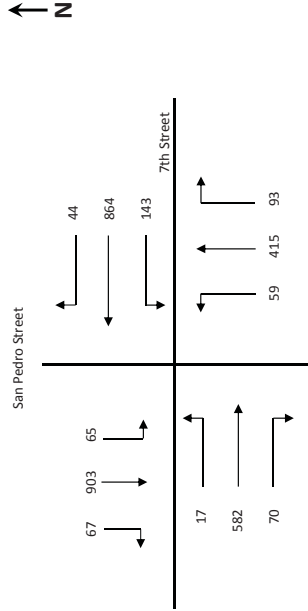
$$\begin{array}{l} \text{Northbound Left : } 59 \\ \text{Southbound Throughs + Right: } \\ \frac{903 + 67}{2} = \frac{970}{2} = 485 \end{array} \quad \text{and} \quad \text{or} \quad \begin{array}{l} \text{Southbound Left: } 65 \\ \text{Northbound Throughs + Right: } \\ \frac{415 + 93}{2} = \frac{508}{2} = 254 \end{array}$$

Critical Volume #1 (CV1): **544**

$$\begin{array}{l} \text{Critical Volume: } 535 + 544 = \mathbf{1079} \\ \text{Intersection V/C: } \frac{1079}{1500} = \mathbf{0.719} \\ \text{ATSAC/ATCS Credit: } 0.10 \\ \text{Final Intersection V/C: } \mathbf{0.619} \end{array}$$

Intersection LOS: **B**

Intersection 5 - San Pedro Street & 7th Street
Future with Project with Mitigation Conditions (Year 2022) - AM Peak Hour



1) Critical volume calculation for eastbound/westbound traffic on 7th Street

$$\begin{array}{l} \text{Eastbound Left : } 17 \\ \text{Westbound Left + Throughs + Right: } 143 + 864 + 44 = \frac{1051}{2} = 526 \\ \text{Westbound Left: } 143 \\ \text{Eastbound Left + Throughs + Right: } 17 + 582 + 70 = \frac{669}{2} = 335 \\ \text{Critical Volume \#1 (CV1): } 543 \end{array}$$

2) Critical volume calculation for northbound/southbound traffic on San Pedro Street

$$\begin{array}{l} \text{Northbound Left : } 59 \\ \text{Southbound Throughs + Right: } 903 + 67 = \frac{970}{2} = 485 \\ \text{Southbound Left: } 65 \\ \text{Northbound Throughs + Right: } 415 + 93 = \frac{508}{2} = 254 \\ \text{Critical Volume \#1 (CV1): } 544 \end{array}$$

$$\begin{array}{l} \text{Critical Volume: } 543 + 544 = 1087 \\ \text{Intersection V/C: } \frac{1087}{1500} = 0.725 \\ \text{ATSAC/ATCS Credit: } 0.10 \\ \text{Final Intersection V/C: } 0.625 \end{array}$$

Intersection LOS: B



Level of Service Worksheet (Circular 212 Method)



| I/S #: | North-South Street: | Central Ave | Year of Count: 2016 | | | Ambient Growth: (%) | | | 1 | Conducted by: | | | GTC | Date: | June 2017 | | | |
|--|---------------------|-------------|-----------------------|--|--|---------------------|--|--|----|---------------|--|--|-----|----------|---------------------------|--|--|--|
| 6 | East-West Street: | 7th St | Projection Year: 2022 | | | Peak Hour: | | | AM | Reviewed by: | | | | Project: | 68 S Alameda St Mixed-Use | | | |
| No. of Phases | | | | | | | | | | | | | | | | | | |
| Opposed 0'ing: N/S-1, E/W-2 or Both-3? | | | | | | | | | | | | | | | | | | |
| Right Turns: FREE-1, NRTOR-2 or OLA-3? | | | | | | | | | | | | | | | | | | |
| ATSAC-1 or ATSAC+ATCS-2? | | | | | | | | | | | | | | | | | | |
| Override Capacity | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
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| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
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| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
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| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
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| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
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| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
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| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
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| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
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| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
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| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
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Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in v/c due to project: 0.006 Δv/c after mitigation: 0.005
Significant impacted? NO Fully mitigated? N/A

Level of Service Worksheet (Circular 212 Method)



| I/S #: | North-South Street: | Alameda St | | | Year of Count: | | 2016 | Ambient Growth: (%) | | 1 | Conducted by: | | GTC | | Date: | | June 2017 | | |
|--|---------------------|------------|--|--|------------------|--|------|---------------------|--|----|---------------|--|-----|--|----------|--|--------------------------|--|---|
| 7 | East-West Street: | 7th St | | | Projection Year: | | 2022 | Peak Hour: | | AM | Reviewed by: | | | | Project: | | 68 S Alameda St Mixed-Us | | |
| No. of Phases | | | | | | | | | | | | | | | | | | | 3 |
| Opposed Ø'ing: N/S-1, E/W-2 or Both-3? | | | | | | | | | | | | | | | | | | | 0 |
| Right Turns: FREE-1, NRTOR-2 or OLA-3? | | | | | | | | | | | | | | | | | | | 0 |
| ATSAC-1 or ATSAC+ATCS-2? | | | | | | | | | | | | | | | | | | | 0 |
| Override Capacity | | | | | | | | | | | | | | | | | | | 0 |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | | 0 |
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| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | | 0 |
| NB-- 0 SB | | | | | | | | | | | | | | | | | | | |

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in v/c due to project: 0.030 Δw/c after mitigation: 0.026
Significant impacted? YES Fully mitigated? NO

6/13/2017-12:54

6

J1419 - Avalon Bay - AM.xls

Level of Service Worksheet (Circular 212 Method)



| I/S #: | North-South Street: | Mateo St | Year of Count: 2016 | | | Ambient Growth: (%) 1 | | | Conducted by: | | GTC | | Date: | June 2017 | | | | |
|--|---------------------|----------|-----------------------|--|--|-----------------------|--|--|---------------|--|-----|--|----------|--------------------------|---|--|--|--|
| 8 | East-West Street: | 7th St | Projection Year: 2022 | | | Peak Hour: AM | | | Reviewed by: | | | | Project: | 68 S Alameda St Mixed-Us | | | | |
| No. of Phases | | | 2 | | | 2 | | | 2 | | 2 | | 2 | | 2 | | | |
| Opposed Ø'ing: N/S-1, E/W-2 or Both-3? | | | 0 | | | 0 | | | 0 | | 0 | | 0 | | 0 | | | |
| Right Turns: FREE-1, NRTOR-2 or OLA-3? | | | 0 | | | 0 | | | 0 | | 0 | | 0 | | 0 | | | |
| ATSAC-1 or ATSAC+ATCS-2? | | | 0 | | | 0 | | | 0 | | 0 | | 0 | | 0 | | | |
| Override Capacity | | | 2 | | | 2 | | | 2 | | 2 | | 2 | | 2 | | | |
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REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

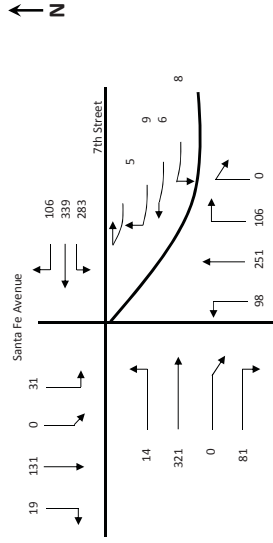
Change in v/c due to project: 0.026 Δw/c after mitigation: 0.024
Significant impacted? YES Fully mitigated? NO

6/13/2017-12:54

7

J1419 - Avalon Bay - AM.xls

Intersection 9 - Santa Fe Avenue & 7th Street
Existing with Project Conditions (Year 2016) - AM Peak Hour



1) Critical volume calculation for eastbound/westbound traffic on 7th Street

$$\text{Eastbound Left: } 14$$

$$\text{Westbound Throughs + Right: } \frac{339 + 106}{2} = \frac{445}{2} = 223$$

and

$$\text{Westbound Left: } 283$$

$$\text{Eastbound Throughs + Right to 7th Street and Frontage Road: } \frac{321 + 0 + 81}{2} = \frac{402}{2} = 201$$

and

$$\text{Critical Volume \#1 (CV1): } 484$$

$$\text{Critical volume calculation for northeastbound traffic on Frontage Road}$$

$$\text{Northeastbound Lefts + Throughs + Rights + Sharp Right: } 5 + 9 + 6 + 8 = 28$$

and

$$\text{Critical Volume \#2 (CV2): } 28$$

$$\text{Critical volume calculation for northbound/southbound traffic on Santa Fe Avenue}$$

$$\text{Southbound Left to 7th Street and Frontage Road: } 31 + 0 = 31$$

and

$$\text{Northbound Through: } 251$$

$$\text{Northbound Right to 7th Street and Frontage Road: } 106 + 0 - 283 = -177$$

and

$$\text{Southbound Left + Left to Frontage Road + Through + Right: } 19 + 131 + 0 + 31 = 181$$

$$\text{Critical Volume \#3 (CV3): } 282$$

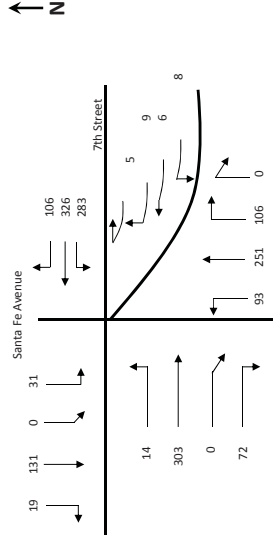
$$\text{Critical Volume: } 484 + 28 + 282 = 794$$

$$\text{Intersection V/C: } \frac{794}{1375} = 0.577$$

ATSAC/ATCS Credit: 0.10

Final Intersection V/C: 0.477 Intersection LOS: A

Intersection 9 - Santa Fe Avenue & 7th Street
Existing Conditions (Year 2016) - AM Peak Hour



1) Critical volume calculation for eastbound/westbound traffic on 7th Street

$$\text{Eastbound Left: } 14$$

$$\text{Westbound Throughs + Right: } \frac{326 + 106}{2} = \frac{432}{2} = 216$$

or

$$\text{Westbound Left: } 283$$

$$\text{Eastbound Throughs + Right to 7th Street and Frontage Road: } \frac{303 + 0 + 72}{2} = \frac{375}{2} = 188$$

and

$$\text{Critical Volume \#1 (CV1): } 471$$

$$\text{Critical volume calculation for northeastbound traffic on Frontage Road}$$

$$\text{Northeastbound Lefts + Throughs + Rights + Sharp Right: } 5 + 9 + 6 + 8 = 28$$

and

$$\text{Critical Volume \#2 (CV2): } 28$$

$$\text{Critical volume calculation for northbound/southbound traffic on Santa Fe Avenue}$$

$$\text{Southbound Left to 7th Street and Frontage Road: } 31 + 0 = 31$$

or

$$\text{Northbound Through: } 251$$

$$\text{Northbound Right to 7th Street and Frontage Road: } 106 + 0 - 283 = -177$$

and

$$\text{Southbound Left + Left to Frontage Road + Through + Right: } 19 + 131 + 0 + 31 = 181$$

$$\text{Critical Volume \#3 (CV3): } 282$$

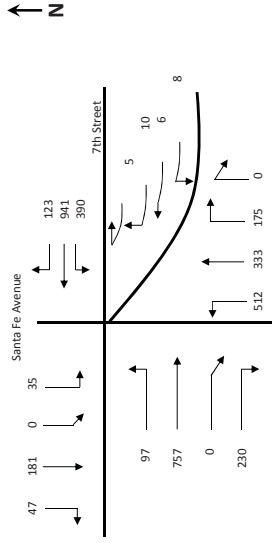
$$\text{Critical Volume: } 471 + 28 + 282 = 781$$

$$\text{Intersection V/C: } \frac{781}{1375} = 0.568$$

ATSAC/ATCS Credit: 0.10

Final Intersection V/C: 0.468 Intersection LOS: A

Intersection 9 - Santa Fe Avenue & 7th Street
Future with Project Conditions (Year 2022) - AM Peak Hour



1) Critical volume calculation for eastbound/westbound traffic on 7th Street

Eastbound Left: 97

$$\frac{941}{2} + \frac{123}{2} = \frac{1064}{2} = 532$$

Westbound Throughs + Right: 532

and

Westbound Left: 390

$$\frac{987}{2} + \frac{230}{2} = \frac{1217}{2} = 608.5$$

Eastbound Throughs + Right to 7th Street and Frontage Road: 494

and

Critical Volume #1 (CV1): 884

Critical volume calculation for northeastbound traffic on Frontage Road

$$5 + 10 + 6 + 8 + 29 = 58$$

Northeastbound Lefts + Throughs + Rights + Sharp Right: 29

and

Critical Volume #2 (CV2): 29

Critical volume calculation for northbound/southbound traffic on Santa Fe Avenue

$$35 + 0 = 35$$

Southbound Left to 7th Street and Frontage Road: 35

and

Northbound Through: 333

Northbound Right to 7th Street and Frontage Road: 175

$$175 + 0 - 390 = -215$$

Northbound Left: 512

and

Southbound Left + Left to Frontage Road + Through + Right: 263

$$47 + 181 + 0 + 35 = 263$$

Critical Volume #3 (CV3): 775

Critical Volume: 884 + 29 + 775 = 1688

Intersection V/C: $\frac{1688}{1375} = 1.228$

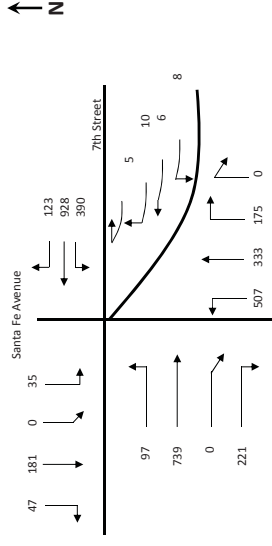
ATSAC/ATCS Credit: 0.10

Final Intersection V/C: 1.228

F

Intersection LOS:

Intersection 9 - Santa Fe Avenue & 7th Street
Future without Project Conditions (Year 2022) - AM Peak Hour



1) Critical volume calculation for eastbound/westbound traffic on 7th Street

Eastbound Left: 97

$$\frac{928}{2} + \frac{123}{2} = \frac{1051}{2} = 526$$

Westbound Throughs + Right: 526

or

Westbound Left: 390

$$\frac{960}{2} + \frac{221}{2} = \frac{1181}{2} = 590.5$$

Eastbound Throughs + Right to 7th Street and Frontage Road: 480

and

Critical Volume #1 (CV1): 870

Critical volume calculation for northeastbound traffic on Frontage Road

$$5 + 10 + 6 + 8 + 29 = 58$$

Northeastbound Lefts + Throughs + Rights + Sharp Right: 29

and

Critical Volume #2 (CV2): 29

Critical volume calculation for northbound/southbound traffic on Santa Fe Avenue

$$35 + 0 = 35$$

Southbound Left to 7th Street and Frontage Road: 35

or

Northbound Through: 333

Northbound Right to 7th Street and Frontage Road: 175

$$175 + 0 - 390 = -215$$

Northbound Left: 507

and

Southbound Left + Left to Frontage Road + Through + Right: 263

$$47 + 181 + 0 + 35 = 263$$

Critical Volume #3 (CV3): 770

Critical Volume: 870 + 29 + 770 = 1669

Intersection V/C: $\frac{1669}{1375} = 1.214$

ATSAC/ATCS Credit: 0.10

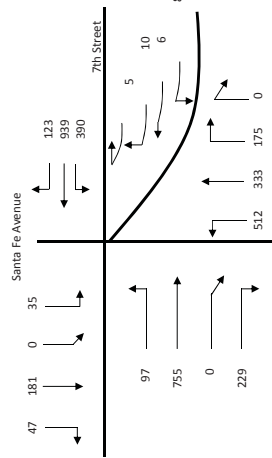
Final Intersection V/C: 1.114

F

Intersection LOS:

Intersection 9 - Santa Fe Avenue & 7th Street
Future with Project with Mitigation Conditions (Year 2022) - AM Peak Hour

← N



1) Critical volume calculation for eastbound/westbound traffic on 7th Street

Eastbound Left: 97
Westbound Through + Right: $\frac{939 + 123}{2} = 531$
Westbound Left: 390
Eastbound Through + Right to 7th Street and Frontage Road: $\frac{755 + 0 + 229}{2} = 492$

2) Critical volume calculation for northeastbound traffic on Frontage Road

Critical Volume #1 (CV1): 882
Northeastbound Lefts + Throughs + Rights + Sharp Right: $\frac{5 + 10 + 6 + 8}{2} = 29$
Critical Volume #2 (CV2): 29

3) Critical volume calculation for northbound/southbound traffic on Santa Fe Avenue

Southbound Left to 7th Street and Frontage Road: $\frac{35 + 0}{2} = 35$
Northbound Through: 333
Northbound Right to 7th Street and Frontage Road: $\frac{175 + 0 + 390}{2} = 215$
Northbound Left: 512
Southbound Left + Left to Frontage Road + Through + Right: $\frac{47 + 181 + 0 + 35}{2} = 263$
Critical Volume #3 (CV3): 775

Critical Volume: 882 + 29 + 775 = 1686
Intersection V/C: $\frac{1686}{1375} = 1.226$
ATSAC/ATCS Credit: 0.10
Final Intersection V/C: 1.126
Intersection LOS: F



Level of Service Worksheet (Circular 212 Method)



| I/S #: | North-South Street: | Anderson St | | | Year of Count: | | 2016 | Ambient Growth: (%) | | 1 | Conducted by: | | GTC | Date: | June 2017 | | | |
|--|---------------------|-------------|--|--|------------------|--|------|---------------------|--|----|---------------|--|-----|----------|--------------------------|--|--|--|
| 10 | East-West Street: | 7th St | | | Projection Year: | | 2022 | Peak Hour: | | AM | Reviewed by: | | | Project: | 68 S Alameda St Mixed-Us | | | |
| No. of Phases | | | | | | | | | | | | | | | | | | |
| Opposed 0'ing: N/S-1, E/W-2 or Both-3? | | | | | | | | | | | | | | | | | | |
| Right Turns: FREE-1, NRTOR-2 or OLA-3? | | | | | | | | | | | | | | | | | | |
| ATSAC-1 or ATSAC+ATCS-2? | | | | | | | | | | | | | | | | | | |
| Override Capacity | | | | | | | | | | | | | | | | | | |
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Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in v/c due to project: 0.004
Significant impacted? NO
Fully mitigated? N/A

Level of Service Worksheet (Circular 212 Method)



| I/S #: | North-South Street: | Boyle Ave | | | Year of Count: 2016 | | | Ambient Growth: (%): 1 | | | Conducted by: GTC | | | Date: June 2017 | | | | | | | | |
|--|---------------------|--|-----|---|--|--------------|-------------|---|--------------|-------------|---|--------------|--------------|---|-----------------------------|--------------|--------------|-------------|---------------------------------|--------------|--------------|-------------|
| 12 | East-West Street: | 7th St | | | Projection Year: 2022 | | | Peak Hour: AM | | | Reviewed by: | | | Project: 68 S Alameda St Mixed-Us | | | | | | | | |
| No. of Phases | | | | | | | | | | | | | | | | | | | | | | |
| Opposed Ø'ing: N/S-1, E/W-2 or Both-3? | | | | | | | | | | | | | | | | | | | | | | |
| Right Turns: FREE-1, NRTOR-2 or OLA-3? | | | | | | | | | | | | | | | | | | | | | | |
| ATSAC-1 or ATSAC+ATCS-2? | | | | | | | | | | | | | | | | | | | | | | |
| Override Capacity | | | | | | | | | | | | | | | | | | | | | | |
| | | NB-- 0 SB-- 0
EB-- 0 WB-- 0 | | | NB-- 0 SB-- 0
EB-- 0 WB-- 0 | | | NB-- 0 SB-- 0
EB-- 0 WB-- 0 | | | NB-- 0 SB-- 0
EB-- 0 WB-- 0 | | | NB-- 0 SB-- 0
EB-- 0 WB-- 0 | | | | | | | | |
| MOVEMENT | | | | | EXISTING CONDITION | | | EXISTING PLUS PROJECT | | | FUTURE CONDITION W/O PROJECT | | | | FUTURE CONDITION W/ PROJECT | | | | FUTURE W/ PROJECT W/ MITIGATION | | | |
| | | | | | Volume | No. of Lanes | Lane Volume | Project Traffic | Total Volume | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume |
| NORTHBOUND | | Left | 204 | 1 | 204 | 0 | 204 | 204 | 0 | 217 | 1 | 217 | 0 | 217 | 1 | 217 | 0 | 217 | 1 | 217 | 0 | 217 |
| | | Left-Through | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Through | 474 | 1 | 299 | 0 | 474 | 299 | 0 | 503 | 1 | 317 | 0 | 503 | 1 | 317 | 0 | 503 | 1 | 317 | 0 | 503 |
| | | Through-Right | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 |
| | | Right | 123 | 0 | 123 | 0 | 123 | 123 | 0 | 131 | 0 | 131 | 0 | 131 | 0 | 131 | 0 | 131 | 0 | 131 | 0 | 131 |
| SOUTHBOUND | | Left | 64 | 1 | 64 | 0 | 64 | 64 | 0 | 68 | 1 | 68 | 0 | 68 | 1 | 68 | 0 | 68 | 1 | 68 | 0 | 68 |
| | | Left-Through | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Through | 480 | 1 | 385 | 0 | 480 | 385 | 0 | 510 | 1 | 409 | 0 | 510 | 1 | 409 | 0 | 510 | 1 | 409 | 0 | 510 |
| | | Through-Right | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 |
| | | Right | 290 | 0 | 290 | 0 | 290 | 290 | 0 | 308 | 0 | 308 | 0 | 308 | 0 | 308 | 0 | 308 | 0 | 308 | 0 | 308 |
| EASTBOUND | | Left | 56 | 1 | 56 | 0 | 56 | 56 | 0 | 59 | 1 | 59 | 0 | 59 | 1 | 59 | 0 | 59 | 1 | 59 | 0 | 59 |
| | | Left-Through | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Through | 104 | 1 | 104 | 9 | 113 | 113 | 271 | 381 | 1 | 381 | 9 | 390 | 1 | 390 | -1 | 389 | 1 | 389 | 0 | 389 |
| | | Through-Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Right | 171 | 1 | 69 | 0 | 171 | 69 | 0 | 182 | 1 | 74 | 0 | 182 | 1 | 74 | 0 | 182 | 1 | 74 | 0 | 182 |
| WESTBOUND | | Left | 44 | 1 | 44 | 0 | 44 | 44 | 0 | 47 | 1 | 47 | 0 | 47 | 1 | 47 | 0 | 47 | 1 | 47 | 0 | 47 |
| | | Left-Through | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Through | 226 | 1 | 288 | 2 | 228 | 290 | 76 | 316 | 0 | 382 | 2 | 318 | 0 | 384 | 0 | 318 | 0 | 384 | 0 | 384 |
| | | Through-Right | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 |
| | | Right | 62 | 0 | 62 | 0 | 62 | 62 | 0 | 66 | 0 | 66 | 0 | 66 | 0 | 66 | 0 | 66 | 0 | 66 | 0 | 66 |
| CRITICAL VOLUMES | | North-South: 589
East-West: 344
SUM: 933 | | | North-South: 589
East-West: 346
SUM: 935 | | | North-South: 626
East-West: 441
SUM: 1067 | | | North-South: 626
East-West: 443
SUM: 1069 | | | North-South: 626
East-West: 443
SUM: 1069 | | | | | | | | |
| VOLUME/CAPACITY (V/C) RATIO: | | 0.679 | | | 0.680 | | | 0.776 | | | 0.777 | | | 0.777 | | | | | | | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | 0.579 | | | 0.580 | | | 0.676 | | | 0.677 | | | 0.677 | | | | | | | | |
| LEVEL OF SERVICE (LOS): | | A | | | A | | | B | | | B | | | B | | | | | | | | |

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in v/c due to project: 0.001 Δw/c after mitigation: 0.001
Significant impacted? NO Fully mitigated? N/A

6/13/2017-12:54

9

J1419 - Avalon Bay - AM.xls

Level of Service Worksheet (Circular 212 Method)



| I/S #: | North-South Street: | | Santa Fe Ave | | Year of Count: | | 2016 | Ambient Growth: (%) | | 1 | Conducted by: | | GTC | | Date: | June 2017 | | | |
|--|---------------------|---------------|--------------|---------------|------------------|---------------|------|---------------------|--|---------------|---------------|---------------|-----|---------------|----------|---------------------------|--|---|---|
| 14 | East-West Street: | | 8th St | | Projection Year: | | 2022 | Peak Hour: | | AM | Reviewed by: | | | | Project: | 68 S Alameda St Mixed-Use | | | |
| No. of Phases | | | | | | | | | | | | | | | | | | | 2 |
| Opposed Ø'ing: N/S-1, E/W-2 or Both-3? | | | | | | | | | | | | | | | | | | | 0 |
| Right Turns: FREE-1, NRTOR-2 or OLA-3? | | | | | | | | | | | | | | | | | | | 0 |
| ATSAC-1 or ATSAC+ATCS-2? | | | | | | | | | | | | | | | | | | | 0 |
| Override Capacity | | | | | | | | | | | | | | | | | | | 0 |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | 0 | |
| | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | EB-- 0 WB-- 0 | | NB-- 0 SB-- 0 | | | | | |

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in v/c due to project: 0.003 Δw/c after mitigation: 0.002
Significant impacted? NO Fully mitigated? N/A

6/13/2017-12:54

10

J1419 - Avalon Bay - AM.xls

Level of Service Worksheet (Circular 212 Method)



| I/S #: | North-South Street: | Santa Fe Ave | Year of Count: 2016 | | | Ambient Growth: (%) | | | 1 | Conducted by: | | | GTC | Date: | June 2017 |
|--|---------------------|--------------|-----------------------|--|--|---------------------|--|--|----|---------------|--|--|-----|----------|--------------------------|
| 16 | East-West Street: | Porter St | Projection Year: 2022 | | | Peak Hour: | | | AM | Reviewed by: | | | | Project: | 68 S Alameda St Mixed-Us |
| No. of Phases 3 | | | | | | | | | | | | | | | |
| Opposed Ø'ing: N/S-1, E/W-2 or Both-3? | | | | | | | | | | | | | | | |
| Right Turns: FREE-1, NRTOR-2 or OLA-3? | | | | | | | | | | | | | | | |
| ATSAC-1 or ATSAC+ATCS-2? | | | | | | | | | | | | | | | |
| Override Capacity 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0
EB-- 3 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0
EB-- 3 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0
EB-- 3 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0
EB-- 3 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0
EB-- 3 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0
EB-- 3 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0
EB-- 3 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0
EB-- 3 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0
EB-- 3 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0
EB-- 3 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0
EB-- 3 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0
EB-- 3 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0
EB-- 3 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0
EB-- 3 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0
EB-- 3 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0
EB-- 3 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0
EB-- 3 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0
EB-- 3 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0
EB-- 3 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0
EB-- 3 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0
EB-- 3 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0
EB-- 3 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0
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Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in v/c due to project: 0.003
Significant impacted? NO
Δw/c after mitigation: 0.003
Fully mitigated? N/A

6/13/2017-12:54

11

J1419 - Avalon Bay - AM.xls

Level of Service Worksheet (Circular 212 Method)



| I/S #: | North-South Street: | Central Ave | Year of Count: 2016 | | | Ambient Growth: (%) | | | 1 | Conducted by: | | GTC | | Date: | June 2017 | | |
|--|---------------------|--------------|-----------------------|--|--|---------------------|--|--|----|---------------|--|-----|--|----------|--------------------------|--|--|
| 17 | East-West Street: | Olympic Blvd | Projection Year: 2022 | | | Peak Hour: | | | AM | Reviewed by: | | | | Project: | 68 S Alameda St Mixed-Us | | |
| No. of Phases 4 | | | | | | | | | | | | | | | | | |
| Opposed Ø'ing: N/S-1, E/W-2 or Both-3? 0 | | | | | | | | | | | | | | | | | |
| Right Turns: FREE-1, NRTOR-2 or OLA-3? 0 | | | | | | | | | | | | | | | | | |
| ATSAC-1 or ATSAC+ATCS-2? 3 | | | | | | | | | | | | | | | | | |
| Override Capacity 2 | | | | | | | | | | | | | | | | | |
| 0 | | | | | | | | | | | | | | | | | |
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Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in v/c due to project: 0.003
Significant impacted? NO
Δw/c after mitigation: 0.002
Fully mitigated? N/A

6/13/2017-12:54

12

J1419 - Avalon Bay - AM.xls

Level of Service Worksheet (Circular 212 Method)



| I/S #: | North-South Street: | Alameda St | | | Year of Count: 2016 | | | Ambient Growth: (%) | | | 1 | Conducted by: | | GTC | | Date: | June 2017 | |
|--|---------------------|--------------|---|------|-----------------------|------|---|---------------------|---|------|----|---------------|---|------|---|-----------------------------------|-----------|--|
| 18 | East-West Street: | Olympic Blvd | | | Projection Year: 2022 | | | Peak Hour: | | | AM | Reviewed by: | | | | Project: 68 S Alameda St Mixed-Us | | |
| No. of Phases | | | | | | | | | | | | | | | | | | |
| Opposed 0'ing: N/S-1, E/W-2 or Both-3? | | | | | | | | | | | | | | | | | | |
| Right Turns: FREE-1, NRTOR-2 or OLA-3? | | | | | | | | | | | | | | | | | | |
| ATSAC-1 or ATSAC+ATCS-2? | | | | | | | | | | | | | | | | | | |
| Override Capacity | | | | | | | | | | | | | | | | | | |
| | | NB-- | 0 | SB-- | 0 | NB-- | 0 | SB-- | 0 | NB-- | 0 | SB-- | 0 | NB-- | 0 | SB-- | 0 | |
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Level of Service Worksheet (Circular 212 Method)



| I/S #: | North-South Street: | Alameda St | | | Year of Count: 2016 | | | Ambient Growth: (%) | | | 1 | Conducted by: | | | GTC | | Date: | June 2017 | | | |
|--|---------------------|------------|--|---------------|-----------------------|--|---------------|---------------------|--|---------------|----|---------------|---------------|--|-----|---------------|----------|--------------------------|---------------|--|--|
| 20 | East-West Street: | 14th St | | | Projection Year: 2022 | | | Peak Hour: | | | AM | Reviewed by: | | | | | Project: | 68 S Alameda St Mixed-Us | | | |
| No. of Phases | | | | | | | | | | | | | | | | | | | | | |
| Opposed 0'ing: N/S-1, E/W-2 or Both-3? | | | | | | | | | | | | | | | | | | | | | |
| Right Turns: FREE-1, NRTOR-2 or OLA-3? | | | | | | | | | | | | | | | | | | | | | |
| ATSAC-1 or ATSAC+ATCS-2? | | | | | | | | | | | | | | | | | | | | | |
| Override Capacity | | | | | | | | | | | | | | | | | | | | | |
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| | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| | | | | | | | | | | | | | | | | | | | | | |

REMARKS:
Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in v/c due to project: 0.006 Δw/c after mitigation: 0.005
Significant impacted? NO Fully mitigated? N/A

6/13/2017-12:54

15

J1419 - Avalon Bay - AM.xls

Level of Service Worksheet (Circular 212 Method)



| I/S #: | North-South Street: | Alameda St | | | | Year of Count: | | 2016 | Ambient Growth: (%) | | 1 | Conducted by: | | GTC | | Date: | June 2017 | | | |
|--|---------------------|---|--------------|-------------|---|------------------|-------------|---|---------------------|--------------|---|-----------------------------|--------------|---|-------------|---------------------------------|---------------------------|--------------|-------------|--|
| 21 | East-West Street: | I-10 EB Ramps | | | | Projection Year: | | 2022 | Peak Hour: | | AM | Reviewed by: | | | | Project: | 68 S Alameda St Mixed-Use | | | |
| <div>No. of Phases: 4</div> <div>Opposed 0'ing: N/S-1, E/W-2 or Both-3?</div> <div>Right Turns: FREE-1, NRTOR-2 or OLA-3?</div> <div>ATSAC-1 or ATSAC+ATCS-2?</div> <div>Override Capacity: 0</div> | | | | | | | | | | | | | | | | | | | | |
| <div><div><div>NB-- 0 SB-- 0</div><div>EB-- 3 WB-- 0</div></div><div><div>NB-- 0 SB-- 0</div><div>EB-- 3 WB-- 0</div></div><div><div>NB-- 0 SB-- 0</div><div>EB-- 3 WB-- 0</div></div><div><div>NB-- 0 SB-- 0</div><div>EB-- 3 WB-- 0</div></div><div><div>NB-- 0 SB-- 0</div><div>EB-- 3 WB-- 0</div></div></div> | | | | | | | | | | | | | | | | | | | | |
| MOVEMENT | | EXISTING CONDITION | | | EXISTING PLUS PROJECT | | | FUTURE CONDITION W/O PROJECT | | | | FUTURE CONDITION W/ PROJECT | | | | FUTURE W/ PROJECT W/ MITIGATION | | | | |
| | | Volume | No. of Lanes | Lane Volume | Project Traffic | Total Volume | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | |
| NORTHBOUND | Left | 368 | 1 | 368 | 0 | 368 | 368 | 0 | 391 | 1 | 391 | 0 | 391 | 1 | 391 | 0 | 391 | 1 | 391 | |
| | Left-Through | | 0 | | | | | | 0 | | | | 0 | | | | 0 | | | |
| | Through | 1042 | 1 | 525 | 5 | 1047 | 528 | 93 | 1199 | 1 | 604 | 5 | 1204 | 1 | 606 | -1 | 1203 | 1 | 606 | |
| | Through-Right | | 1 | | | | | | 1 | | | | 1 | | | | 1 | | | |
| | Right | 8 | 0 | 8 | 0 | 8 | 8 | 0 | 8 | 0 | 8 | 0 | 8 | 0 | 8 | 0 | 8 | 0 | 8 | |
| | Left-Through-Right | | 0 | | | | | | 0 | | | | 0 | | | | 0 | | | |
| | Left-Right | | 0 | | | | | | 0 | | | | 0 | | | | 0 | | | |
| SOUTHBOUND | Left | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | |
| | Left-Through | | 0 | | | | | | 0 | | | | 0 | | | | 0 | | | |
| | Through | 806 | 2 | 403 | 9 | 815 | 408 | 106 | 962 | 2 | 481 | 9 | 971 | 2 | 486 | -1 | 970 | 2 | 485 | |
| | Through-Right | | 0 | | | | | | 0 | | | | 0 | | | | 0 | | | |
| | Right | 424 | 1 | 149 | 0 | 424 | 146 | 54 | 504 | 1 | 150 | 0 | 504 | 1 | 147 | 0 | 504 | 1 | 147 | |
| | Left-Through-Right | | 0 | | | | | | 0 | | | | 0 | | | | 0 | | | |
| | Left-Right | | 0 | | | | | | 0 | | | | 0 | | | | 0 | | | |
| EASTBOUND | Left | 275 | 1 | 275 | 3 | 278 | 278 | 62 | 354 | 1 | 354 | 3 | 357 | 1 | 357 | 0 | 357 | 1 | 357 | |
| | Left-Through | | 0 | | | | | | 0 | | | | 0 | | | | 0 | | | |
| | Through | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Through-Right | | 0 | | | | | | 0 | | | | 0 | | | | 0 | | | |
| | Right | 525 | 1 | 157 | 0 | 525 | 157 | 0 | 557 | 1 | 166 | 0 | 557 | 1 | 166 | 0 | 557 | 1 | 166 | |
| | Left-Through-Right | | 0 | | | | | | 0 | | | | 0 | | | | 0 | | | |
| | Left-Right | | 0 | | | | | | 0 | | | | 0 | | | | 0 | | | |
| WESTBOUND | Left | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Left-Through | | 0 | | | | | | 0 | | | | 0 | | | | 0 | | | |
| | Through | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Through-Right | | 0 | | | | | | 0 | | | | 0 | | | | 0 | | | |
| | Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Left-Through-Right | | 0 | | | | | | 0 | | | | 0 | | | | 0 | | | |
| | Left-Right | | 0 | | | | | | 0 | | | | 0 | | | | 0 | | | |
| CRITICAL VOLUMES | | North-South: 771
East-West: 275
SUM: 1046 | | | North-South: 776
East-West: 278
SUM: 1054 | | | North-South: 872
East-West: 354
SUM: 1226 | | | North-South: 877
East-West: 357
SUM: 1234 | | | North-South: 876
East-West: 357
SUM: 1233 | | | | | | |
| VOLUME/CAPACITY (V/C) RATIO: | | 0.761 | | | 0.767 | | | 0.892 | | | 0.897 | | | 0.897 | | | | | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | 0.661 | | | 0.667 | | | 0.792 | | | 0.797 | | | 0.797 | | | | | | |
| LEVEL OF SERVICE (LOS): | | B | | | B | | | C | | | C | | | C | | | | | | |

REMARKS:
Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in v/c due to project: 0.005 Δw/c after mitigation: 0.005
Significant impacted? NO Fully mitigated? N/A

6/13/2017-12:54

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J1419 - Avalon Bay - AM.xls

Level of Service Worksheet (Circular 212 Method)



| I/S #: | North-South Street: | Alameda St | | | Year of Count: | | 2016 | Ambient Growth: (%) | | 1 | Conducted by: | | GTC | Date: | June 2017 | | | |
|--|---------------------|------------|--|--|------------------|--|------|---------------------|--|----|---------------|--|-----|----------|--------------------------|--|--|--|
| 1 | East-West Street: | 4th St | | | Projection Year: | | 2022 | Peak Hour: | | PM | Reviewed by: | | | Project: | 68 S Alameda St Mixed-Us | | | |
| No. of Phases | | | | | | | | | | | | | | | | | | |
| Opposed Ø'ing: N/S-1, E/W-2 or Both-3? | | | | | | | | | | | | | | | | | | |
| Right Turns: FREE-1, NRTOR-2 or OLA-3? | | | | | | | | | | | | | | | | | | |
| ATSAC-1 or ATSAC+ATCS-2? | | | | | | | | | | | | | | | | | | |
| Override Capacity | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
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| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
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| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
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| EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | |
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| NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB | | | | | | | | | | | | | | | | | | |

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in v/c due to project: 0.009 Δw/c after mitigation: 0.008
Significant impacted? NO Fully mitigated? N/A

6/13/2017-12:55

1

J1419 - Avalon Bay - PM.xls

Level of Service Worksheet (Circular 212 Method)



| I/S #: | North-South Street: | Central Ave | | Year of Count: 2016 | | Ambient Growth: (%) | | 1 | Conducted by: | | GTC | Date: | June 2017 | | | | | | |
|---|---------------------|---|-----------------------|---|-----------------------|---|--------------|---|-----------------------------------|---|-------------|-----------------------------|--------------|---|-------------|---------------------------------|--------------|--------------|-------------|
| 2 | East-West Street: | 6th St | Projection Year: 2022 | | Peak Hour: PM | | Reviewed by: | | Project: 68 S Alameda St Mixed-Us | | | | | | | | | | |
| <div>No. of Phases</div> <div>Opposed Ø'ing: N/S-1, E/W-2 or Both-3?</div> <div>Right Turns: FREE-1, NRTOR-2 or OLA-3?</div> <div>ATSAC-1 or ATSAC+ATCS-2?</div> <div>Override Capacity</div> | | | | | | | | | | | | | | <div>NB-- 0 SB-- 0</div> <div>EB-- 0 WB-- 0</div> <div>NB-- 0 SB-- 0</div> <div>EB-- 0 WB-- 0</div> <div>NB-- 0 SB-- 0</div> <div>EB-- 0 WB-- 0</div> <div>NB-- 0 SB-- 0</div> <div>EB-- 0 WB-- 0</div> | | | | | |
| MOVEMENT | | EXISTING CONDITION | | | EXISTING PLUS PROJECT | | | FUTURE CONDITION W/O PROJECT | | | | FUTURE CONDITION W/ PROJECT | | | | FUTURE W/ PROJECT W/ MITIGATION | | | |
| | | Volume | No. of Lanes | Lane Volume | Project Traffic | Total Volume | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume |
| NORTHBOUND | Left | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Left-Through | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Through | 758 | 1 | 468 | 0 | 758 | 468 | 52 | 857 | 1 | 545 | 0 | 857 | 1 | 545 | 0 | 857 | 1 | 545 |
| | Through-Right | 1 | 1 | 1 | 0 | 178 | 178 | 43 | 232 | 0 | 232 | 0 | 232 | 0 | 232 | 0 | 232 | 0 | 232 |
| | Right | 178 | 0 | 178 | 0 | 178 | 178 | 43 | 232 | 0 | 232 | 0 | 232 | 0 | 232 | 0 | 232 | 0 | 232 |
| SOUTHBOUND | Left-Through-Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Left-Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Left | 27 | 1 | 27 | 0 | 27 | 27 | 4 | 33 | 1 | 33 | 0 | 33 | 1 | 33 | 0 | 33 | 1 | 33 |
| | Left-Through | 0 | 0 | 0 | 0 | 328 | 164 | 0 | 348 | 2 | 174 | 0 | 348 | 2 | 174 | 0 | 348 | 2 | 174 |
| | Through | 328 | 2 | 164 | 0 | 328 | 164 | 0 | 348 | 2 | 174 | 0 | 348 | 2 | 174 | 0 | 348 | 2 | 174 |
| EASTBOUND | Through-Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Left-Through-Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Left-Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Left | 126 | 1 | 126 | 0 | 126 | 126 | 31 | 165 | 1 | 165 | 0 | 165 | 1 | 165 | 0 | 165 | 1 | 165 |
| WESTBOUND | Left-Through | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Through | 726 | 2 | 363 | 22 | 748 | 374 | 292 | 1063 | 2 | 532 | 22 | 1085 | 2 | 543 | -2 | 1083 | 2 | 542 |
| | Through-Right | 0 | 0 | 0 | 0 | 128 | 128 | 187 | 323 | 1 | 323 | 0 | 323 | 1 | 323 | 0 | 323 | 1 | 323 |
| | Right | 128 | 1 | 128 | 0 | 128 | 128 | 187 | 323 | 1 | 323 | 0 | 323 | 1 | 323 | 0 | 323 | 1 | 323 |
| | Left-Through-Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| CRITICAL VOLUMES | Left-Through | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Through | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Through-Right | 310 | 2 | 158 | 15 | 325 | 166 | 132 | 461 | 2 | 238 | 15 | 476 | 2 | 246 | -2 | 474 | 2 | 245 |
| | Right | 310 | 2 | 158 | 15 | 325 | 166 | 132 | 461 | 2 | 238 | 15 | 476 | 2 | 246 | -2 | 474 | 2 | 245 |
| | Left-Through-Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| VOLUME/CAPACITY (V/C) RATIO: | | North-South: 495
East-West: 540
SUM: 1035 | | North-South: 495
East-West: 551
SUM: 1046 | | North-South: 578
East-West: 834
SUM: 1412 | | North-South: 578
East-West: 845
SUM: 1423 | | North-South: 578
East-West: 844
SUM: 1422 | | | | | | | | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | 0.753 | | 0.761 | | 1.027 | | 1.035 | | 1.034 | | | | | | | | | |
| LEVEL OF SERVICE (LOS): | | 0.653 | | 0.661 | | 0.927 | | 0.935 | | 0.934 | | | | | | | | | |
| | | B | | B | | E | | E | | E | | | | | | | | | |

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in v/c due to project: 0.008 Δw/c after mitigation: 0.007
Significant impacted? NO Fully mitigated? N/A

6/13/2017-12:55

2

J1419 - Avalon Bay - PM.xls

Level of Service Worksheet (Circular 212 Method)



| I/S #: | North-South Street: | Alameda St | Year of Count: 2016 | | | Ambient Growth: (%) | | | 1 | Conducted by: | | | GTC | Date: | June 2017 | | |
|--|---------------------|------------|-----------------------|--|--|---------------------|--|--|---------------|---------------|--|---------------|-----|----------|--------------------------|--|--|
| 3 | East-West Street: | 6th St | Projection Year: 2022 | | | Peak Hour: | | | PM | Reviewed by: | | | | Project: | 68 S Alameda St Mixed-Us | | |
| No. of Phases | | | | | | | | | | | | | | | | | |
| Opposed Ø'ing: N/S-1, E/W-2 or Both-3? | | | | | | | | | | | | | | | | | |
| Right Turns: FREE-1, NRTOR-2 or OLA-3? | | | | | | | | | | | | | | | | | |
| ATSAC-1 or ATSAC+ATCS-2? | | | | | | | | | | | | | | | | | |
| Override Capacity | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | |
| EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | |
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REMARKS:
Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in v/c due to project: 0.028 Δw/c after mitigation: 0.025
Significant impacted? YES Fully mitigated? NO

6/13/2017-12:55

3

J1419 - Avalon Bay - PM.xls

Level of Service Worksheet (Circular 212 Method)



| I/S #: | North-South Street: | Mateo St | Year of Count: 2016 | | Ambient Growth: (%) 1 | | Conducted by: | | GTC | Date: | June 2017 | | | | | | | | |
|--|---------------------|----------|--|--------------|-----------------------|--|---------------|-------------|---|--------------|--------------------------|---|--------------|--------------|---|-------------|------|---|-----|
| 4 | East-West Street: | 6th St | Projection Year: 2022 | | Peak Hour: PM | | Reviewed by: | | | Project: | 68 S Alameda St Mixed-Us | | | | | | | | |
| No. of Phases 2 | | | | | | | | | | | | | | | | | | | |
| Opposed Ø'ing: N/S-1, E/W-2 or Both-3? 0 | | | | | | | | | | | | | | | | | | | |
| Right Turns: FREE-1, NRTOR-2 or OLA-3? 0 | | | | | | | | | | | | | | | | | | | |
| ATSAC-1 or ATSAC+ATCS-2? 0 | | | | | | | | | | | | | | | | | | | |
| Override Capacity 0 | | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | | | | | | | | |
| EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | | | | | | | | |
| EXISTING CONDITION | | | | | | | | | | | | | | | | | | | |
| EXISTING PLUS PROJECT | | | | | | | | | | | | | | | | | | | |
| FUTURE CONDITION W/O PROJECT | | | | | | | | | | | | | | | | | | | |
| FUTURE CONDITION W/ PROJECT | | | | | | | | | | | | | | | | | | | |
| FUTURE W/ PROJECT W/ MITIGATION | | | | | | | | | | | | | | | | | | | |
| MOVEMENT | | | Volume | No. of Lanes | Lane Volume | Project Traffic | Total Volume | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | | | |
| NORTHBOUND | Left | 60 | 0 | 60 | 0 | 60 | 60 | 41 | 105 | 0 | 105 | 0 | 105 | 0 | 105 | 0 | 105 | | |
| | Left-Through | | | | | | | | | | | | | | | | | | |
| | Through | 153 | 0 | 270 | 0 | 153 | 270 | 20 | 182 | 0 | 348 | 0 | 182 | 0 | 348 | 0 | 348 | | |
| | Through-Right | | | | | | | | | | | | | | | | | | |
| | Right | 57 | 0 | 0 | 0 | 57 | 0 | 0 | 61 | 0 | 0 | 0 | 61 | 0 | 0 | 0 | 0 | | |
| | Left-Through-Right | | 1 | | | | | | 1 | | | | 1 | | | 1 | | | |
| | Left-Right | | 0 | | | | | | 0 | | | | 0 | | | 0 | | | |
| SOUTHBOUND | Left | 39 | 0 | 39 | 0 | 39 | 39 | 20 | 61 | 0 | 61 | 0 | 61 | 0 | 61 | 0 | 61 | | |
| | Left-Through | | | | | | | | | | | | | | | | | | |
| | Through | 99 | 0 | 182 | 6 | 105 | 188 | 19 | 124 | 0 | 257 | 6 | 130 | 0 | 263 | -1 | 129 | 0 | 262 |
| | Through-Right | | | | | | | | | | | | | | | | | | |
| | Right | 44 | 0 | 0 | 0 | 44 | 0 | 25 | 72 | 0 | 0 | 0 | 72 | 0 | 0 | 72 | 0 | 0 | |
| | Left-Through-Right | | 1 | | | | | | 1 | | | | 1 | | | 1 | | | |
| | Left-Right | | 0 | | | | | | 0 | | | | 0 | | | 0 | | | |
| EASTBOUND | Left | 84 | 1 | 84 | 4 | 88 | 88 | 35 | 124 | 1 | 124 | 4 | 128 | 1 | 128 | -1 | 127 | 1 | 127 |
| | Left-Through | | | | | | | | | | | | | | | | | | |
| | Through | 901 | 1 | 487 | 7 | 908 | 491 | 100 | 1056 | 1 | 585 | 7 | 1063 | 1 | 588 | -1 | 1062 | 1 | 588 |
| | Through-Right | | | | | | | | | | | | | | | | | | |
| | Right | 73 | 0 | 73 | 0 | 73 | 73 | 36 | 113 | 0 | 113 | 0 | 113 | 0 | 113 | 0 | 113 | 0 | 113 |
| | Left-Through-Right | | | | | | | | | | | | | | | | | | |
| | Left-Right | | 0 | | | | | | 0 | | | | 0 | | | 0 | | | |
| WESTBOUND | Left | 17 | 1 | 17 | 0 | 17 | 17 | 0 | 18 | 1 | 18 | 0 | 18 | 1 | 18 | 0 | 18 | 1 | 18 |
| | Left-Through | | | | | | | | | | | | | | | | | | |
| | Through | 329 | 1 | 177 | 11 | 340 | 182 | 101 | 450 | 1 | 251 | 11 | 461 | 1 | 257 | -1 | 460 | 1 | 256 |
| | Through-Right | | | | | | | | | | | | | | | | | | |
| | Right | 24 | 0 | 24 | 0 | 24 | 24 | 27 | 52 | 0 | 52 | 0 | 52 | 0 | 52 | 0 | 52 | 0 | 52 |
| | Left-Through-Right | | | | | | | | | | | | | | | | | | |
| | Left-Right | | 0 | | | | | | 0 | | | | 0 | | | 0 | | | |
| CRITICAL VOLUMES | | | North-South: 309
East-West: 504
SUM: 813 | | | North-South: 309
East-West: 508
SUM: 817 | | | North-South: 409
East-West: 603
SUM: 1012 | | | North-South: 409
East-West: 606
SUM: 1015 | | | North-South: 409
East-West: 606
SUM: 1015 | | | | |
| VOLUME/CAPACITY (V/C) RATIO: | | | 0.542 | | | 0.545 | | | 0.675 | | | 0.677 | | | | | | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | | 0.442 | | | 0.445 | | | 0.575 | | | 0.577 | | | | | | | |
| LEVEL OF SERVICE (LOS): | | | A | | | A | | | A | | | A | | | | | | | |

REMARKS:
Version: 1i Beta; 8/4/2011

PROJECT IMPACT

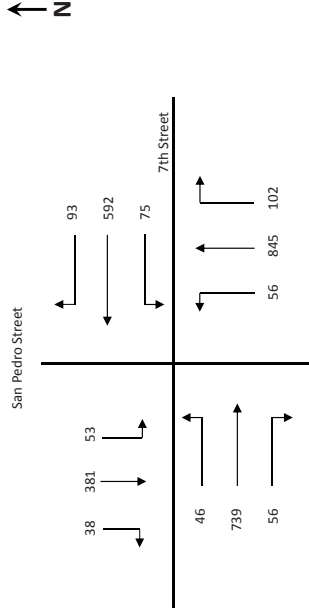
Change in v/c due to project: 0.002 Δw/c after mitigation: 0.002
Significant impacted? NO Fully mitigated? N/A

6/13/2017-12:55

4

J1419 - Avalon Bay - PM.xls

Intersection 5 - San Pedro Street & 7th Street
Existing with Project Conditions (Year 2016) - PM Peak Hour



1) Critical volume calculation for eastbound/westbound traffic on 7th Street

$$\begin{array}{rcl} \text{Eastbound Left :} & 46 & \text{and} \\ \text{Westbound Left + Throughs + Right:} & \frac{75}{75} + \frac{592}{2} + \frac{93}{2} = \frac{760}{2} = 380 & \text{or} \\ \text{Westbound Left:} & 75 & \text{and} \\ \text{Eastbound Left + Throughs + Right:} & \frac{46}{46} + \frac{739}{2} + \frac{56}{2} = \frac{841}{2} = 421 & \end{array}$$

Critical Volume #1 (CV1): 496

2) Critical volume calculation for northbound/southbound traffic on San Pedro Street

$$\begin{array}{rcl} \text{Northbound Left :} & 56 & \text{and} \\ \text{Southbound Throughs + Right:} & \frac{381}{381} + \frac{38}{2} = \frac{419}{2} = 210 & \text{or} \\ \text{Southbound Left:} & 53 & \text{and} \\ \text{Northbound Throughs + Right:} & \frac{845}{845} + \frac{102}{2} = \frac{947}{2} = 474 & \end{array}$$

Critical Volume #1 (CV1): 527

$$\text{Critical Volume: } 496 + 527 = 1023$$

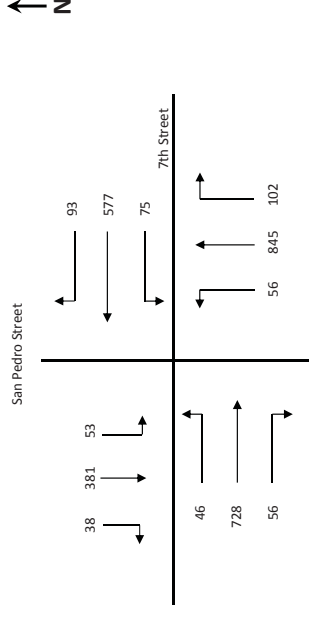
$$\text{Intersection V/C: } \frac{1023}{1500} = 0.682$$

ATSAC/ATCS Credit: 0.10

Final Intersection V/C: 0.582

Intersection LOS: A

Intersection 5 - San Pedro Street & 7th Street
Existing Conditions (Year 2016) - PM Peak Hour



1) Critical volume calculation for eastbound/westbound traffic on 7th Street

$$\begin{array}{rcl} \text{Eastbound Left :} & 46 & \text{and} \\ \text{Westbound Left + Throughs + Right:} & \frac{75}{75} + \frac{577}{2} + \frac{93}{2} = \frac{745}{2} = 373 & \text{or} \\ \text{Westbound Left:} & 75 & \text{and} \\ \text{Eastbound Left + Throughs + Right:} & \frac{46}{46} + \frac{728}{2} + \frac{56}{2} = \frac{830}{2} = 415 & \end{array}$$

Critical Volume #1 (CV1): 490

2) Critical volume calculation for northbound/southbound traffic on San Pedro Street

$$\begin{array}{rcl} \text{Northbound Left :} & 56 & \text{and} \\ \text{Southbound Throughs + Right:} & \frac{381}{381} + \frac{38}{2} = \frac{419}{2} = 210 & \text{or} \\ \text{Southbound Left:} & 53 & \text{and} \\ \text{Northbound Throughs + Right:} & \frac{845}{845} + \frac{102}{2} = \frac{947}{2} = 474 & \end{array}$$

Critical Volume #1 (CV1): 527

$$\text{Critical Volume: } 490 + 527 = 1017$$

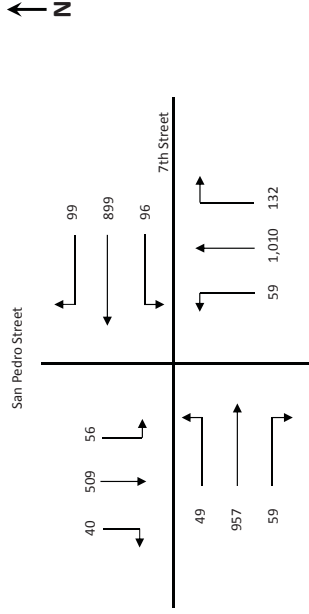
$$\text{Intersection V/C: } \frac{1017}{1500} = 0.678$$

ATSAC/ATCS Credit: 0.10

Final Intersection V/C: 0.578

Intersection LOS: A

Intersection 5 - San Pedro Street & 7th Street
Future with Project Conditions (Year 2022) - PM Peak Hour



1) Critical volume calculation for eastbound/westbound traffic on 7th Street

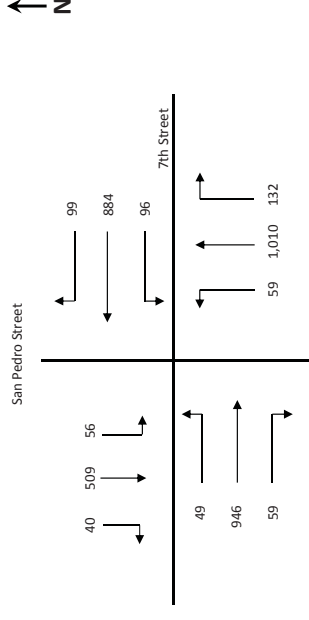
| | | |
|------------------------------------|---|-----|
| Eastbound Left : | 49 | and |
| Westbound Left + Throughs + Right: | $\frac{96 + 899 + 99}{2} = \frac{1,094}{2} = 547$ | or |
| Westbound Left: | 96 | and |
| Eastbound Left + Throughs + Right: | $\frac{49 + 957 + 59}{2} = \frac{1,065}{2} = 533$ | |
| Critical Volume #1 (CV1): | 629 | |

2) Critical volume calculation for northbound/southbound traffic on San Pedro Street

| | | |
|------------------------------|---|-----|
| Northbound Left : | 59 | and |
| Southbound Throughs + Right: | $\frac{509 + 40}{2} = \frac{549}{2} = 275$ | or |
| Southbound Left: | 56 | and |
| Northbound Throughs + Right: | $\frac{1,010 + 132}{2} = \frac{1,142}{2} = 571$ | |
| Critical Volume #1 (CV1): | 627 | |

| | | | | | |
|-------------------------|-----------------------------|---|-----|-------------------|-------------|
| Critical Volume: | 629 | + | 627 | = | 1256 |
| Intersection V/C: | $\frac{1256}{1500} = 0.837$ | | | | |
| ATSAC/ATCS Credit: | 0.10 | | | | |
| Final Intersection V/C: | 0.737 | | | | |
| | | | | Intersection LOS: | C |

Intersection 5 - San Pedro Street & 7th Street
Future without Project Conditions (Year 2022) - PM Peak Hour



1) Critical volume calculation for eastbound/westbound traffic on 7th Street

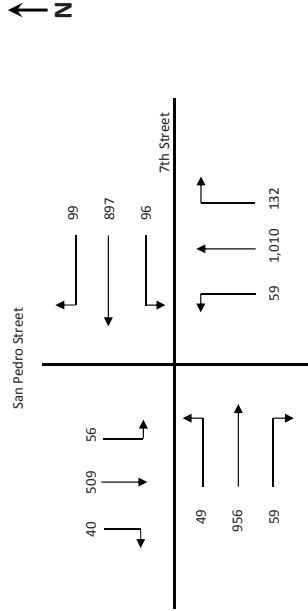
| | | |
|------------------------------------|---|-----|
| Eastbound Left : | 49 | and |
| Westbound Left + Throughs + Right: | $\frac{96 + 884 + 99}{2} = \frac{1,079}{2} = 540$ | or |
| Westbound Left: | 96 | and |
| Eastbound Left + Throughs + Right: | $\frac{49 + 946 + 59}{2} = \frac{1,054}{2} = 527$ | |
| Critical Volume #1 (CV1): | 623 | |

2) Critical volume calculation for northbound/southbound traffic on San Pedro Street

| | | |
|------------------------------|---|-----|
| Northbound Left : | 59 | and |
| Southbound Throughs + Right: | $\frac{509 + 40}{2} = \frac{549}{2} = 275$ | or |
| Southbound Left: | 56 | and |
| Northbound Throughs + Right: | $\frac{1,010 + 132}{2} = \frac{1,142}{2} = 571$ | |
| Critical Volume #1 (CV1): | 627 | |

| | | | | | |
|-------------------------|-----------------------------|---|-----|-------------------|-------------|
| Critical Volume: | 623 | + | 627 | = | 1250 |
| Intersection V/C: | $\frac{1250}{1500} = 0.833$ | | | | |
| ATSAC/ATCS Credit: | 0.10 | | | | |
| Final Intersection V/C: | 0.733 | | | | |
| | | | | Intersection LOS: | C |

Intersection 5 - San Pedro Street & 7th Street
Future with Project with Mitigation Conditions (Year 2022) - PM Peak Hour



1) Critical volume calculation for eastbound/westbound traffic on 7th Street

| | | |
|------------------------------------|-----------------------------------|-----|
| Eastbound Left : | 49 | and |
| Westbound Left : | 96 | and |
| Eastbound Left + Throughs + Right: | $\frac{96 + 887 + 99}{2} = 1,092$ | or |
| Westbound Left + Throughs + Right: | $\frac{49 + 956 + 59}{2} = 1,064$ | and |
| Critical Volume #1 (CV1): | 628 | |

2) Critical volume calculation for northbound/southbound traffic on San Pedro Street

| | | |
|-------------------------------------|---------------------------------|-----|
| Northbound Left : | 59 | and |
| Southbound Left : | 56 | and |
| Northbound Left + Throughs + Right: | $\frac{509 + 40}{2} = 549$ | or |
| Southbound Left + Throughs + Right: | $\frac{1,010 + 132}{2} = 1,142$ | and |
| Critical Volume #1 (CV1): | 627 | |

| | | | | | |
|-------------------------|---------------------|---|-------|---|------|
| Critical Volume: | 628 | + | 627 | = | 1255 |
| Intersection V/C: | $\frac{1255}{1300}$ | = | 0.937 | | |
| ATSAC/ATCS Credit: | 0.10 | | | | |
| Final Intersection V/C: | 0.737 | | | | |
| Intersection LOS: | C | | | | |



Level of Service Worksheet (Circular 212 Method)



| | | | | | | | | | | | | | | |
|--|---------------------|-------------|------------------|--|------|---------------------|--|----|---------------|--|-----|----------|--|--------------------------|
| I/S #: | North-South Street: | Central Ave | Year of Count: | | 2016 | Ambient Growth: (%) | | 1 | Conducted by: | | GTC | Date: | | June 2017 |
| 6 | East-West Street: | 7th St | Projection Year: | | 2022 | Peak Hour: | | PM | Reviewed by: | | | Project: | | 68 S Alameda St Mixed-Us |
| No. of Phases | | | | | | | | | | | | | | |
| Opposed 0'ing: N/S-1, E/W-2 or Both-3? | | | | | | | | | | | | | | |
| Right Turns: FREE-1, NRTOR-2 or OLA-3? | | | | | | | | | | | | | | |
| ATSAC-1 or ATSAC+ATCS-2? | | | | | | | | | | | | | | |
| Override Capacity | | | | | | | | | | | | | | |
| NB-- | | 0 | SB-- | | 0 | NB-- | | 0 | SB-- | | 0 | NB-- | | 0 |
| EB-- | | 0 | WB-- | | 0 | EB-- | | 0 | WB-- | | 0 | EB-- | | 0 |
| | | 2 | | | 2 | | | 2 | | | 2 | | | 2 |
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Version: 1i Beta; 8/4/2011

PROJECT IMPACT

| | | | |
|-------------------------------|-------|------------------------|-------|
| Change in v/c due to project: | 0.019 | Δw/c after mitigation: | 0.016 |
| Significant impacted? | YES | Fully mitigated? | NO |

Level of Service Worksheet (Circular 212 Method)



| I/S #: | North-South Street: | Alameda St | | | Year of Count: | | 2016 | Ambient Growth: (%) | | 1 | Conducted by: | | GTC | Date: | June 2017 | |
|--|---------------------|------------|--|--|------------------|--|------|---------------------|--|----|---------------|--|-----|----------|--------------------------|--|
| 7 | East-West Street: | 7th St | | | Projection Year: | | 2022 | Peak Hour: | | PM | Reviewed by: | | | Project: | 68 S Alameda St Mixed-Us | |
| No. of Phases | | | | | | | | | | | | | | | | |
| Opposed Ø'ing: N/S-1, E/W-2 or Both-3? | | | | | | | | | | | | | | | | |
| Right Turns: FREE-1, NRTOR-2 or OLA-3? | | | | | | | | | | | | | | | | |
| ATSAC-1 or ATSAC+ATCS-2? | | | | | | | | | | | | | | | | |
| Override Capacity | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | |
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| NB-- 0 SB-- 0 EB-- 0 WB-- | | | | | | | | | | | | | | | | |

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in v/c due to project: **0.023** Δw/c after mitigation: **0.020**
Significant impacted? **YES** Fully mitigated? **NO**

6/13/2017-12:55

6

J1419 - Avalon Bay - PM.xls

Level of Service Worksheet (Circular 212 Method)



| I/S #: | North-South Street: | Mateo St | Year of Count: 2016 | | Ambient Growth: (%) 1 | | Conducted by: | | GTC | Date: | June 2017 | |
|--|---------------------|----------|-----------------------|--|-----------------------|--|---------------|--|-----|----------|--------------------------|--|
| 8 | East-West Street: | 7th St | Projection Year: 2022 | | Peak Hour: PM | | Reviewed by: | | | Project: | 68 S Alameda St Mixed-Us | |
| No. of Phases | | | 2 | | 2 | | 2 | | 2 | | 2 | |
| Opposed Ø'ing: N/S-1, E/W-2 or Both-3? | | | 0 | | 0 | | 0 | | 0 | | 0 | |
| Right Turns: FREE-1, NRTOR-2 or OLA-3? | | | 0 | | 0 | | 0 | | 0 | | 0 | |
| ATSAC-1 or ATSAC+ATCS-2? | | | 0 | | 0 | | 0 | | 0 | | 0 | |
| Override Capacity | | | 2 | | 2 | | 2 | | 2 | | 2 | |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | |
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REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

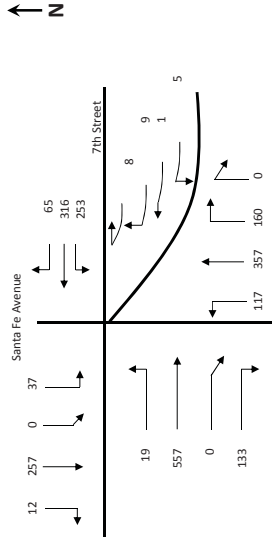
Change in v/c due to project: **0.036** Δw/c after mitigation: **0.032**
Significant impacted? **YES** Fully mitigated? **NO**

6/13/2017-12:55

7

J1419 - Avalon Bay - PM.xls

Intersection 9 - Santa Fe Avenue & 7th Street
Existing with Project Conditions (Year 2016) - PM Peak Hour



1) Critical volume calculation for eastbound/westbound traffic on 7th Street

$$\text{Eastbound Left: } 19$$

$$\text{Westbound Throughs + Right: } \frac{316 + 65}{2} = 191$$

$$\text{or}$$

$$\text{Westbound Left: } 253$$

$$\text{Eastbound Throughs + Right to 7th Street and Frontage Road: } \frac{557 + 0 + 133}{2} = 345$$

$$\text{or}$$

$$\text{Critical Volume \#1 (CV1): } 598$$

2) Critical volume calculation for northeastbound traffic on Frontage Road

$$\text{Northeastbound Lefts + Throughs + Rights + Sharp Right: } 8 + 9 + 1 + 5 = 23$$

$$\text{Critical Volume \#2 (CV2): } 23$$

3) Critical volume calculation for northbound/southbound traffic on Santa Fe Avenue

$$\text{Southbound Left to 7th Street and Frontage Road: } 37 + 0 = 37$$

$$\text{or}$$

$$\text{Northbound Through: } 357$$

$$\text{Northbound Right to 7th Street and Frontage Road: } 160 + 0 - 253 = -93$$

$$\text{or}$$

$$\text{Northbound Left: } 117$$

$$\text{Southbound Left + Left to Frontage Road + Through + Right: } 12 + 257 + 0 + 37 = 306$$

$$\text{Critical Volume \#3 (CV3): } 423$$

$$\text{Critical Volume: } 598 + 23 + 423 = 1044$$

$$\text{Intersection V/C: } \frac{1044}{1375} = 0.759$$

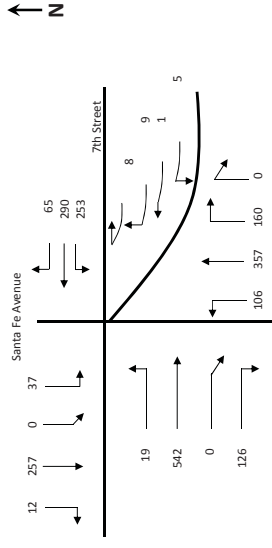
$$\text{ATSAC/ATCS Credit: } 0.10$$

$$\text{Final Intersection V/C: } 0.659$$

B

Intersection LOS:

Intersection 9 - Santa Fe Avenue & 7th Street
Existing Conditions (Year 2016) - PM Peak Hour



1) Critical volume calculation for eastbound/westbound traffic on 7th Street

$$\text{Eastbound Left: } 19$$

$$\text{Westbound Throughs + Right: } \frac{290 + 65}{2} = 178$$

$$\text{or}$$

$$\text{Westbound Left: } 253$$

$$\text{Eastbound Throughs + Right to 7th Street and Frontage Road: } \frac{542 + 0 + 126}{2} = 334$$

$$\text{or}$$

$$\text{Critical Volume \#1 (CV1): } 587$$

2) Critical volume calculation for northeastbound traffic on Frontage Road

$$\text{Northeastbound Lefts + Throughs + Rights + Sharp Right: } 8 + 9 + 1 + 5 = 23$$

$$\text{Critical Volume \#2 (CV2): } 23$$

3) Critical volume calculation for northbound/southbound traffic on Santa Fe Avenue

$$\text{Southbound Left to 7th Street and Frontage Road: } 37 + 0 = 37$$

$$\text{or}$$

$$\text{Northbound Through: } 357$$

$$\text{Northbound Right to 7th Street and Frontage Road: } 160 + 0 - 253 = -93$$

$$\text{or}$$

$$\text{Northbound Left: } 106$$

$$\text{Southbound Left + Left to Frontage Road + Through + Right: } 12 + 257 + 0 + 37 = 306$$

$$\text{Critical Volume \#3 (CV3): } 412$$

$$\text{Critical Volume: } 587 + 23 + 412 = 1022$$

$$\text{Intersection V/C: } \frac{1022}{1375} = 0.743$$

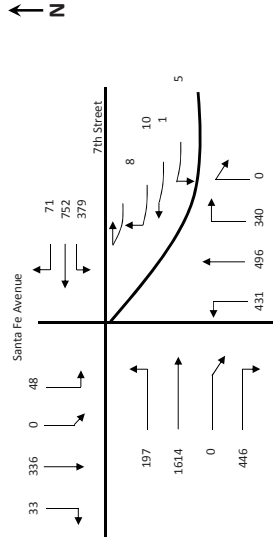
$$\text{ATSAC/ATCS Credit: } 0.10$$

$$\text{Final Intersection V/C: } 0.643$$

B

Intersection LOS:

Intersection 9 - Santa Fe Avenue & 7th Street
Future with Project Conditions (Year 2022) - PM Peak Hour



1) Critical volume calculation for eastbound/westbound traffic on 7th Street

$$\begin{array}{l} \text{Eastbound Left:} \quad 197 \\ \text{Westbound Throughs + Right:} \\ \frac{752}{2} + \frac{71}{2} = \frac{823}{2} = 412 \end{array}$$

and

$$\begin{array}{l} \text{Westbound Left:} \quad 379 \\ \text{Eastbound Throughs + Right to 7th Street and Frontage Road:} \\ \frac{1614}{2} + \frac{0}{2} + \frac{446}{2} = \frac{2060}{2} = 1030 \end{array}$$

and

$$\begin{array}{l} \text{Critical Volume \#1 (CV1):} \quad 1,409 \\ \text{Critical volume calculation for northeastbound traffic on Frontage Road} \\ \text{Northeastbound Lefts + Throughs + Rights + Sharp Right:} \\ 8 + 10 + 1 + 5 = 24 \end{array}$$

$$\text{Critical Volume \#2 (CV2):} \quad 24$$

$$\begin{array}{l} \text{3) Critical volume calculation for northbound/southbound traffic on Santa Fe Avenue} \\ \text{Southbound Left to 7th Street and Frontage Road:} \\ 48 + 0 = 48 \end{array}$$

and

$$\begin{array}{l} \text{Northbound Through:} \quad 496 \\ \text{Northbound Right to 7th Street and Frontage Road:} \\ 340 + 0 - 379 = -39 \end{array}$$

or

$$\begin{array}{l} \text{Northbound Left:} \quad 431 \\ \text{Southbound Left + Left to Frontage Road + Through + Right:} \\ 33 + 336 + 0 + 48 = 417 \end{array}$$

$$\text{Critical Volume \#3 (CV3):} \quad 848$$

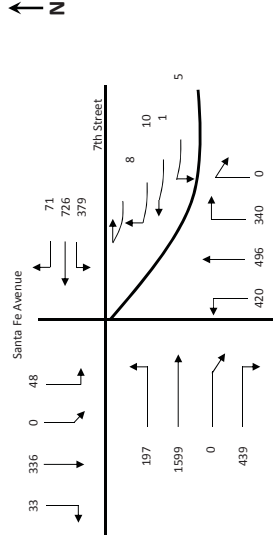
$$\begin{array}{l} \text{Critical Volume:} \quad 1409 + 24 + 848 = 2281 \\ \text{Intersection V/C:} \quad \frac{2281}{1375} = 1.659 \end{array}$$

ATSAC/ATCS Credit: 0.10

Final Intersection V/C: 1.559

Intersection LOS: F

Intersection 9 - Santa Fe Avenue & 7th Street
Future without Project Conditions (Year 2022) - PM Peak Hour



1) Critical volume calculation for eastbound/westbound traffic on 7th Street

$$\begin{array}{l} \text{Eastbound Left:} \quad 197 \\ \text{Westbound Throughs + Right:} \\ \frac{726}{2} + \frac{71}{2} = \frac{797}{2} = 399 \end{array}$$

or

$$\begin{array}{l} \text{Westbound Left:} \quad 379 \\ \text{Eastbound Throughs + Right to 7th Street and Frontage Road:} \\ \frac{1599}{2} + \frac{0}{2} + \frac{439}{2} = \frac{2038}{2} = 1019 \end{array}$$

and

$$\begin{array}{l} \text{Critical Volume \#1 (CV1):} \quad 1,398 \\ \text{Critical volume calculation for northeastbound traffic on Frontage Road} \\ \text{Northeastbound Lefts + Throughs + Rights + Sharp Right:} \\ 8 + 10 + 1 + 5 = 24 \end{array}$$

$$\text{Critical Volume \#2 (CV2):} \quad 24$$

$$\begin{array}{l} \text{3) Critical volume calculation for northbound/southbound traffic on Santa Fe Avenue} \\ \text{Southbound Left to 7th Street and Frontage Road:} \\ 48 + 0 = 48 \end{array}$$

and

$$\begin{array}{l} \text{Northbound Through:} \quad 496 \\ \text{Northbound Right to 7th Street and Frontage Road:} \\ 340 + 0 - 379 = -39 \end{array}$$

or

$$\begin{array}{l} \text{Northbound Left:} \quad 420 \\ \text{Southbound Left + Left to Frontage Road + Through + Right:} \\ 33 + 336 + 0 + 48 = 417 \end{array}$$

$$\text{Critical Volume \#3 (CV3):} \quad 837$$

$$\begin{array}{l} \text{Critical Volume:} \quad 1398 + 24 + 837 = 2259 \\ \text{Intersection V/C:} \quad \frac{2259}{1375} = 1.643 \end{array}$$

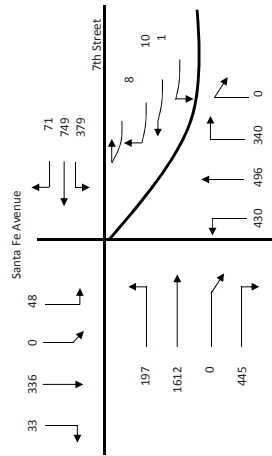
ATSAC/ATCS Credit: 0.10

Final Intersection V/C: 1.543

Intersection LOS: F

Intersection 9 - Santa Fe Avenue & 7th Street
Future with Project with Mitigation Conditions (Year 2022) - PM Peak Hour

← N



1) Critical volume calculation for eastbound/westbound traffic on 7th Street

Eastbound Left: 197
Westbound Throughs + Right: $\frac{749 + 71}{2} = \frac{820}{2} = 410$
Westbound Left: 379
Eastbound Throughs + Right to 7th Street and Frontage Road: $\frac{1612 + 0 + 445}{2} = \frac{2057}{2} = 1029$

Critical Volume #1 (CV1): 1,408

2) Critical volume calculation for northeastbound traffic on Frontage Road

Northeastbound Lefts + Throughs + Rights + Sharp Right: $\frac{8 + 10 + 1 + 5}{2} = \frac{24}{2} = 12$
Critical Volume #2 (CV2): 24

3) Critical volume calculation for northbound/southbound traffic on Santa Fe Avenue

Southbound Left to 7th Street and Frontage Road: $\frac{48 + 0}{2} = \frac{48}{2} = 24$
Northbound Through: 496
Northbound Right to 7th Street and Frontage Road: $\frac{340 + 0 + 379}{2} = \frac{719}{2} = 359.5$
Southbound Left: 430
Southbound Left + Left to Frontage Road + Through + Right: $\frac{33 + 336 + 0 + 417}{2} = \frac{786}{2} = 393$
Critical Volume #3 (CV3): 847

Critical Volume: 1,408 + 24 + 847 = 2,279
Intersection V/C: $\frac{2,279}{1,375} = 1.657$
ATSAC/ATCS Credit: 0.10
Final Intersection V/C: 1.557
Intersection LOS: F



Level of Service Worksheet (Circular 212 Method)



| I/S #: | North-South Street: | Anderson St | | | Year of Count: 2016 | | Ambient Growth: (%): 1 | | Conducted by: GTC | | Date: June 2017 | | | | | | | | |
|---|---------------------|--|--------------|--------------------------------|--|--------------------------------|------------------------|--|-------------------|--------------------------------|------------------------------------|--|--------------|--------------|-------------|--|--------------|--------------|-------------|
| 10 | East-West Street: | 7th St | | | Projection Year: 2022 | | Peak Hour: PM | | Reviewed by: | | Project: 68 S Alameda St Mixed-Use | | | | | | | | |
| <div>No. of Phases: 2</div> <div>Opposed Øing: N/S-1, E/W-2 or Both-3?</div> <div>Right Turns: FREE-1, NRTOR-2 or OLA-3?</div> <div>ATSAC-1 or ATSAC+ATCS-2?</div> <div>Override Capacity</div> | | | | | | | | | | | | | | | | | | | |
| | | NB-- 0 SB-- 0
EB-- 0 WB-- 0 | | NB-- 0 SB-- 0
EB-- 0 WB-- 0 | | NB-- 0 SB-- 0
EB-- 0 WB-- 0 | | NB-- 0 SB-- 0
EB-- 0 WB-- 0 | | NB-- 0 SB-- 0
EB-- 0 WB-- 0 | | | | | | | | | |
| MOVEMENT | | EXISTING CONDITION | | | EXISTING PLUS PROJECT | | | FUTURE CONDITION W/O PROJECT | | | | FUTURE CONDITION W/ PROJECT | | | | FUTURE W/ PROJECT W/ MITIGATION | | | |
| | | Volume | No. of Lanes | Lane Volume | Project Traffic | Total Volume | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume |
| NORTHBOUND | Left | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Left-Through | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Through | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| | Through-Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Right | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| SOUTHBOUND | Left-Through-Right | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 |
| | Left-Through | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Left-Through | 112 | 0 | 112 | 0 | 112 | 112 | 0 | 119 | 0 | 119 | 0 | 119 | 0 | 119 | 0 | 119 | 0 | 119 |
| | Through | 0 | 0 | 233 | 0 | 0 | 233 | 0 | 0 | 0 | 247 | 0 | 0 | 0 | 247 | 0 | 0 | 0 | 247 |
| | Through-Right | 121 | 0 | 0 | 0 | 121 | 0 | 0 | 128 | 0 | 0 | 0 | 128 | 0 | 0 | 0 | 128 | 0 | 0 |
| EASTBOUND | Left-Through-Right | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| | Left-Through | 121 | 1 | 121 | 0 | 121 | 121 | 0 | 128 | 1 | 128 | 0 | 128 | 1 | 128 | 0 | 128 | 1 | 128 |
| | Through | 1034 | 0 | 517 | 15 | 1049 | 525 | 1204 | 2302 | 1 | 1151 | 15 | 2317 | 1 | 1159 | -2 | 2315 | 1 | 1158 |
| | Through-Right | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| | Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| WESTBOUND | Left-Through-Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Left-Through | 2 | 1 | 2 | 0 | 2 | 2 | 0 | 2 | 1 | 2 | 0 | 2 | 1 | 2 | 0 | 2 | 1 | 2 |
| | Through | 677 | 0 | 398 | 26 | 703 | 411 | 530 | 1249 | 1 | 688 | 26 | 1275 | 1 | 701 | -3 | 1272 | 1 | 699 |
| | Through-Right | 119 | 0 | 119 | 0 | 119 | 119 | 0 | 126 | 0 | 126 | 0 | 126 | 0 | 126 | 0 | 126 | 0 | 126 |
| | Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| CRITICAL VOLUMES | | North-South: 233
East-West: 519
SUM: 752 | | | North-South: 233
East-West: 532
SUM: 765 | | | North-South: 247
East-West: 1153
SUM: 1400 | | | | North-South: 247
East-West: 1161
SUM: 1408 | | | | North-South: 247
East-West: 1160
SUM: 1407 | | | |
| VOLUME/CAPACITY (V/C) RATIO: | | 0.501 | | | 0.510 | | | 0.933 | | | | 0.939 | | | | 0.938 | | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | 0.401 | | | 0.410 | | | 0.833 | | | | 0.839 | | | | 0.838 | | | |
| LEVEL OF SERVICE (LOS): | | A | | | A | | | D | | | | D | | | | D | | | |

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in v/c due to project: 0.006
Significant impacted? NO
Fully mitigated? N/A

Level of Service Worksheet (Circular 212 Method)



| I/S #: | North-South Street: | | Boyle Ave | | Year of Count: | | 2016 | Ambient Growth: (%) | | 1 | Conducted by: | | GTC | | Date: | | June 2017 | | | | |
|---|---------------------|---------------|-----------|--------------------|------------------|-------------|-----------------------|---------------------|-------------|------------------------------|---------------|--------------|-------------|-----------------------------|--------------|--------------|--------------------------|---------------------------------|--------------|--------------|-------------|
| 12 | East-West Street: | | 7th St | | Projection Year: | | 2022 | Peak Hour: | | PM | Reviewed by: | | | | Project: | | 68 S Alameda St Mixed-Us | | | | |
| No. of Phases | | | | | | | | | | | | | | | | | | | | | |
| Opposed Ø'ing: N/S-1, E/W-2 or Both-3? | | | | | | | | | | | | | | | | | | | | | |
| Right Turns: FREE-1, NRTOR-2 or OLA-3? | | | | | | | | | | | | | | | | | | | | | |
| ATSAC-1 or ATSAC+ATCS-2? | | | | | | | | | | | | | | | | | | | | | |
| Override Capacity | | | | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 NB-- 0 SB-- 0 NB-- 0 SB-- 0 NB-- 0 SB-- 0 NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | | | | |
| EB-- 0 WB-- 0 EB-- 0 WB-- 0 EB-- 0 WB-- 0 EB-- 0 WB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | | | | | | | |
| 2 0 2 0 2 0 2 0 2 0 | | | | | | | | | | | | | | | | | | | | | |
| 0 0 0 0 0 0 0 0 0 0 | | | | | | | | | | | | | | | | | | | | | |
| MOVEMENT | | | | EXISTING CONDITION | | | EXISTING PLUS PROJECT | | | FUTURE CONDITION W/O PROJECT | | | | FUTURE CONDITION W/ PROJECT | | | | FUTURE W/ PROJECT W/ MITIGATION | | | |
| | | | | Volume | No. of Lanes | Lane Volume | Project Traffic | Total Volume | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume |
| NORTHBOUND | | Left | 142 | 1 | 142 | 0 | 142 | 142 | 0 | 151 | 1 | 151 | 0 | 151 | 1 | 151 | 0 | 151 | 1 | 151 | |
| | | Left-Through | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | Through | 536 | 1 | 342 | 0 | 536 | 342 | 0 | 569 | 1 | 363 | 0 | 569 | 1 | 363 | 0 | 569 | 1 | 363 | |
| | | Through-Right | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | |
| | | Right | 147 | 0 | 147 | 0 | 147 | 147 | 0 | 156 | 0 | 156 | 0 | 156 | 0 | 156 | 0 | 156 | 0 | 156 | |
| SOUTHBOUND | | Left | 45 | 1 | 45 | 0 | 45 | 45 | 0 | 48 | 1 | 48 | 0 | 48 | 1 | 48 | 0 | 48 | 1 | 48 | |
| | | Left-Through | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | Through | 372 | 1 | 228 | 0 | 372 | 228 | 0 | 395 | 1 | 242 | 0 | 395 | 1 | 242 | 0 | 395 | 1 | 242 | |
| | | Through-Right | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | |
| | | Right | 84 | 0 | 84 | 0 | 84 | 84 | 0 | 89 | 0 | 89 | 0 | 89 | 0 | 89 | 0 | 89 | 0 | 89 | |
| EASTBOUND | | Left | 260 | 1 | 260 | 0 | 260 | 260 | 0 | 276 | 1 | 276 | 0 | 276 | 1 | 276 | 0 | 276 | 1 | 276 | |
| | | Left-Through | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | Through | 309 | 1 | 309 | 7 | 316 | 316 | 702 | 1030 | 1 | 1030 | 7 | 1037 | 1 | 1037 | -1 | 1036 | 1 | 1036 | |
| | | Through-Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | Right | 317 | 1 | 246 | 0 | 317 | 246 | 0 | 337 | 1 | 262 | 0 | 337 | 1 | 262 | 0 | 337 | 1 | 262 | |
| WESTBOUND | | Left | 11 | 1 | 11 | 0 | 11 | 11 | 0 | 12 | 1 | 12 | 0 | 12 | 1 | 12 | 0 | 12 | 1 | 12 | |
| | | Left-Through | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | Through | 100 | 0 | 177 | 4 | 104 | 181 | 72 | 178 | 0 | 260 | 4 | 182 | 0 | 264 | 0 | 182 | 0 | 264 | |
| | | Through-Right | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | |
| | | Right | 77 | 0 | 0 | 0 | 77 | 0 | 0 | 82 | 0 | 0 | 0 | 82 | 0 | 0 | 0 | 82 | 0 | 0 | |
| CRITICAL VOLUMES | | | | | | | | | | | | | | | | | | | | | |
| North-South: 387 East-West: 437 SUM: 824 | | | | | | | | | | | | | | | | | | | | | |
| North-South: 387 East-West: 441 SUM: 828 | | | | | | | | | | | | | | | | | | | | | |
| North-South: 411 East-West: 1042 SUM: 1453 | | | | | | | | | | | | | | | | | | | | | |
| North-South: 411 East-West: 1049 SUM: 1460 | | | | | | | | | | | | | | | | | | | | | |
| North-South: 411 East-West: 1048 SUM: 1459 | | | | | | | | | | | | | | | | | | | | | |
| VOLUME/CAPACITY (V/C) RATIO: | | | | | | | | | | | | | | | | | | | | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | | | | | | | | | | | | | | | | | | | | |
| LEVEL OF SERVICE (LOS): | | | | | | | | | | | | | | | | | | | | | |
| 0.599 0.499 A 0.602 0.502 A 1.057 0.957 E 1.062 0.962 E 1.061 0.961 E | | | | | | | | | | | | | | | | | | | | | |

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in v/c due to project: 0.005 Δw/c after mitigation: 0.004
Significant impacted? NO Fully mitigated? N/A

6/13/2017-12:55

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J1419 - Avalon Bay - PM.xls

Level of Service Worksheet (Circular 212 Method)



| I/S #: | North-South Street: | | Santa Fe Ave | | Year of Count: | | 2016 | Ambient Growth: (%) | | 1 | Conducted by: | | GTC | | Date: | June 2017 | |
|---|---------------------|------|--------------|------|------------------|------|------|---------------------|---|------|---------------|------|-----|------|------------------------------------|-----------|---|
| 14 | East-West Street: | | 8th St | | Projection Year: | | 2022 | Peak Hour: | | PM | Reviewed by: | | | | Project: 68 S Alameda St Mixed-Use | | |
| <div>No. of Phases</div> <div>Opposed Ø'ing: N/S-1, E/W-2 or Both-3?</div> <div>Right Turns: FREE-1, NRTOR-2 or OLA-3?</div> <div>ATSAC-1 or ATSAC+ATCS-2?</div> <div>Override Capacity</div> | | | | | | | | | | | | | | | | | |
| | | NB-- | 0 | SB-- | 0 | NB-- | 0 | SB-- | 0 | NB-- | 0 | SB-- | 0 | NB-- | 0 | SB-- | 0 |
| | | EB-- | 0 | WB-- | 0 | EB-- | 0 | WB-- | 0 | EB-- | 0 | WB-- | 0 | EB-- | 0 | WB-- | 0 |
| | | | 2 | | 0 | | 2 | | 0 | | 2 | | 0 | | 2 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 2 | | 0 | | 2 | | 0 | | 2 | | 0 | | 2 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | |

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in v/c due to project: 0.002 Δw/c after mitigation: 0.002
Significant impacted? NO Fully mitigated? N/A

6/13/2017-12:55

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J1419 - Avalon Bay - PM.xls

Level of Service Worksheet (Circular 212 Method)



| I/S #: | North-South Street: | Santa Fe Ave | | | Year of Count: 2016 | | | Ambient Growth: (%) | | | 1 | Conducted by: | | | GTC | | Date: June 2017 | | |
|---|---------------------|---|--------------|-------------|---|--------------|-------------|--|--------------|--------------|-------------|--|--------------|--------------|-------------|--|-----------------------------------|--------------|-------------|
| 16 | East-West Street: | Porter St | | | Projection Year: 2022 | | | Peak Hour: | | | PM | Reviewed by: | | | | | Project: 68 S Alameda St Mixed-Us | | |
| No. of Phases | | | | | | | | | | | | | | | | | | | |
| Opposed 0'ing: N/S-1, E/W-2 or Both-3? | | | | | | | | | | | | | | | | | | | |
| Right Turns: FREE-1, NRTOR-2 or OLA-3? | | | | | | | | | | | | | | | | | | | |
| ATSAC-1 or ATSAC+ATCS-2? | | | | | | | | | | | | | | | | | | | |
| Override Capacity | | | | | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 NB-- 0 SB-- 0 NB-- 0 SB-- 0 NB-- 0 SB-- 0 NB-- 0 SB-- 0 | | | | | | | | | | | | | | | | | | | |
| EB-- 3 WB-- 0 EB-- 3 WB-- 0 EB-- 3 WB-- 0 EB-- 3 WB-- 0 EB-- 3 WB-- 0 | | | | | | | | | | | | | | | | | | | |
| 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | | | | | | | | | | | | | | | | | | | |
| 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 | | | | | | | | | | | | | | | | | | | |
| 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | | | | | | | | | | | | | | | | | | | |
| MOVEMENT | | EXISTING CONDITION | | | EXISTING PLUS PROJECT | | | FUTURE CONDITION W/O PROJECT | | | | FUTURE CONDITION W/ PROJECT | | | | FUTURE W/ PROJECT W/ MITIGATION | | | |
| | | Volume | No. of Lanes | Lane Volume | Project Traffic | Total Volume | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume |
| NORTHBOUND | Left | 411 | 1 | 411 | 0 | 411 | 411 | 0 | 436 | 1 | 436 | 0 | 436 | 1 | 436 | 0 | 436 | 1 | 436 |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Through | 612 | 1 | 315 | 11 | 623 | 321 | 123 | 773 | 1 | 396 | 11 | 784 | 1 | 402 | -1 | 783 | 1 | 401 |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | |
| | Right | 18 | 0 | 18 | 0 | 18 | 18 | 0 | 19 | 0 | 19 | 0 | 19 | 0 | 19 | 0 | 19 | 0 | 19 |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| SOUTHBOUND | Left | 27 | 1 | 27 | 0 | 27 | 27 | 0 | 29 | 1 | 29 | 0 | 29 | 1 | 29 | 0 | 29 | 1 | 29 |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Through | 799 | 1 | 446 | 7 | 806 | 449 | 331 | 1179 | 1 | 685 | 7 | 1186 | 1 | 688 | -1 | 1185 | 1 | 688 |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | |
| | Right | 92 | 0 | 92 | 0 | 92 | 92 | 92 | 190 | 0 | 190 | 0 | 190 | 0 | 190 | 0 | 190 | 0 | 190 |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| EASTBOUND | Left | 34 | 0 | 34 | 0 | 34 | 34 | 234 | 270 | 0 | 270 | 0 | 270 | 0 | 270 | 0 | 270 | 0 | 270 |
| | Left-Through | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | |
| | Through | 26 | 0 | 60 | 0 | 26 | 60 | 0 | 28 | 0 | 298 | 0 | 28 | 0 | 298 | 0 | 28 | 0 | 298 |
| | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Right | 220 | 1 | 0 | 0 | 220 | 0 | 0 | 234 | 1 | 0 | 0 | 234 | 1 | 0 | 0 | 234 | 1 | 0 |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| WESTBOUND | Left | 52 | 0 | 52 | 0 | 52 | 52 | 0 | 55 | 0 | 55 | 0 | 55 | 0 | 55 | 0 | 55 | 0 | 55 |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Through | 72 | 0 | 178 | 0 | 72 | 178 | 0 | 76 | 0 | 188 | 0 | 76 | 0 | 188 | 0 | 76 | 0 | 188 |
| | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Right | 54 | 0 | 0 | 0 | 54 | 0 | 0 | 57 | 0 | 0 | 0 | 57 | 0 | 0 | 0 | 57 | 0 | 0 |
| | Left-Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | |
| | Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| CRITICAL VOLUMES | | North-South: 857
East-West: 212
SUM: 1069 | | | North-South: 860
East-West: 212
SUM: 1072 | | | North-South: 1121
East-West: 458
SUM: 1579 | | | | North-South: 1124
East-West: 458
SUM: 1582 | | | | North-South: 1124
East-West: 458
SUM: 1582 | | | |
| VOLUME/CAPACITY (V/C) RATIO: | | 0.750 | | | 0.752 | | | 1.108 | | | | 1.110 | | | | 1.110 | | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | 0.650 | | | 0.652 | | | 1.008 | | | | 1.010 | | | | 1.010 | | | |
| LEVEL OF SERVICE (LOS): | | B | | | B | | | F | | | | F | | | | F | | | |

REMARKS:
Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in v/c due to project: 0.002 Δw/c after mitigation: 0.002
Significant impacted? NO Fully mitigated? N/A

6/13/2017-12:55

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J1419 - Avalon Bay - PM.xls

Level of Service Worksheet (Circular 212 Method)



| I/S #: | North-South Street: | Central Ave | Year of Count: 2016 | | | Ambient Growth: (%) 1 | | | Conducted by: | | GTC | Date: | June 2017 | | | | | | |
|---|---------------------|---|---|---|---|---|-------------|------------------------------|---|--------------|---|-----------------------------|---|--------------|-------------|---------------------------------|--------------|--------------|-------------|
| 17 | East-West Street: | Olympic Blvd | Projection Year: 2022 | | | Peak Hour: PM | | | Reviewed by: | | | Project: | 68 S Alameda St Mixed-Us | | | | | | |
| <div>No. of Phases</div> <div>Opposed 0'ing: N/S-1, E/W-2 or Both-3?</div> <div>Right Turns: FREE-1, NRTOR-2 or OLA-3?</div> <div>ATSAC-1 or ATSAC+ATCS-2?</div> <div>Override Capacity</div> | | | | | | | | | | | | | | | | | | | |
| <div>NB-- 3 SB-- 0</div> <div>EB-- 0 WB-- 3</div> | | | <div>NB-- 3 SB-- 0</div> <div>EB-- 0 WB-- 3</div> | | | <div>NB-- 3 SB-- 0</div> <div>EB-- 0 WB-- 3</div> | | | <div>NB-- 3 SB-- 0</div> <div>EB-- 0 WB-- 3</div> | | <div>NB-- 3 SB-- 0</div> <div>EB-- 0 WB-- 3</div> | | <div>NB-- 3 SB-- 0</div> <div>EB-- 0 WB-- 3</div> | | | | | | |
| MOVEMENT | | EXISTING CONDITION | | | EXISTING PLUS PROJECT | | | FUTURE CONDITION W/O PROJECT | | | | FUTURE CONDITION W/ PROJECT | | | | FUTURE W/ PROJECT W/ MITIGATION | | | |
| | | Volume | No. of Lanes | Lane Volume | Project Traffic | Total Volume | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume |
| NORTHBOUND | Left | 75 | 1 | 75 | 0 | 75 | 75 | 0 | 80 | 1 | 80 | 0 | 80 | 1 | 80 | 0 | 80 | 1 | 80 |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Through | 675 | 2 | 338 | 11 | 686 | 343 | 2 | 719 | 2 | 360 | 11 | 730 | 2 | 365 | -1 | 729 | 2 | 365 |
| | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Right | 203 | 1 | 100 | 0 | 203 | 100 | 0 | 215 | 1 | 106 | 0 | 215 | 1 | 106 | 0 | 215 | 1 | 106 |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| SOUTHBOUND | Left | 169 | 1 | 169 | 0 | 169 | 169 | 0 | 179 | 1 | 179 | 0 | 179 | 1 | 179 | 0 | 179 | 1 | 179 |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Through | 696 | 1 | 374 | 15 | 711 | 385 | 36 | 775 | 1 | 416 | 15 | 790 | 1 | 427 | -2 | 788 | 1 | 425 |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | |
| | Right | 51 | 0 | 51 | 7 | 58 | 58 | 2 | 56 | 0 | 56 | 7 | 63 | 0 | 63 | -1 | 62 | 0 | 62 |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| EASTBOUND | Left | 74 | 1 | 74 | 0 | 74 | 74 | 0 | 79 | 1 | 79 | 0 | 79 | 1 | 79 | 0 | 79 | 1 | 79 |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Through | 1148 | 1 | 642 | 11 | 1159 | 647 | 241 | 1460 | 1 | 802 | 11 | 1471 | 1 | 807 | -1 | 1470 | 1 | 807 |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | |
| | Right | 135 | 0 | 135 | 0 | 135 | 135 | 0 | 143 | 0 | 143 | 0 | 143 | 0 | 143 | 0 | 143 | 0 | 143 |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| WESTBOUND | Left | 103 | 1 | 103 | 0 | 103 | 103 | 0 | 109 | 1 | 109 | 0 | 109 | 1 | 109 | 0 | 109 | 1 | 109 |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Through | 626 | 2 | 313 | 0 | 626 | 313 | 255 | 920 | 2 | 460 | 0 | 920 | 2 | 460 | 0 | 920 | 2 | 460 |
| | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Right | 151 | 1 | 0 | 0 | 151 | 0 | 0 | 160 | 1 | 0 | 0 | 160 | 1 | 0 | 0 | 160 | 1 | 0 |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| CRITICAL VOLUMES | | North-South: 507
East-West: 745
SUM: 1252 | North-South: 512
East-West: 750
SUM: 1262 | North-South: 539
East-West: 911
SUM: 1450 | North-South: 544
East-West: 916
SUM: 1460 | North-South: 544
East-West: 916
SUM: 1460 | | | | | | | | | | | | | |
| VOLUME/CAPACITY (V/C) RATIO: | | 0.911 | 0.918 | 1.055 | 1.062 | 1.062 | | | | | | | | | | | | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | 0.811 | 0.818 | 0.955 | 0.962 | 0.962 | | | | | | | | | | | | | |
| LEVEL OF SERVICE (LOS): | | D | D | E | E | E | | | | | | | | | | | | | |

REMARKS:
Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in v/c due to project: 0.007 Δw/c after mitigation: 0.007
Significant impacted? NO Fully mitigated? N/A

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J1419 - Avalon Bay - PM.xls

Level of Service Worksheet (Circular 212 Method)



| I/S #: | | North-South Street: Alameda St | | | Year of Count: 2016 | | | Ambient Growth: (%) 1 | | | Conducted by: GTC | | Date: June 2017 | | | | | | | | |
|---------------------------------|--------------------------------|---|---|---|---|---|-----------------------|-----------------------|-------------|------------------------------|-------------------|-----------------------------------|-----------------|-----------------------------|--------------|--------------|-------------|---------------------------------|--------------|--------------|-------------|
| 18 | East-West Street: Olympic Blvd | | | Projection Year: 2022 | | | Peak Hour: PM | | | Reviewed by: | | Project: 68 S Alameda St Mixed-Us | | | | | | | | | |
| | | No. of Phases | | 2 | | | 2 | | | 2 | | | 2 | | | | | | | | |
| | | Opposed Ø'ing: N/S-1, E/W-2 or Both-3? | | 0 | | | 0 | | | 0 | | | 0 | | | | | | | | |
| | | Right Turns: FREE-1, NRTOR-2 or OLA-3? | | NB-- 0 SB-- 0 | NB-- 0 SB-- 0 | | NB-- 0 SB-- 0 | NB-- 0 SB-- 0 | | NB-- 0 SB-- 0 | NB-- 0 SB-- 0 | | NB-- 0 SB-- 0 | | | | | | | | |
| | | ATSAC-1 or ATSAC+ATCS-2? | | EB-- 0 WB-- 0 | EB-- 0 WB-- 0 | | EB-- 0 WB-- 0 | EB-- 0 WB-- 0 | | EB-- 0 WB-- 0 | EB-- 0 WB-- 0 | | EB-- 0 WB-- 0 | | | | | | | | |
| | | Override Capacity | | 2 | | | 2 | | | 2 | | | 2 | | | | | | | | |
| | | | | 0 | | | 0 | | | 0 | | | 0 | | | | | | | | |
| MOVEMENT | | | | EXISTING CONDITION | | | EXISTING PLUS PROJECT | | | FUTURE CONDITION W/O PROJECT | | | | FUTURE CONDITION W/ PROJECT | | | | FUTURE W/ PROJECT W/ MITIGATION | | | |
| | | | | Volume | No. of Lanes | Lane Volume | Project Traffic | Total Volume | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume |
| NORTHBOUND | Left | 75 | 1 | 75 | 0 | 75 | 75 | 4 | 84 | 1 | 84 | 0 | 84 | 1 | 84 | 0 | 84 | 1 | 202 | 1 | 84 |
| | Left-Through | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Through | 781 | 1 | 482 | 17 | 798 | 491 | 246 | 1075 | 1 | 635 | 17 | 1092 | 1 | 643 | -2 | 1090 | 1 | 642 | 1 | 642 |
| | Through-Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Right | 183 | 0 | 183 | 0 | 183 | 183 | 0 | 194 | 0 | 194 | 0 | 194 | 0 | 194 | 0 | 194 | 0 | 194 | 0 | 194 |
| SOUTHBOUND | Left-Through-Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Left-Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Left | 99 | 1 | 99 | 7 | 106 | 106 | 91 | 196 | 1 | 196 | 7 | 203 | 1 | 203 | -1 | 202 | 1 | 202 | 1 | 202 |
| | Left-Through | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Through | 874 | 2 | 437 | 12 | 886 | 443 | 220 | 1148 | 2 | 574 | 12 | 1160 | 2 | 580 | -1 | 1159 | 2 | 580 | 2 | 580 |
| EASTBOUND | Through-Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Right | 127 | 1 | 96 | 0 | 127 | 85 | 39 | 174 | 1 | 125 | 0 | 174 | 1 | 114 | 0 | 174 | 1 | 115 | 1 | 115 |
| | Left-Through-Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Left-Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Left | 62 | 1 | 62 | 22 | 84 | 84 | 32 | 98 | 1 | 98 | 22 | 120 | 1 | 120 | -2 | 118 | 1 | 118 | 1 | 118 |
| WESTBOUND | Left-Through | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Through | 951 | 1 | 502 | 0 | 951 | 502 | 237 | 1247 | 1 | 654 | 0 | 1247 | 1 | 654 | 0 | 1247 | 1 | 654 | 1 | 654 |
| | Through-Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Right | 53 | 0 | 53 | 0 | 53 | 53 | 5 | 61 | 0 | 61 | 0 | 61 | 0 | 61 | 0 | 61 | 0 | 61 | 0 | 61 |
| | Left-Through-Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| CRITICAL VOLUMES | Left-Through-Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Left-Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Left | 76 | 1 | 76 | 0 | 76 | 76 | 0 | 81 | 1 | 81 | 0 | 81 | 1 | 81 | 0 | 81 | 1 | 81 | 1 | 81 |
| | Left-Through | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Through | 900 | 1 | 469 | 0 | 900 | 472 | 190 | 1145 | 1 | 615 | 0 | 1145 | 1 | 618 | 0 | 1145 | 1 | 617 | 1 | 617 |
| VOLUME/CAPACITY (V/C) RATIO: | Through-Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Right | 38 | 0 | 38 | 6 | 44 | 44 | 44 | 84 | 0 | 84 | 6 | 90 | 0 | 90 | -1 | 89 | 0 | 89 | 0 | 89 |
| | Left-Through-Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Left-Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | CRITICAL VOLUMES | North-South: 581
East-West: 578
SUM: 1159 | North-South: 597
East-West: 578
SUM: 1175 | North-South: 831
East-West: 735
SUM: 1566 | North-South: 846
East-West: 738
SUM: 1584 | North-South: 844
East-West: 735
SUM: 1579 | | | | | | | | | | | | | | | |
| VOLUME/CAPACITY (V/C) RATIO: | | | | 0.773 | 0.783 | | | | 1.044 | | | | 1.056 | | | | 1.053 | | | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | | | 0.673 | 0.683 | | | | 0.944 | | | | 0.956 | | | | 0.953 | | | | |
| LEVEL OF SERVICE (LOS): | | | | B | B | | | | E | | | | E | | | | E | | | | |

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in v/c due to project: 0.012 Δw/c after mitigation: 0.009
Significant impacted? YES Fully mitigated? YES

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Level of Service Worksheet (Circular 212 Method)



| I/S #: | North-South Street: | Santa Fe Ave | | | Year of Count: | | 2016 | Ambient Growth: (%) | | 1 | Conducted by: | | GTC | | Date: | June 2017 | | | | | |
|--|---------------------|--------------------|---|--------------------|------------------|---|-----------------------|---------------------|---|------------------------------|---------------|---|-------------|-----------------------------|---|---------------------------|-------------|---------------------------------|--------------|--------------|-------------|
| 19 | East-West Street: | Olympic Blvd | | | Projection Year: | | 2022 | Peak Hour: | | PM | Reviewed by: | | | | Project: | 68 S Alameda St Mixed-Use | | | | | |
| No. of Phases | | | | | | | | | | | | | | | | | | | | | |
| Opposed Ø'ing: N/S-1, E/W-2 or Both-3? | | | | | | | | | | | | | | | | | | | | | |
| Right Turns: FREE-1, NRTOR-2 or OLA-3? | | | | | | | | | | | | | | | | | | | | | |
| ATSAC-1 or ATSAC+ATCS-2? | | | | | | | | | | | | | | | | | | | | | |
| Override Capacity | | | | | | | | | | | | | | | | | | | | | |
| | | | | EXISTING CONDITION | | | EXISTING PLUS PROJECT | | | FUTURE CONDITION W/O PROJECT | | | | FUTURE CONDITION W/ PROJECT | | | | FUTURE W/ PROJECT W/ MITIGATION | | | |
| MOVEMENT | | | | Volume | No. of Lanes | Lane Volume | Project Traffic | Total Volume | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume |
| NORTHBOUND | | Left | 102 | 1 | 102 | 0 | 102 | 0 | 102 | 0 | 108 | 1 | 108 | 0 | 108 | 1 | 108 | 0 | 108 | 1 | 108 |
| | | Left-Through | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Through | 910 | 1 | 535 | 11 | 921 | 57 | 1023 | 1 | 596 | 11 | 1034 | 1 | 602 | -1 | 1033 | 1 | 601 | 1 | 601 |
| | | Through-Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Right | 159 | 0 | 159 | 0 | 159 | 0 | 169 | 0 | 169 | 0 | 169 | 0 | 169 | 0 | 169 | 0 | 169 | 0 | 169 |
| SOUTHBOUND | | Left-Through-Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Left-Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Left | 88 | 1 | 88 | 0 | 88 | 233 | 326 | 1 | 326 | 0 | 326 | 1 | 326 | 0 | 326 | 1 | 326 | 0 | 326 |
| | | Left-Through | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Through | 964 | 1 | 495 | 7 | 971 | 71 | 1094 | 1 | 575 | 7 | 1101 | 1 | 578 | -1 | 1100 | 1 | 578 | 1 | 578 |
| EASTBOUND | | Through-Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Right | 26 | 0 | 26 | 0 | 26 | 27 | 55 | 0 | 55 | 0 | 55 | 0 | 55 | 0 | 55 | 0 | 55 | 0 | 55 |
| | | Left-Through-Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Left-Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Left | 32 | 1 | 32 | 0 | 32 | 20 | 54 | 1 | 54 | 0 | 54 | 1 | 54 | 0 | 54 | 1 | 54 | 0 | 54 |
| WESTBOUND | | Left-Through | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Through | 898 | 2 | 449 | 4 | 902 | 170 | 1123 | 2 | 562 | 4 | 1127 | 2 | 564 | -1 | 1126 | 2 | 563 | 2 | 563 |
| | | Through-Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Right | 295 | 1 | 193 | 0 | 295 | 0 | 313 | 1 | 205 | 0 | 313 | 1 | 205 | 0 | 313 | 1 | 205 | 0 | 205 |
| | | Left-Through-Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| WESTBOUND | | Left-Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Left | 88 | 1 | 88 | 0 | 88 | 0 | 93 | 1 | 93 | 0 | 93 | 1 | 93 | 0 | 93 | 1 | 93 | 0 | 93 |
| | | Left-Through | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Through | 639 | 1 | 353 | 6 | 645 | 161 | 839 | 1 | 477 | 6 | 845 | 1 | 480 | -1 | 844 | 1 | 480 | 1 | 480 |
| | | Through-Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| WESTBOUND | | Right | 66 | 0 | 66 | 0 | 66 | 45 | 115 | 0 | 115 | 0 | 115 | 0 | 115 | 0 | 115 | 0 | 115 | 0 | 115 |
| | | Left-Through-Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Left-Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Left | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Left-Through | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| CRITICAL VOLUMES | | | North-South: 623
East-West: 537
SUM: 1160 | | | North-South: 628
East-West: 539
SUM: 1167 | | | North-South: 922
East-West: 655
SUM: 1577 | | | North-South: 928
East-West: 657
SUM: 1585 | | | North-South: 927
East-West: 656
SUM: 1583 | | | | | | |
| VOLUME/CAPACITY (V/C) RATIO: | | | 0.814 | | | 0.819 | | | 1.147 | | | 1.153 | | | 1.151 | | | | | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | | 0.714 | | | 0.719 | | | 1.047 | | | 1.053 | | | 1.051 | | | | | | |
| LEVEL OF SERVICE (LOS): | | | C | | | C | | | F | | | F | | | F | | | | | | |

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in v/c due to project: 0.006 Δw/c after mitigation: 0.004
Significant impacted? NO Fully mitigated? N/A

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Level of Service Worksheet (Circular 212 Method)



| I/S #: | North-South Street: | Alameda St | Year of Count: 2016 | | | Ambient Growth: (%) | | | 1 | Conducted by: | | | GTC | Date: | June 2017 |
|--|---------------------|------------|-----------------------|--|--|---------------------|--|--|----|---------------|--|--|-----|----------|--------------------------|
| 20 | East-West Street: | 14th St | Projection Year: 2022 | | | Peak Hour: | | | PM | Reviewed by: | | | | Project: | 68 S Alameda St Mixed-Us |
| No. of Phases | | | | | | | | | | | | | | | |
| Opposed 0'ing: N/S-1, E/W-2 or Both-3? | | | | | | | | | | | | | | | |
| Right Turns: FREE-1, NRTOR-2 or OLA-3? | | | | | | | | | | | | | | | |
| ATSAC-1 or ATSAC+ATCS-2? | | | | | | | | | | | | | | | |
| Override Capacity | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- 0 | | | | | | | | | | | | | | | |
| NB-- 0 SB-- 0 EB-- 0 WB-- | | | | | | | | | | | | | | | |

REMARKS:
Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in v/c due to project: 0.004 Δw/c after mitigation: 0.004
Significant impacted? NO Fully mitigated? N/A

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Level of Service Worksheet (Circular 212 Method)



| I/S #: | North-South Street: | Alameda St | | | Year of Count: | | 2016 | Ambient Growth: (%) | | 1 | Conducted by: | | GTC | | Date: | June 2017 | | | |
|---|---------------------|---|--------------|-------------|---|--------------|-------------|--|--------------|--------------|---------------|--|--------------|--------------|-------------|--|--------------|--------------|-------------|
| 21 | East-West Street: | I-10 EB Ramps | | | Projection Year: | | 2022 | Peak Hour: | | PM | Reviewed by: | | | | Project: | 68 S Alameda St Mixed-Us | | | |
| <div>No. of Phases</div> <div>Opposed 0'ing: N/S-1, E/W-2 or Both-3?</div> <div>Right Turns: FREE-1, NRTOR-2 or OLA-3?</div> <div>ATSAC-1 or ATSAC+ATCS-2?</div> <div>Override Capacity</div> <div><div>NB--</div><div>0</div><div>SB--</div><div>0</div><div>EB--</div><div>3</div><div>WB--</div><div>0</div></div> <div><div>NB--</div><div>0</div><div>SB--</div><div>0</div><div>EB--</div><div>3</div><div>WB--</div><div>0</div></div> <div><div>NB--</div><div>0</div><div>SB--</div><div>0</div><div>EB--</div><div>3</div><div>WB--</div><div>0</div></div> <div><div>NB--</div><div>0</div><div>SB--</div><div>0</div><div>EB--</div><div>3</div><div>WB--</div><div>0</div></div> <div><div>NB--</div><div>0</div><div>SB--</div><div>0</div><div>EB--</div><div>3</div><div>WB--</div><div>0</div></div> | | | | | | | | | | | | | | | | | | | |
| MOVEMENT | | EXISTING CONDITION | | | EXISTING PLUS PROJECT | | | FUTURE CONDITION W/O PROJECT | | | | FUTURE CONDITION W/ PROJECT | | | | FUTURE W/ PROJECT W/ MITIGATION | | | |
| | | Volume | No. of Lanes | Lane Volume | Project Traffic | Total Volume | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume |
| NORTHBOUND | Left | 418 | 1 | 418 | 0 | 418 | 418 | 0 | 444 | 1 | 444 | 0 | 444 | 1 | 444 | 0 | 444 | 1 | 444 |
| | Left-Through | | 1 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Through | 1011 | 1 | 506 | 11 | 1022 | 511 | 139 | 1212 | 1 | 606 | 11 | 1223 | 1 | 612 | -1 | 1222 | 1 | 611 |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | |
| | Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | |
| SOUTHBOUND | Left | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Through | 1172 | 2 | 586 | 7 | 1179 | 590 | 135 | 1379 | 2 | 690 | 7 | 1386 | 2 | 693 | -1 | 1385 | 2 | 693 |
| | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Right | 462 | 1 | 393 | 0 | 462 | 387 | 33 | 523 | 1 | 330 | 0 | 523 | 1 | 324 | 0 | 523 | 1 | 325 |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | |
| EASTBOUND | Left | 69 | 1 | 69 | 6 | 75 | 75 | 120 | 193 | 1 | 193 | 6 | 199 | 1 | 199 | -1 | 198 | 1 | 198 |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Through | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Right | 223 | 1 | 0 | 0 | 223 | 0 | 0 | 237 | 1 | 0 | 0 | 237 | 1 | 0 | 0 | 237 | 1 | 0 |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | |
| WESTBOUND | Left | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Through | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | |
| CRITICAL VOLUMES | | North-South: 1004
East-West: 69
SUM: 1073 | | | North-South: 1008
East-West: 75
SUM: 1083 | | | North-South: 1134
East-West: 193
SUM: 1327 | | | | North-South: 1137
East-West: 199
SUM: 1336 | | | | North-South: 1137
East-West: 198
SUM: 1335 | | | |
| VOLUME/CAPACITY (V/C) RATIO: | | 0.780 | | | 0.788 | | | 0.965 | | | | 0.972 | | | | 0.971 | | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | 0.680 | | | 0.688 | | | 0.865 | | | | 0.872 | | | | 0.871 | | | |
| LEVEL OF SERVICE (LOS): | | B | | | B | | | D | | | | D | | | | D | | | |

REMARKS:
Version: 1i Beta; 8/4/2011

PROJECT IMPACT

Change in v/c due to project: 0.007 Δw/c after mitigation: 0.006
Significant impacted? NO Fully mitigated? N/A

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Level of Service Worksheet (Circular 212 Method)



PROJECT TITLE: 668 S Alameda St Mixed-Use
North-South Street: Central Ave
East-West Street: 6th St
Scenario: Existing with Project with Mitigation Conditions
Count Date: 2008-2016 Analyst: GTC Date: May 2017

I/S #: 2

| MOVEMENT | | AM PEAK HOUR | | | PM PEAK HOUR | | |
|---------------------------------|--|--|--------------|-------------|--|--------------|-------------|
| | | Volume | No. of Lanes | Lane Volume | Volume | No. of Lanes | Lane Volume |
| Left | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left-Through | | 398 | 1 | 237 | 758 | 1 | 468 |
| Through-Right | | 76 | 1 | 76 | 178 | 1 | 178 |
| Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left-Through-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left | | 20 | 1 | 20 | 27 | 1 | 27 |
| Left-Through | | 484 | 2 | 242 | 328 | 2 | 164 |
| Through-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left-Through-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left | | 43 | 1 | 43 | 126 | 1 | 126 |
| Left-Through | | 310 | 2 | 155 | 745 | 2 | 373 |
| Through-Right | | 110 | 1 | 110 | 128 | 1 | 128 |
| Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left-Through-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left | | 300 | 1 | 300 | 177 | 1 | 177 |
| Left-Through | | 0 | 0 | 0 | 0 | 0 | 0 |
| Through-Right | | 541 | 2 | 288 | 323 | 2 | 165 |
| Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left-Through-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| CRITICAL VOLUMES | | North-South: 257
East-West: 455
SUM: 712 | | | North-South: 476
East-West: 113
SUM: 589 | | |
| VOLUME/CAPACITY (V/C) RATIO: | | 0.518 | | | 0.393 | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | 0.418 | | | 0.293 | | |
| LEVEL OF SERVICE (LOS): | | A | | | A | | |

Version: 11 Beta, 8/4/2011

Level of Service Worksheet (Circular 212 Method)



PROJECT TITLE: 668 S Alameda St Mixed-Use
North-South Street: Alameda St
East-West Street: 4th St
Scenario: Existing with Project with Mitigation Conditions
Count Date: 2008-2016 Analyst: GTC Date: May 2017

I/S #: 1

| MOVEMENT | | AM PEAK HOUR | | | PM PEAK HOUR | | |
|---------------------------------|--|--|--------------|-------------|---|--------------|-------------|
| | | Volume | No. of Lanes | Lane Volume | Volume | No. of Lanes | Lane Volume |
| Left | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left-Through | | 733 | 1 | 395 | 943 | 1 | 529 |
| Through-Right | | 56 | 1 | 56 | 114 | 1 | 114 |
| Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left-Through-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left | | 81 | 1 | 81 | 100 | 1 | 100 |
| Left-Through | | 734 | 2 | 367 | 686 | 2 | 343 |
| Through-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left-Through-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left | | 70 | 0 | 70 | 167 | 0 | 167 |
| Left-Through | | 244 | 2 | 105 | 1252 | 2 | 473 |
| Through-Right | | 113 | 1 | 113 | 151 | 1 | 151 |
| Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left-Through-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left-Through | | 0 | 0 | 0 | 0 | 0 | 0 |
| Through-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left-Through-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| CRITICAL VOLUMES | | North-South: 476
East-West: 113
SUM: 589 | | | North-South: 629
East-West: 473
SUM: 1102 | | |
| VOLUME/CAPACITY (V/C) RATIO: | | 0.393 | | | 0.735 | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | 0.293 | | | 0.635 | | |
| LEVEL OF SERVICE (LOS): | | A | | | B | | |

Version: 11 Beta, 8/4/2011

Level of Service Worksheet (Circular 212 Method)



PROJECT TITLE: 668 S Alameda St Mixed-Use
North-South Street: Mateo St
Scenario: Existing with Project with Mitigation Conditions
Count Date: 2008-2016 Analyst: GTC Date: May 2017

I/S #: 4

| MOVEMENT | | AM PEAK HOUR | | PM PEAK HOUR | |
|---------------------------------|--|--|--------------|--|--------------|
| | | Volume | No. of Lanes | Volume | No. of Lanes |
| Left | | 47 | 0 | 47 | 0 |
| Left-Through | | 0 | 0 | 0 | 0 |
| Through | | 67 | 0 | 122 | 0 |
| Through-Right | | 0 | 0 | 0 | 0 |
| Right | | 8 | 0 | 0 | 0 |
| Left-Through-Right | | 1 | 1 | 0 | 0 |
| Left-Right | | 0 | 0 | 0 | 0 |
| Left | | 11 | 0 | 11 | 0 |
| Left-Through | | 132 | 0 | 180 | 0 |
| Through | | 0 | 0 | 0 | 0 |
| Through-Right | | 37 | 0 | 0 | 0 |
| Right | | 1 | 1 | 0 | 0 |
| Left-Through-Right | | 0 | 0 | 0 | 0 |
| Left-Right | | 0 | 0 | 0 | 0 |
| Left | | 59 | 1 | 59 | 1 |
| Left-Through | | 179 | 0 | 140 | 0 |
| Through | | 101 | 0 | 101 | 0 |
| Through-Right | | 0 | 0 | 0 | 0 |
| Right | | 0 | 0 | 0 | 0 |
| Left-Through-Right | | 0 | 0 | 0 | 0 |
| Left-Right | | 0 | 0 | 0 | 0 |
| Left | | 59 | 1 | 17 | 1 |
| Left-Through | | 847 | 0 | 339 | 0 |
| Through | | 87 | 0 | 24 | 0 |
| Through-Right | | 0 | 0 | 0 | 0 |
| Right | | 0 | 0 | 0 | 0 |
| Left-Through-Right | | 0 | 0 | 0 | 0 |
| Left-Right | | 0 | 0 | 0 | 0 |
| CRITICAL VOLUMES | | North-South: 227
East-West: 526
SUM: 753 | | North-South: 309
East-West: 507
SUM: 816 | |
| VOLUME/CAPACITY (V/C) RATIO: | | 0.502 | | 0.544 | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | 0.402 | | 0.444 | |
| LEVEL OF SERVICE (LOS): | | A | | A | |

Version: 11 Beta, 8/4/2011

Level of Service Worksheet (Circular 212 Method)



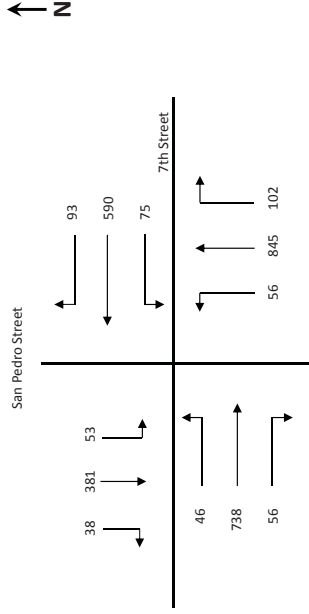
PROJECT TITLE: 668 S Alameda St Mixed-Use
North-South Street: Alameda St
Scenario: Existing with Project with Mitigation Conditions
Count Date: 2008-2016 Analyst: GTC Date: May 2017

I/S #: 3

| MOVEMENT | | AM PEAK HOUR | | PM PEAK HOUR | |
|---------------------------------|--|--|--------------|---|--------------|
| | | Volume | No. of Lanes | Volume | No. of Lanes |
| Left | | 102 | 1 | 102 | 1 |
| Left-Through | | 0 | 0 | 0 | 0 |
| Through | | 461 | 1 | 261 | 1 |
| Through-Right | | 60 | 0 | 60 | 0 |
| Right | | 0 | 0 | 101 | 0 |
| Left-Through-Right | | 0 | 0 | 0 | 0 |
| Left-Right | | 0 | 0 | 0 | 0 |
| Left | | 53 | 1 | 53 | 1 |
| Left-Through | | 710 | 1 | 870 | 1 |
| Through | | 65 | 0 | 101 | 0 |
| Through-Right | | 0 | 0 | 0 | 0 |
| Right | | 0 | 0 | 0 | 0 |
| Left-Through-Right | | 0 | 0 | 0 | 0 |
| Left-Right | | 0 | 0 | 0 | 0 |
| Left | | 78 | 1 | 78 | 1 |
| Left-Through | | 202 | 0 | 158 | 0 |
| Through | | 113 | 0 | 103 | 0 |
| Through-Right | | 0 | 0 | 0 | 0 |
| Right | | 0 | 0 | 0 | 0 |
| Left-Through-Right | | 0 | 0 | 0 | 0 |
| Left-Right | | 0 | 0 | 0 | 0 |
| Left | | 128 | 1 | 128 | 1 |
| Left-Through | | 687 | 0 | 298 | 0 |
| Through | | 130 | 0 | 59 | 0 |
| Through-Right | | 0 | 0 | 0 | 0 |
| Right | | 0 | 0 | 0 | 0 |
| Left-Through-Right | | 0 | 0 | 0 | 0 |
| Left-Right | | 0 | 0 | 0 | 0 |
| CRITICAL VOLUMES | | North-South: 490
East-West: 487
SUM: 977 | | North-South: 609
East-West: 450
SUM: 1059 | |
| VOLUME/CAPACITY (V/C) RATIO: | | 0.686 | | 0.743 | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | 0.586 | | 0.643 | |
| LEVEL OF SERVICE (LOS): | | A | | B | |

Version: 11 Beta, 8/4/2011

Intersection 5 - San Pedro Street & 7th Street
Existing with Project with Mitigation Conditions (Year 2016) - PM Peak Hour



1) Critical volume calculation for eastbound/westbound traffic on 7th Street

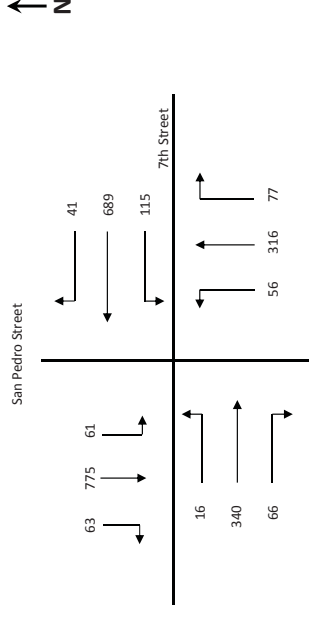
| | | |
|------------------------------------|---|-----|
| Eastbound Left : | 46 | and |
| Westbound Left + Throughs + Right: | $\frac{75 + 590 + 93}{2} = \frac{758}{2} = 379$ | or |
| Westbound Left: | 75 | and |
| Eastbound Left + Throughs + Right: | $\frac{46 + 738 + 56}{2} = \frac{840}{2} = 420$ | |
| Critical Volume #1 (CV1): | 495 | |

2) Critical volume calculation for northbound/southbound traffic on San Pedro Street

| | | |
|------------------------------|---|-----|
| Northbound Left : | 56 | and |
| Southbound Throughs + Right: | $\frac{381 + 38}{2} = \frac{419}{2} = 210$ | or |
| Southbound Left: | 53 | and |
| Northbound Throughs + Right: | $\frac{845 + 102}{2} = \frac{947}{2} = 474$ | |
| Critical Volume #1 (CV1): | 527 | |

| | | |
|-------------------------|-----------------------|--------------|
| Critical Volume: | 495 + 527 = | 1022 |
| Intersection V/C: | $\frac{1022}{1500} =$ | 0.681 |
| ATSAC/ATCS Credit: | 0.10 | |
| Final Intersection V/C: | 0.581 | |
| Intersection LOS: | A | |

Intersection 5 - San Pedro Street & 7th Street
Existing with Project with Mitigation Conditions (Year 2016) - AM Peak Hour



1) Critical volume calculation for eastbound/westbound traffic on 7th Street

| | | |
|------------------------------------|--|-----|
| Eastbound Left : | 16 | and |
| Westbound Left + Throughs + Right: | $\frac{115 + 689 + 41}{2} = \frac{845}{2} = 423$ | or |
| Westbound Left: | 115 | and |
| Eastbound Left + Throughs + Right: | $\frac{16 + 340 + 66}{2} = \frac{422}{2} = 211$ | |
| Critical Volume #1 (CV1): | 439 | |

2) Critical volume calculation for northbound/southbound traffic on San Pedro Street

| | | |
|------------------------------|--|-----|
| Northbound Left : | 56 | and |
| Southbound Throughs + Right: | $\frac{775 + 63}{2} = \frac{838}{2} = 419$ | or |
| Southbound Left: | 61 | and |
| Northbound Throughs + Right: | $\frac{316 + 77}{2} = \frac{393}{2} = 197$ | |
| Critical Volume #1 (CV1): | 475 | |

| | | |
|-------------------------|----------------------|--------------|
| Critical Volume: | 439 + 475 = | 914 |
| Intersection V/C: | $\frac{914}{1500} =$ | 0.609 |
| ATSAC/ATCS Credit: | 0.10 | |
| Final Intersection V/C: | 0.509 | |
| Intersection LOS: | A | |

Level of Service Worksheet (Circular 212 Method)



PROJECT TITLE: 668 S Alameda St Mixed-Use
North-South Street: Alameda St
East-West Street: 7th St
Scenario: Existing with Project with Mitigation Conditions
Count Date: 2008-2016 Analyst: GTC Date: May 2017

I/S #: 7

| MOVEMENT | | AM PEAK HOUR | | | PM PEAK HOUR | | |
|---------------------------------|--|---|--------------|-------------|--|--------------|-------------|
| | | Volume | No. of Lanes | Lane Volume | Volume | No. of Lanes | Lane Volume |
| Left | | 108 | 1 | 108 | 108 | 1 | 108 |
| Left-Through | | 639 | 1 | 366 | 804 | 1 | 459 |
| Through-Right | | 92 | 0 | 92 | 114 | 0 | 114 |
| Left-Through-Right | | | 0 | | | 0 | |
| Left-Right | | | 0 | | | 0 | |
| Left | | 125 | 1 | 125 | 104 | 1 | 104 |
| Left-Through | | 878 | 1 | 526 | 720 | 1 | 385 |
| Through-Right | | 173 | 0 | 173 | 49 | 0 | 49 |
| Left-Through-Right | | | 0 | | | 0 | |
| Left-Right | | | 0 | | | 0 | |
| Left | | 66 | 1 | 66 | 116 | 1 | 116 |
| Left-Through | | 306 | 1 | 194 | 750 | 1 | 431 |
| Through-Right | | 81 | 0 | 81 | 111 | 0 | 111 |
| Left-Through-Right | | | 0 | | | 0 | |
| Left-Right | | | 0 | | | 0 | |
| Left | | 122 | 1 | 122 | 83 | 1 | 83 |
| Left-Through | | 688 | 1 | 393 | 442 | 1 | 281 |
| Through-Right | | 97 | 0 | 97 | 120 | 0 | 120 |
| Left-Through-Right | | | 0 | | | 0 | |
| Left-Right | | | 0 | | | 0 | |
| CRITICAL VOLUMES | | North-South: 634
East-West: 459
SUM: 1093 | | | North-South: 514
East-West: 1077
SUM: 1591 | | |
| VOLUME/CAPACITY (V/C) RATIO: | | | | | | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | | | | | | |
| LEVEL OF SERVICE (LOS): | | | | | | | |

Version: 11 Beta, 8/4/2011

Level of Service Worksheet (Circular 212 Method)



PROJECT TITLE: 668 S Alameda St Mixed-Use
North-South Street: Central Ave
East-West Street: 7th St
Scenario: Existing with Project with Mitigation Conditions
Count Date: 2008-2016 Analyst: GTC Date: May 2017

I/S #: 6

| MOVEMENT | | AM PEAK HOUR | | | PM PEAK HOUR | | |
|---------------------------------|--|--|--------------|-------------|---|--------------|-------------|
| | | Volume | No. of Lanes | Lane Volume | Volume | No. of Lanes | Lane Volume |
| Left | | 65 | 1 | 65 | 58 | 1 | 58 |
| Left-Through | | 421 | 1 | 281 | 801 | 1 | 474 |
| Through-Right | | 141 | 0 | 141 | 147 | 0 | 147 |
| Left-Through-Right | | | 0 | | | 0 | |
| Left-Right | | | 0 | | | 0 | |
| Left | | 34 | 0 | 34 | 42 | 0 | 42 |
| Left-Through | | 701 | 1 | 457 | 536 | 1 | 383 |
| Through-Right | | 144 | 0 | 144 | 61 | 0 | 61 |
| Left-Through-Right | | | 0 | | | 0 | |
| Left-Right | | | 0 | | | 0 | |
| Left | | 53 | 1 | 53 | 94 | 1 | 94 |
| Left-Through | | 306 | 1 | 180 | 805 | 1 | 439 |
| Through-Right | | 54 | 0 | 54 | 72 | 0 | 72 |
| Left-Through-Right | | | 0 | | | 0 | |
| Left-Right | | | 0 | | | 0 | |
| Left | | 199 | 1 | 199 | 116 | 1 | 116 |
| Left-Through | | 741 | 1 | 413 | 477 | 1 | 270 |
| Through-Right | | 85 | 0 | 85 | 62 | 0 | 62 |
| Left-Through-Right | | | 0 | | | 0 | |
| Left-Right | | | 0 | | | 0 | |
| CRITICAL VOLUMES | | North-South: 522
East-West: 466
SUM: 988 | | | North-South: 516
East-West: 555
SUM: 1071 | | |
| VOLUME/CAPACITY (V/C) RATIO: | | | | | | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | | | | | | |
| LEVEL OF SERVICE (LOS): | | | | | | | |

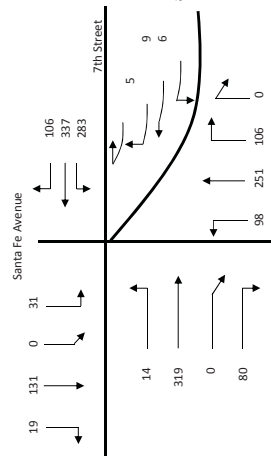
Version: 11 Beta, 8/4/2011

Level of Service Worksheet (Circular 212 Method)

I/S #: 8

PROJECT TITLE: 668 S Alameda St Mixed-Use
North-South Street: Mateo St
East-West Street: 7th St
Scenario: Existing with Project with Mitigation Conditions
Count Date: 2008-2016
Analyst: GTC
Date: May 2017

Date: May 2017



1) Critical volume calculation for eastbound/westbound traffic on 7th Street

Eastbound Left : 14

$$\begin{array}{r} \text{Westbound Throughs + Right:} \\ 337 + 106 \\ \hline = 443 \\ \hline \end{array}$$

Westbound Left: 283

Eastbound Throughs + Right to 7th Street and Frontage Road:

| | | | | | | | | | | |
|-------|---|---|---|----|-------|---|-----|--|---|-----|
| 319 | + | 0 | + | 80 | | = | 399 | | = | 200 |
| <hr/> | | | | ? | <hr/> | | | | ? | |

Critical Volume #1 (CV1): 483

2) Critical volume calculation for northeastbound traffic on Frontage Road

Northeastbound Lefts + Throughs + Rights + Sharp Right: $5 + 9 + 6 + 8 = 28$

Critical Volume #2 (CV2): 28

3) Critical volume calculation for northbound/southbound traffic on Santa Fe Avenue

Southbound Left to 7th Street and Frontage Road:

Northbound Through: 251

Northbound Right to 7th Street and Frontage Road:

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STUDY OF THE EFFECTS OF

$$19 + 131 + 0$$

Critical Volume #3 (CV3): 282

1375

ATSAC/ATCS Credit: 0.10

| Final intersection V/C: | Intersection LOS: |
|-------------------------|-------------------|
| 0.477 | |

Version: 1i Beta: 8/4/2011

| | No. of Phases
Opposed Ø'ing: NS-1, EW-2 or Both-3?
Right Turns: FREE-1, NRTOR-2 or OLA-3?
ATSAC-1 or ATSAC+ATCS-2?
Overtake Capacity | AM PEAK HOUR | | | PM PEAK HOUR | | |
|--|--|------------------------------------|--------------|------------------------------------|--------------|---------------------|-------------|
| | | Volume | | Lane Volume | Volume | | Lane Volume |
| | | No. of Lanes | No. of Lanes | No. of Lanes | No. of Lanes | | |
| | | | | | | | |
| NORTHBOUND | Left | 69 | 0 | 69 | 132 | 0 | 132 |
| | Left-Through | | | | | | |
| | Through | 100 | 0 | 202 | 208 | 0 | 399 |
| | Through-Right | | | | | | |
| | Right | 33 | 0 | 0 | 50 | 0 | 0 |
| | Left-Through-Right
Left-Right | 1 | 1 | 0 | 1 | 1 | 0 |
| SOUTHBOUND | Left | 41 | 0 | 41 | 34 | 0 | 34 |
| | Left-Through | | | | | | |
| | Through | 165 | 0 | 256 | 109 | 0 | 171 |
| | Through-Right | | | | | | |
| | Right | 50 | 0 | 0 | 28 | 0 | 0 |
| | Left-Through-Right
Left-Right | 1 | 0 | 0 | 1 | 1 | 0 |
| EASTBOUND | Left | 33 | 1 | 33 | 74 | 1 | 74 |
| | Left-Through | | | | | | |
| | Through | 325 | 1 | 188 | 594 | 1 | 342 |
| | Through-Right | | | | | | |
| | Right | 51 | 0 | 51 | 89 | 0 | 89 |
| | Left-Through-Right
Left-Right | 0 | 0 | 0 | 0 | 0 | 0 |
| WESTBOUND | Left | 113 | 1 | 113 | 53 | 1 | 53 |
| | Left-Through | | | | | | |
| | Through | 539 | 1 | 289 | 331 | 1 | 181 |
| | Through-Right | | | | | | |
| | Right | 39 | 0 | 39 | 30 | 0 | 30 |
| | Left-Through-Right
Left-Right | 0 | 0 | 0 | 0 | 0 | 0 |
| CRITICAL VOLUMES | | North-South:
East-West:
SUM: | | North-South:
East-West:
SUM: | | 424
395
819 | |
| VOLUME/CAPACITY (V/C) RATIO:
V/C LESS ATSAC/ATCS ADJUSTMENT:
LEVEL OF SERVICE (LOS): | | 0.431
0.331
A | | 0.546
0.446
A | | 0.546
0.446
A | |

Level of Service Worksheet (Circular 212 Method)



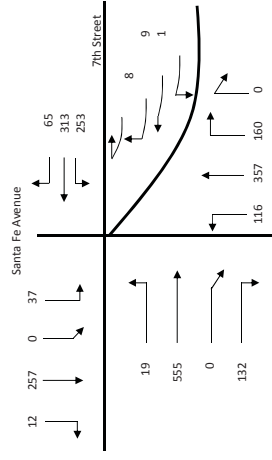
I/S #: 10

PROJECT TITLE: 668 S Alameda St Mixed-Use
North-South Street: Anderson St East-West Street: 7th St
Scenario: Existing with Project with Mitigation Conditions
Count Date: 2008-2016 Analyst: GTC Date: May 2017

| MOVEMENT | AM PEAK HOUR | | | | PM PEAK HOUR | | | |
|---|--|--------------|------|--|--|--------------|------|--|
| | Volume | No. of Lanes | Lane | | Volume | No. of Lanes | Lane | |
| Left | 12 | 0 | 12 | | 0 | 0 | 0 | |
| Left-Through | | 0 | | | | 0 | | |
| Through | 2 | 0 | 21 | | 0 | 0 | 0 | |
| Through-Right | | 0 | | | | 0 | | |
| Right | 7 | 0 | 0 | | 0 | 0 | 0 | |
| Left-Through-Right | | 1 | 0 | | | 0 | | |
| Left-Right | | 0 | | | | 0 | | |
| Left | 37 | 0 | 37 | | 112 | 0 | 0 | |
| Left-Through | | 0 | | | | 0 | | |
| Through | 0 | 0 | 129 | | 0 | 0 | 1 | |
| Through-Right | | 0 | | | | 0 | | |
| Right | 92 | 0 | 0 | | 121 | 0 | 0 | |
| Left-Through-Right | | 1 | 0 | | | 1 | | |
| Left-Right | | 0 | | | | 0 | | |
| Left | 64 | 1 | 64 | | 121 | 1 | 121 | |
| Left-Through | | 0 | | | | 0 | | |
| Through | 422 | 1 | 215 | | 1047 | 1 | 524 | |
| Through-Right | | 1 | | | | 1 | | |
| Right | 7 | 0 | 7 | | 0 | 0 | 0 | |
| Left-Through-Right | | 0 | | | | 0 | | |
| Left-Right | | 0 | | | | 0 | | |
| Left | 9 | 1 | 9 | | 2 | 1 | 2 | |
| Left-Through | | 0 | | | | 0 | | |
| Through | 1947 | 1 | 1121 | | 700 | 1 | 410 | |
| Through-Right | | 1 | | | | 1 | | |
| Right | 294 | 0 | 294 | | 119 | 0 | 119 | |
| Left-Through-Right | | 0 | | | | 0 | | |
| Left-Right | | 0 | | | | 0 | | |
| CRITICAL VOLUMES | North-South: 141
East-West: 1185
SUM: 1326 | | | | North-South: 233
East-West: 531
SUM: 764 | | | |
| VOLUME/CAPACITY (V/C) RATIO:
V/C LESS ATSC/ATCS ADJUSTMENT:
LEVEL OF SERVICE (LOS): | 0.884
0.784
C | | | | 0.509
0.409
A | | | |

Version: 11 Beta, 8/4/2011

Intersection 9 - Santa Fe Avenue & 7th Street
Existing with Project with Mitigation Conditions (Year 2016) - PM Peak Hour



- Critical volume calculation for eastbound/westbound traffic on 7th Street

Eastbound Left: 19

Westbound Throughs + Right: $\frac{313 + 65}{2} = 189$

Westbound Left: 253

Eastbound Throughs + Right to 7th Street and Frontage Road: $\frac{555 + 0 + 132}{2} = 344$

Critical Volume #1 (CV1): 597

Critical volume calculation for northeastbound traffic on Frontage Road

Northeastbound Lefts + Throughs + Rights + Sharp Right: $8 + 9 + 1 + 5 = 23$

Critical Volume #2 (CV2): 23

Critical volume calculation for northbound/southbound traffic on Santa Fe Avenue

Southbound Left to 7th Street and Frontage Road: $37 + 0 = 37$

Northbound Through: 357

Northbound Right to 7th Street and Frontage Road: $160 + 0 - 253 = -93$

Northbound Left: 116

Southbound Left + Left to Frontage Road + Through + Right: $12 + 257 + 0 + 37 = 306$

Critical Volume #3 (CV3): 422
- Critical Volume: 597 + 23 + 422 = 1042

Intersection V/C: $\frac{1042}{1375} = 0.758$

ATSAC/ATCS Credit: 0.10

Final Intersection V/C: 0.658

Intersection LOS: B

Level of Service Worksheet (Circular 212 Method)



PROJECT TITLE: 668 S Alameda St Mixed-Use
North-South Street: Santa Fe Ave
Scenario: Existing with Project with Mitigation Conditions
Count Date: 2008-2016 Analyst: GTC Date: May 2017

I/S #: 14

| MOVEMENT | | AM PEAK HOUR | | | PM PEAK HOUR | | |
|---------------------------------|--|--|--------------|-------------|--|--------------|-------------|
| | | Volume | No. of Lanes | Lane Volume | Volume | No. of Lanes | Lane Volume |
| Left | | 247 | 0 | 247 | 222 | 0 | 222 |
| Left-Through | | 536 | 1 | 536 | 497 | 1 | 506 |
| Through-Right | | 18 | 1 | 524 | 9 | 1 | 0 |
| Left-Through-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left | | 14 | 0 | 14 | 9 | 0 | 9 |
| Left-Through | | 359 | 0 | 290 | 525 | 1 | 361 |
| Through-Right | | 192 | 1 | 290 | 179 | 1 | 361 |
| Left-Through-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left | | 24 | 0 | 24 | 55 | 0 | 55 |
| Left-Through | | 12 | 0 | 349 | 12 | 0 | 437 |
| Through-Right | | 313 | 1 | 0 | 370 | 1 | 0 |
| Left-Through-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left | | 7 | 0 | 7 | 9 | 0 | 9 |
| Left-Through | | 7 | 0 | 31 | 3 | 0 | 26 |
| Through-Right | | 17 | 1 | 0 | 14 | 0 | 0 |
| Left-Through-Right | | 0 | 0 | 0 | 0 | 1 | 0 |
| Left-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| CRITICAL VOLUMES | | North-South: 538
East-West: 356
SUM: 894 | | | North-South: 538
East-West: 356
SUM: 894 | | |
| VOLUME/CAPACITY (V/C) RATIO: | | 0.496 | | | | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | 0.496 | | | | | |
| LEVEL OF SERVICE (LOS): | | A | | | | | |

Version: 11 Beta, 8/4/2011

Level of Service Worksheet (Circular 212 Method)



PROJECT TITLE: 668 S Alameda St Mixed-Use
North-South Street: Boyle Ave
Scenario: Existing with Project with Mitigation Conditions
Count Date: 2008-2016 Analyst: GTC Date: May 2017

I/S #: 12

| MOVEMENT | | AM PEAK HOUR | | | PM PEAK HOUR | | |
|---------------------------------|--|--|--------------|-------------|--|--------------|-------------|
| | | Volume | No. of Lanes | Lane Volume | Volume | No. of Lanes | Lane Volume |
| Left | | 204 | 1 | 204 | 142 | 1 | 142 |
| Left-Through | | 474 | 1 | 299 | 536 | 1 | 342 |
| Through-Right | | 123 | 1 | 123 | 147 | 1 | 147 |
| Left-Through-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left | | 64 | 1 | 64 | 45 | 1 | 45 |
| Left-Through | | 480 | 1 | 385 | 372 | 1 | 228 |
| Through-Right | | 290 | 1 | 290 | 84 | 1 | 84 |
| Left-Through-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left | | 56 | 1 | 56 | 260 | 1 | 260 |
| Left-Through | | 112 | 1 | 112 | 315 | 1 | 315 |
| Through-Right | | 171 | 1 | 69 | 317 | 1 | 246 |
| Left-Through-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left | | 44 | 1 | 44 | 11 | 1 | 11 |
| Left-Through | | 228 | 1 | 290 | 104 | 1 | 181 |
| Through-Right | | 62 | 0 | 0 | 77 | 0 | 0 |
| Left-Through-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| CRITICAL VOLUMES | | North-South: 589
East-West: 346
SUM: 935 | | | North-South: 589
East-West: 346
SUM: 935 | | |
| VOLUME/CAPACITY (V/C) RATIO: | | 0.580 | | | | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | 0.580 | | | | | |
| LEVEL OF SERVICE (LOS): | | A | | | | | |

Version: 11 Beta, 8/4/2011

Level of Service Worksheet (Circular 212 Method)



PROJECT TITLE: 668 S Alameda St Mixed-Use
North-South Street: Central Ave
East-West Street: Olympic Blvd
Scenario: Existing with Project with Mitigation Conditions
Count Date: 2008-2016 Analyst: GTC Date: May 2017

I/S #: 17

| MOVEMENT | | AM PEAK HOUR | | | PM PEAK HOUR | | |
|--------------------------------|--|--|--------------|-------------|---|--------------|-------------|
| | | Volume | No. of Lanes | Lane Volume | Volume | No. of Lanes | Lane Volume |
| Left | | 14 | 1 | 14 | 75 | 1 | 75 |
| Left-Through | | 554 | 2 | 277 | 685 | 2 | 343 |
| Through-Right | | 98 | 1 | 0 | 203 | 1 | 100 |
| Right | | | | | | | |
| Left-Through-Right | | | | | | | |
| Left-Right | | | | | | | |
| Left | | 172 | 1 | 172 | 169 | 1 | 169 |
| Left-Through | | 705 | 1 | 392 | 709 | 1 | 383 |
| Through-Right | | 78 | 1 | 78 | 57 | 1 | 57 |
| Right | | | | | | | |
| Left-Through-Right | | | | | | | |
| Left-Right | | | | | | | |
| Left | | 71 | 1 | 71 | 74 | 1 | 74 |
| Left-Through | | 528 | 1 | 308 | 1158 | 1 | 647 |
| Through-Right | | 88 | 0 | 88 | 135 | 0 | 135 |
| Right | | | | | | | |
| Left-Through-Right | | | | | | | |
| Left-Right | | | | | | | |
| Left | | 153 | 1 | 153 | 103 | 1 | 103 |
| Left-Through | | 794 | 2 | 397 | 626 | 2 | 313 |
| Through-Right | | 239 | 1 | 67 | 151 | 1 | 0 |
| Right | | | | | | | |
| Left-Through-Right | | | | | | | |
| Left-Right | | | | | | | |
| CRITICAL VOLUMES | | North-South: 449
East-West: 468
SUM: 917 | | | North-South: 512
East-West: 750
SUM: 1262 | | |
| VOLUME/CAPACITY (V/C) RATIO: | | | | | | | |
| V/C LESS ATSC/ATCS ADJUSTMENT: | | | | | | | |
| LEVEL OF SERVICE (LOS): | | | | | | | |

Version: 11 Beta, 8/4/2011

Level of Service Worksheet (Circular 212 Method)



PROJECT TITLE: 668 S Alameda St Mixed-Use
North-South Street: Santa Fe Ave
East-West Street: Porter St
Scenario: Existing with Project with Mitigation Conditions
Count Date: 2008-2016 Analyst: GTC Date: May 2017

I/S #: 16

| MOVEMENT | | AM PEAK HOUR | | | PM PEAK HOUR | | |
|--------------------------------|--|--|--------------|-------------|---|--------------|-------------|
| | | Volume | No. of Lanes | Lane Volume | Volume | No. of Lanes | Lane Volume |
| Left | | 321 | 1 | 321 | 411 | 1 | 411 |
| Left-Through | | 662 | 1 | 343 | 622 | 1 | 320 |
| Through-Right | | 23 | 0 | 23 | 18 | 0 | 18 |
| Right | | | | | | | |
| Left-Through-Right | | | | | | | |
| Left-Right | | | | | | | |
| Left | | 34 | 1 | 34 | 27 | 1 | 27 |
| Left-Through | | 666 | 1 | 355 | 805 | 1 | 449 |
| Through-Right | | 44 | 0 | 44 | 92 | 0 | 92 |
| Right | | | | | | | |
| Left-Through-Right | | | | | | | |
| Left-Right | | | | | | | |
| Left | | 99 | 0 | 99 | 34 | 0 | 34 |
| Left-Through | | 62 | 0 | 161 | 26 | 0 | 60 |
| Through-Right | | 530 | 1 | 209 | 220 | 1 | 0 |
| Right | | | | | | | |
| Left-Through-Right | | | | | | | |
| Left-Right | | | | | | | |
| Left | | 37 | 0 | 37 | 52 | 0 | 52 |
| Left-Through | | 43 | 0 | 134 | 72 | 0 | 178 |
| Through-Right | | 54 | 0 | 0 | 54 | 0 | 0 |
| Right | | | | | | | |
| Left-Through-Right | | | | | | | |
| Left-Right | | | | | | | |
| CRITICAL VOLUMES | | North-South: 676
East-West: 246
SUM: 922 | | | North-South: 860
East-West: 212
SUM: 1072 | | |
| VOLUME/CAPACITY (V/C) RATIO: | | | | | | | |
| V/C LESS ATSC/ATCS ADJUSTMENT: | | | | | | | |
| LEVEL OF SERVICE (LOS): | | | | | | | |

Version: 11 Beta, 8/4/2011

Level of Service Worksheet (Circular 212 Method)



PROJECT TITLE: 668 S Alameda St Mixed-Use
 North-South Street: Santa Fe Ave
 Scenario: Existing with Project with Mitigation Conditions
 Count Date: 2008-2016 Analyst: GTC Date: May 2017

I/S #: 19

| MOVEMENT | | AM PEAK HOUR | | | PM PEAK HOUR | | |
|---------------------------------|--|---|---|-------------|--------------|--------------|-------------|
| | | Volume | No. of Lanes | Lane Volume | Volume | No. of Lanes | Lane Volume |
| Left | | 183 | 1 | 183 | 102 | 1 | 102 |
| Left-Through | | 0 | 0 | 0 | 0 | 0 | 0 |
| Through | | 914 | 1 | 514 | 920 | 1 | 540 |
| Through-Right | | 114 | 1 | 114 | 159 | 0 | 159 |
| Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left-Through-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left | | 136 | 1 | 136 | 88 | 1 | 88 |
| Left-Through | | 0 | 0 | 0 | 0 | 0 | 0 |
| Through | | 1052 | 1 | 540 | 970 | 1 | 498 |
| Through-Right | | 27 | 1 | 27 | 26 | 1 | 26 |
| Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left-Through-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left | | 44 | 1 | 44 | 32 | 1 | 32 |
| Left-Through | | 0 | 0 | 0 | 0 | 0 | 0 |
| Through | | 349 | 2 | 175 | 902 | 2 | 451 |
| Through-Right | | 312 | 1 | 129 | 295 | 1 | 193 |
| Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left-Through-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left | | 183 | 1 | 183 | 88 | 1 | 88 |
| Left-Through | | 0 | 0 | 0 | 0 | 0 | 0 |
| Through | | 798 | 1 | 429 | 645 | 1 | 356 |
| Through-Right | | 60 | 0 | 60 | 66 | 0 | 66 |
| Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left-Through-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| CRITICAL VOLUMES | | North-South: 723
East-West: 473
SUM: 1196 | North-South: 723
East-West: 473
SUM: 1196 | 628 | 539 | 1167 | |
| VOLUME/CAPACITY (V/C) RATIO: | | | | 0.819 | | | 0.819 |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | | | 0.739 | | | 0.719 |
| LEVEL OF SERVICE (LOS): | | | | C | | | C |

Version: 11 Beta, 8/4/2011

Level of Service Worksheet (Circular 212 Method)



PROJECT TITLE: 668 S Alameda St Mixed-Use
 North-South Street: Alameda St
 Scenario: Existing with Project with Mitigation Conditions
 Count Date: 2008-2016 Analyst: GTC Date: May 2017

I/S #: 18

| MOVEMENT | | AM PEAK HOUR | | | PM PEAK HOUR | | |
|---------------------------------|--|---|---|-------------|--------------|--------------|-------------|
| | | Volume | No. of Lanes | Lane Volume | Volume | No. of Lanes | Lane Volume |
| Left | | 82 | 1 | 82 | 75 | 1 | 75 |
| Left-Through | | 0 | 0 | 0 | 0 | 0 | 0 |
| Through | | 681 | 1 | 379 | 796 | 1 | 490 |
| Through-Right | | 77 | 1 | 77 | 183 | 0 | 183 |
| Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left-Through-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left | | 129 | 1 | 129 | 105 | 1 | 105 |
| Left-Through | | 0 | 0 | 0 | 0 | 0 | 0 |
| Through | | 775 | 2 | 388 | 884 | 2 | 442 |
| Through-Right | | 196 | 1 | 151 | 127 | 1 | 87 |
| Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left-Through-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left | | 90 | 1 | 90 | 81 | 1 | 81 |
| Left-Through | | 0 | 0 | 0 | 0 | 0 | 0 |
| Through | | 610 | 1 | 334 | 951 | 1 | 502 |
| Through-Right | | 58 | 0 | 58 | 53 | 0 | 53 |
| Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left-Through-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left | | 110 | 1 | 110 | 76 | 1 | 76 |
| Left-Through | | 0 | 0 | 0 | 0 | 0 | 0 |
| Through | | 1064 | 1 | 567 | 900 | 1 | 472 |
| Through-Right | | 70 | 0 | 70 | 44 | 0 | 44 |
| Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left-Through-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| Left-Right | | 0 | 0 | 0 | 0 | 0 | 0 |
| CRITICAL VOLUMES | | North-South: 508
East-West: 657
SUM: 1165 | North-South: 508
East-West: 657
SUM: 1165 | 595 | 578 | 1173 | |
| VOLUME/CAPACITY (V/C) RATIO: | | | | 0.777 | | | 0.782 |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | | | 0.677 | | | 0.682 |
| LEVEL OF SERVICE (LOS): | | | | B | | | B |

Version: 11 Beta, 8/4/2011

Level of Service Worksheet (Circular 212 Method)



PROJECT TITLE: 668 S Alameda St Mixed-Use
North-South Street: Alameda St
Scenario: Existing with Project with Mitigation Conditions
Count Date: 2008-2016
Analyst: GTC
Date: May 2017

I/S #: 21

| MOVEMENT | | AM PEAK HOUR | | PM PEAK HOUR | |
|---------------------------------|--|--|--------------|--|--------------|
| | | Volume | No. of Lanes | Volume | No. of Lanes |
| Left | | 368 | 1 | 418 | 1 |
| Left-Through | | 0 | 0 | 0 | 0 |
| Through | | 1047 | 1 | 1021 | 1 |
| Through-Right | | 1 | 1 | 0 | 1 |
| Right | | 8 | 0 | 0 | 0 |
| Left-Through-Right | | 0 | 0 | 0 | 0 |
| Left-Right | | 0 | 0 | 0 | 0 |
| Left | | 1 | 1 | 0 | 1 |
| Left-Through | | 814 | 2 | 1178 | 2 |
| Through | | 0 | 0 | 0 | 0 |
| Through-Right | | 424 | 1 | 462 | 1 |
| Right | | 0 | 0 | 0 | 0 |
| Left-Through-Right | | 0 | 0 | 0 | 0 |
| Left-Right | | 0 | 0 | 0 | 0 |
| Left | | 278 | 1 | 278 | 1 |
| Left-Through | | 0 | 0 | 0 | 0 |
| Through | | 0 | 0 | 0 | 0 |
| Through-Right | | 525 | 1 | 223 | 1 |
| Right | | 0 | 0 | 0 | 0 |
| Left-Through-Right | | 0 | 0 | 0 | 0 |
| Left-Right | | 0 | 0 | 0 | 0 |
| Left | | 0 | 0 | 0 | 0 |
| Left-Through | | 0 | 0 | 0 | 0 |
| Through | | 0 | 0 | 0 | 0 |
| Through-Right | | 0 | 0 | 0 | 0 |
| Right | | 0 | 0 | 0 | 0 |
| Left-Through-Right | | 0 | 0 | 0 | 0 |
| Left-Right | | 0 | 0 | 0 | 0 |
| CRITICAL VOLUMES | | North-South: 775
East-West: 1053
SUM: 1828 | | North-South: 775
East-West: 1053
SUM: 1828 | |
| VOLUME/CAPACITY (V/C) RATIO: | | 0.666 | | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | 0.666 | | | |
| LEVEL OF SERVICE (LOS): | | B | | | |

Version: 11 Beta, 8/4/2011

Level of Service Worksheet (Circular 212 Method)



PROJECT TITLE: 668 S Alameda St Mixed-Use
North-South Street: Alameda St
Scenario: Existing with Project with Mitigation Conditions
Count Date: 2008-2016
Analyst: GTC
Date: May 2017

I/S #: 20

| MOVEMENT | | AM PEAK HOUR | | PM PEAK HOUR | |
|---------------------------------|--|---|--------------|---|--------------|
| | | Volume | No. of Lanes | Volume | No. of Lanes |
| Left | | 28 | 1 | 28 | 1 |
| Left-Through | | 0 | 0 | 0 | 0 |
| Through | | 810 | 1 | 844 | 1 |
| Through-Right | | 1 | 1 | 1 | 1 |
| Right | | 55 | 0 | 30 | 0 |
| Left-Through-Right | | 0 | 0 | 0 | 0 |
| Left-Right | | 0 | 0 | 0 | 0 |
| Left | | 25 | 1 | 25 | 1 |
| Left-Through | | 881 | 1 | 985 | 1 |
| Through | | 0 | 0 | 0 | 0 |
| Through-Right | | 35 | 0 | 16 | 0 |
| Right | | 0 | 0 | 0 | 0 |
| Left-Through-Right | | 0 | 0 | 0 | 0 |
| Left-Right | | 0 | 0 | 0 | 0 |
| Left | | 30 | 0 | 30 | 0 |
| Left-Through | | 33 | 0 | 54 | 0 |
| Through | | 0 | 0 | 0 | 0 |
| Through-Right | | 34 | 0 | 71 | 0 |
| Right | | 0 | 0 | 0 | 0 |
| Left-Through-Right | | 0 | 0 | 0 | 0 |
| Left-Right | | 0 | 0 | 0 | 0 |
| Left | | 609 | 1 | 539 | 1 |
| Left-Through | | 207 | 0 | 123 | 0 |
| Through | | 0 | 0 | 0 | 0 |
| Through-Right | | 96 | 1 | 134 | 1 |
| Right | | 0 | 0 | 0 | 0 |
| Left-Through-Right | | 0 | 0 | 0 | 0 |
| Left-Right | | 0 | 0 | 0 | 0 |
| CRITICAL VOLUMES | | North-South: 486
East-West: 991
SUM: 1477 | | North-South: 486
East-West: 991
SUM: 1477 | |
| VOLUME/CAPACITY (V/C) RATIO: | | 0.595 | | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | 0.595 | | | |
| LEVEL OF SERVICE (LOS): | | A | | | |

Version: 11 Beta, 8/4/2011

HCM 2010 TWSC

13: I-10 WB Ramps & 8th St

12/21/2016

| Intersection | | | | | | | | | | | |
|----------------------------|--|------------------------|-------|----------------------------|------|--------------------------------|-------|--|--|--|--|
| Int Delay, s/veh | | 37.8 | | | | | | | | | |
| | | | | | | | | | | | |
| Movement | | EBT | EBR | WBL | WBT | NBL | NBR | | | | |
| Vol veh/h | | 18 | 189 | 396 | 19 | 201 | 375 | | | | |
| Conflicting Peds. #/hr | | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| Sign Control | | Free | Free | Free | Free | Stop | Stop | | | | |
| RT Channelized | | - | None | - | None | - | None | | | | |
| Storage Length | | - | - | - | - | 160 | 0 | | | | |
| Veh in Median Storage, # | | 0 | - | - | 0 | 0 | - | | | | |
| Grade, % | | 0 | - | - | 0 | 0 | - | | | | |
| Peak Hour Factor | | 92 | 92 | 92 | 92 | 92 | 92 | | | | |
| Heavy Vehicles, % | | 2 | 2 | 2 | 2 | 2 | 2 | | | | |
| Mvmt Flow | | 20 | 205 | 430 | 21 | 218 | 408 | | | | |
| | | | | | | | | | | | |
| Major/Minor | | Major1 | | Major2 | | Minor1 | | | | | |
| Conflicting Flow All | | 0 | 0 | 225 | 0 | 1004 | 122 | | | | |
| Stage 1 | | - | - | - | - | 122 | - | | | | |
| Stage 2 | | - | - | - | - | 882 | - | | | | |
| Critical Hwy | | - | - | 4.12 | - | 6.42 | 6.22 | | | | |
| Critical Hwy Stg 1 | | - | - | - | - | 5.42 | - | | | | |
| Critical Hwy Stg 2 | | - | - | - | - | 5.42 | - | | | | |
| Follow-up Hwy | | - | - | 2.218 | - | 3.518 | 3.318 | | | | |
| Pot Cap-1 Maneuver | | - | - | 1344 | - | 268 | 929 | | | | |
| Stage 1 | | - | - | - | - | 903 | - | | | | |
| Stage 2 | | - | - | - | - | 405 | - | | | | |
| Platoon blocked, % | | - | - | - | - | - | - | | | | |
| Mov Cap-1 Maneuver | | - | - | 1344 | - | ~ 181 | 929 | | | | |
| Mov Cap-2 Maneuver | | - | - | - | - | ~ 181 | - | | | | |
| Stage 1 | | - | - | - | - | 903 | - | | | | |
| Stage 2 | | - | - | - | - | 274 | - | | | | |
| | | | | | | | | | | | |
| Approach | | EB | | WB | | NB | | | | | |
| HCM Control Delay, s | | 0 | | 8.5 | | 72.4 | | | | | |
| HCM LOS | | | | | | F | | | | | |
| | | | | | | | | | | | |
| Minor Lane/Major Mvmt | | NBLn1 | NBLn2 | EBT | EBR | WBL | WBT | | | | |
| Capacity (veh/h) | | 181 | 929 | - | - | 1344 | - | | | | |
| HCM Lane V/C Ratio | | 1.207 | 0.439 | - | - | 0.32 | - | | | | |
| HCM Control Delay (s) | | 185.4 | 11.9 | - | - | 8.9 | 0 | | | | |
| HCM Lane LOS | | F | B | - | - | A | A | | | | |
| HCM 95th %ile Q(veh) | | 11.7 | 2.3 | - | - | 1.4 | - | | | | |
| | | | | | | | | | | | |
| Notes | | | | | | | | | | | |
| -: Volume exceeds capacity | | \$: Delay exceeds 300s | | +: Computation Not Defined | | *: All major volume in platoon | | | | | |

HCM 2010 TWSC

11: I-5 SB On-Ramp/US 101 SB Off-Ramp & 7th Street

12/21/2016

| Intersection | | | | | | | | | | | |
|--------------------------|--------|------|------|--------|------|------|----------|-------|------|------|------|
| Init Delay, s/veh | | 6.8 | | | | | | | | | |
| | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
| Vol, veh/h | 0 | 309 | 138 | 0 | 2072 | 0 | 0 | 0 | 0 | 21 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | 35 | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 336 | 150 | 0 | 2252 | 0 | 0 | 0 | 0 | 23 | 0 |
| | | | | | | | | | | | |
| Major/Minor | Major1 | | | Major2 | | | Minor2 | | | | |
| Conflicting Flow All | 2252 | 0 | 0 | 486 | 0 | 0 | 2420 | | | | |
| Stage 1 | - | - | - | - | - | - | 2252 | | | | |
| Stage 2 | - | - | - | - | - | - | 168 | | | | |
| Critical Hdwy | 4.14 | - | - | 4.14 | - | - | 6.84 | | | | |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.9 | | | | |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 5.54 | | | | |
| Follow-up Hdwy | 2.22 | - | - | 2.22 | - | - | 5.84 | | | | |
| Pot Cap-1 Maneuver | 225 | - | - | 1073 | - | - | 352 | | | | |
| Stage 1 | - | - | - | - | - | - | 27 | | | | |
| Stage 2 | - | - | - | - | - | - | 66 | | | | |
| Platoon blocked, % | - | - | - | - | - | - | 844 | | | | |
| Mov Cap-1 Maneuver | 225 | - | - | 1073 | - | - | 27 | | | | |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 27 | | | | |
| Stage 1 | - | - | - | - | - | - | 66 | | | | |
| Stage 2 | - | - | - | - | - | - | 844 | | | | |
| | | | | | | | | | | | |
| Approach | EB | | | WB | | | SB | | | | |
| HCM Control Delay, s | 0 | | | 0 | | | 106 | | | | |
| HCM LOS | | | | | | | F | | | | |
| | | | | | | | | | | | |
| Minor Lane/Major Mvmt | EBL | EBT | EBR | WBL | WBT | WBR | SBL | SBT | SBR | | |
| Capacity (veh/h) | 225 | - | - | 1073 | - | - | 27 | 199 | | | |
| HCM Lane V/C Ratio | - | - | - | - | - | - | 0.845 | 0.825 | | | |
| HCM Control Delay (s) | 0 | - | - | 0 | - | - | \$ 331.4 | 74.6 | | | |
| HCM Lane LOS | A | - | - | A | - | - | F | F | | | |
| HCM 95th %tile Q(veh) | 0 | - | 0 | - | 0 | - | 2.7 | 6 | | | |

HCM 2010 TWSC

11: I-5 SB On-Ramp/US 101 SB Off-Ramp & 7th Street

12/22/2016

| Intersection | | 1.5 | | | | | | | | | | | | | |
|--------------------------|------|--------|------|------|------|--------|-------|-------|-------|--------|------|------|--|--|--|
| Int Delay, s/veh | | | | | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | | | |
| Vol. veh/h | 0 | 1006 | 138 | 0 | 703 | 0 | 0 | 0 | 0 | 50 | 0 | 75 | | | |
| Conflicting Peds. #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Sign Control | Free | Free | Free | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | | | |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None | | | |
| Storage Length | - | - | - | - | - | - | - | - | - | 35 | - | 0 | | | |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | - | 0 | | | |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | - | 0 | | | |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | | | |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | | |
| Mvmt Flow | 0 | 1093 | 150 | 0 | 764 | 0 | 0 | 0 | 0 | 54 | 0 | 82 | | | |
| Major/Minor | | Major1 | | | | Major2 | | | | Minor2 | | | | | |
| Conflicting Flow All | 764 | 0 | 0 | 1243 | 0 | 0 | | | | 1311 | 2007 | 382 | | | |
| Stage 1 | - | - | - | - | - | - | - | - | - | 764 | 764 | - | | | |
| Stage 2 | - | - | - | - | - | - | - | - | - | 547 | 1243 | - | | | |
| Critical Hdwy | 4.14 | - | - | 4.14 | - | - | - | - | - | 6.84 | 6.54 | 6.94 | | | |
| Critical Hdwy Slg 1 | - | - | - | - | - | - | - | - | - | 5.84 | 5.54 | - | | | |
| Critical Hdwy Slg 2 | - | - | - | - | - | - | - | - | - | 5.84 | 5.54 | - | | | |
| Follow-up Hdwy | 2.22 | - | - | 2.22 | - | - | - | - | - | 3.52 | 4.02 | 3.32 | | | |
| Pot Cap-1 Maneuver | 845 | - | - | 556 | - | - | - | - | - | 150 | 59 | 616 | | | |
| Stage 1 | - | - | - | - | - | - | - | - | - | 420 | 411 | - | | | |
| Stage 2 | - | - | - | - | - | - | - | - | - | 544 | 245 | - | | | |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - | | | |
| Mov Cap-1 Maneuver | 845 | - | - | 556 | - | - | - | - | - | 150 | 0 | 616 | | | |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | - | - | - | 150 | 0 | - | | | |
| Stage 1 | - | - | - | - | - | - | - | - | - | 420 | 0 | - | | | |
| Stage 2 | - | - | - | - | - | - | - | - | - | 544 | 0 | - | | | |
| Approach | | EB | | WB | | WB | | SB | | | | | | | |
| HCM Control Delay, s | | 0 | | 0 | | 0 | | 23.8 | | | | | | | |
| HCM LOS | | | | | | | | C | | | | | | | |
| Minor Lane/Major Mvmt | | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 | | | | | | |
| Capacity (veh/h) | 845 | - | - | 556 | - | - | 150 | 616 | | | | | | | |
| HCM Lane V/C Ratio | - | - | - | - | - | - | 0.362 | 0.132 | | | | | | | |
| HCM Control Delay (s) | 0 | - | 0 | - | - | 42 | 11.7 | | | | | | | | |
| HCM Lane LOS | A | - | - | A | - | - | E | B | | | | | | | |
| HCM 95th %ile Q(veh) | 0 | - | - | 0 | - | - | 1.5 | 0.5 | | | | | | | |

Notes
 --: Volume exceeds capacity \$: Delay exceeds 300s *: Computation Not Defined **: All major volume in platoon

HCM 2010 TWSC

15: Private Dwy/I-10 EB Ramps & Porter St

12/21/2016

| Intersection | | 174 | | | | | | | | | | | | | | | |
|--------------------------|--|---|-------|------|-------|--------|------|-------|----------|----------|-------|-------|-------|--------|--|--|--|
| Int Delay, s/veh | | 174 | | | | | | | | | | | | | | | |
| Movement | | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | | | | |
| Vol, veh/h | | 132 | 99 | 1 | 0 | 21 | 379 | 0 | 0 | 0 | 593 | 0 | 150 | | | | |
| Conflicting Peds, #/hr | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| Sign Control | | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop | | | | |
| RT Channelized | | - | - | None | - | - | None | - | - | None | - | - | None | | | | |
| Storage Length | | - | - | - | - | - | - | - | - | - | 150 | - | 25 | | | | |
| Veh in Median Storage, # | | - | 0 | - | - | 0 | - | - | 0 | - | - | - | 0 | | | | |
| Grade, % | | - | 0 | - | - | 0 | - | - | 0 | - | - | - | 0 | | | | |
| Peak Hour Factor | | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | | | | |
| Heavy Vehicles, % | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | | | |
| Mvmt Flow | | 143 | 108 | 1 | 0 | 23 | 412 | 0 | 0 | 0 | 645 | 0 | 163 | | | | |
| Major/Minor | | Major1 | | | | Major2 | | | | Minor1 | | | | Minor2 | | | |
| Conflicting Flow All | | 435 | 0 | 0 | 109 | 0 | 0 | 624 | 830 | 108 | 624 | 625 | 229 | | | | |
| Stage 1 | | - | - | - | - | - | - | 395 | 395 | - | 229 | 229 | - | | | | |
| Stage 2 | | - | - | - | - | - | - | 229 | 435 | - | 395 | 396 | - | | | | |
| Critical Hdwy | | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | | | | |
| Critical Hdwy Slg 1 | | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - | | | | |
| Critical Hdwy Slg 2 | | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - | | | | |
| Follow-up Hdwy | | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | | | | |
| Pot Cap-1 Maneuver | | 1125 | - | - | 1481 | - | - | 398 | 306 | 946 | ~398 | 401 | 810 | | | | |
| Stage 1 | | - | - | - | - | - | - | 630 | 605 | - | 774 | 715 | - | | | | |
| Stage 2 | | - | - | - | - | - | - | 774 | 580 | - | ~630 | 604 | - | | | | |
| Platoon blocked, % | | - | - | - | - | - | - | - | - | - | - | - | - | | | | |
| Mov Cap-1 Maneuver | | 1125 | - | - | 1481 | - | - | 285 | 265 | 946 | ~357 | 347 | 810 | | | | |
| Mov Cap-2 Maneuver | | - | - | - | - | - | - | 285 | 265 | - | ~357 | 347 | - | | | | |
| Stage 1 | | - | - | - | - | - | - | 545 | 523 | - | 670 | 715 | - | | | | |
| Stage 2 | | - | - | - | - | - | - | 618 | 580 | - | ~545 | 522 | - | | | | |
| Approach | | EB | | WB | | WB | | NB | | SB | | | | | | | |
| HCM Control Delay, s | | 4.9 | | 0 | | 0 | | 0 | | \$ 320.5 | | | | | | | |
| HCM LOS | | | | | | | | A | | F | | | | | | | |
| Minor Lane/Major Mvmt | | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 | SBLn3 | | | | | | |
| Capacity (veh/h) | | - | 1125 | - | - | 1481 | - | - | 357 | - | 810 | | | | | | |
| HCM Lane V/C Ratio | | - | 0.128 | - | - | - | - | - | 1.806 | - | 0.201 | | | | | | |
| HCM Control Delay (s) | | 0 | 8.7 | 0 | - | 0 | - | - | \$ 398.9 | 0 | 10.6 | | | | | | |
| HCM Lane LOS | | A | A | A | - | A | - | - | F | A | B | | | | | | |
| HCM 95th %ile Q(veh) | | - | 0.4 | - | - | 0 | - | - | 41.7 | - | 0.7 | | | | | | |
| Notes | | | | | | | | | | | | | | | | | |
| Volume exceeds capacity | | \$: Delay exceeds 300s *: Computation Not Defined **: All major volume in platoon | | | | | | | | | | | | | | | |

Notes
 --: Volume exceeds capacity \$: Delay exceeds 300s *: Computation Not Defined **: All major volume in platoon

HCM 2010 TWSC

15: Private Dwy/I-10 EB Ramps & Porter St

12/22/2016

| Intersection | | 15.3 | | | | | | | | | | | | | |
|--------------------------|--|--------|-------|------|-------|--------|------|-------|-------|--------|-------|-------|-------|--------|--|
| Init Delay, s/veh | | | | | | | | | | | | | | | |
| Movement | | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | | |
| Vol, veh/h | | 166 | 129 | 1 | 2 | 23 | 572 | 2 | 0 | 2 | 196 | 2 | 70 | | |
| Conflicting Peds, #/hr | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Sign Control | | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop | | |
| RT Channelized | | - | - | None | - | - | None | - | - | None | - | - | None | | |
| Storage Length | | - | - | - | - | - | - | - | - | - | 150 | - | 25 | | |
| Veh in Median Storage, # | | - | 0 | - | - | 0 | - | - | 0 | - | - | - | 0 | | |
| Grade, % | | - | 0 | - | - | 0 | - | - | 0 | - | - | - | 0 | | |
| Peak Hour Factor | | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | | |
| Heavy Vehicles, % | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | |
| Mvmt Flow | | 180 | 140 | 1 | 2 | 25 | 622 | 2 | 0 | 2 | 213 | 2 | 76 | | |
| Major/Minor | | Major1 | | | | Major2 | | | | Minor1 | | | | Minor2 | |
| Conflicting Flow All | | 647 | 0 | 0 | 141 | 0 | 0 | 843 | 1153 | 141 | 843 | 842 | 336 | | |
| Stage 1 | | - | - | - | - | - | - | 502 | 502 | - | 340 | 340 | - | | |
| Stage 2 | | - | - | - | - | - | - | 341 | 651 | - | 503 | 502 | - | | |
| Critical Hwy | | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | | |
| Critical Hwy Stg 1 | | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - | | |
| Critical Hwy Stg 2 | | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - | | |
| Follow-up Hwy | | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | | |
| Pot Cap-1 Maneuver | | 939 | - | - | 1442 | - | - | 284 | 197 | 907 | 284 | 301 | 706 | | |
| Stage 1 | | - | - | - | - | - | - | 552 | 542 | - | 675 | 639 | - | | |
| Stage 2 | | - | - | - | - | - | - | 674 | 465 | - | 551 | 542 | - | | |
| Platoon blocked, % | | - | - | - | - | - | - | - | - | - | - | - | - | | |
| Mov Cap-1 Maneuver | | 939 | - | - | 1442 | - | - | 211 | 156 | 907 | 238 | 238 | 706 | | |
| Mov Cap-2 Maneuver | | - | - | - | - | - | - | 211 | 156 | - | 238 | 238 | - | | |
| Stage 1 | | - | - | - | - | - | - | 437 | 429 | - | 535 | 638 | - | | |
| Stage 2 | | - | - | - | - | - | - | 598 | 464 | - | 435 | 429 | - | | |
| Approach | | EB | | WB | | NB | | SB | | | | | | | |
| HCM Control Delay, s | | 5.5 | | 0 | | 15.7 | | 60.1 | | | | | | | |
| HCM LOS | | | | | | C | | F | | | | | | | |
| Minor Lane/Major Mvmt | | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 | SBLn3 | | | | |
| Capacity (veh/h) | | 342 | 939 | - | - | 1442 | - | - | 238 | 238 | 706 | | | | |
| HCM Lane V/C Ratio | | 0.013 | 0.192 | - | - | 0.002 | - | - | 0.895 | 0.009 | 0.108 | | | | |
| HCM Control Delay (s) | | 15.7 | 9.7 | 0 | - | 7.5 | 0 | - | 78.1 | 20.3 | 10.7 | | | | |
| HCM Lane LOS | | C | A | A | - | A | A | - | F | C | B | | | | |
| HCM 95th %ile Q(veh) | | 0 | 0.7 | - | - | 0 | - | - | 7.5 | 0 | 0.4 | | | | |

Notes
 --: Volume exceeds capacity \$: Delay exceeds 300s *: Computation Not Defined **: All major volume in platoon

HCM 2010 TWSC

13: I-10 WB Ramps & 8th St

12/22/2016

| Intersection | | 81.1 | | | | | | | | | | | | | |
|--------------------------|--|---|-------|-------|------|--------|-------|--|--|--------|--|--|--|--|--|
| Int Delay, s/veh | | | | | | | | | | | | | | | |
| Movement | | EBT | EBR | WBL | WBT | NBL | NBR | | | | | | | | |
| Vol, veh/h | | 16 | 199 | 397 | 29 | 269 | 418 | | | | | | | | |
| Conflicting Peds, #/hr | | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | | |
| Sign Control | | Free | Free | Free | Free | Stop | Stop | | | | | | | | |
| RT Channelized | | - | None | - | None | - | None | | | | | | | | |
| Storage Length | | - | - | - | - | 160 | 0 | | | | | | | | |
| Veh in Median Storage, # | | 0 | - | - | 0 | 0 | - | | | | | | | | |
| Grade, % | | 0 | - | - | 0 | 0 | - | | | | | | | | |
| Peak Hour Factor | | 92 | 92 | 92 | 92 | 92 | 92 | | | | | | | | |
| Heavy Vehicles, % | | 2 | 2 | 2 | 2 | 2 | 2 | | | | | | | | |
| Mvmt Flow | | 17 | 216 | 432 | 32 | 292 | 454 | | | | | | | | |
| Major/Minor | | Major1 | | | | Major2 | | | | Minor1 | | | | | |
| Conflicting Flow All | | 0 | 0 | 234 | 0 | 1021 | 126 | | | | | | | | |
| Stage 1 | | - | - | - | - | 126 | - | | | | | | | | |
| Stage 2 | | - | - | - | - | 895 | - | | | | | | | | |
| Critical Hdwy | | - | - | 4.12 | - | 6.42 | 6.22 | | | | | | | | |
| Critical Hdwy Slg 1 | | - | - | - | - | 5.42 | - | | | | | | | | |
| Critical Hdwy Slg 2 | | - | - | - | - | 5.42 | - | | | | | | | | |
| Follow-up Hdwy | | - | - | 2.218 | - | 3.518 | 3.318 | | | | | | | | |
| Pot Cap-1 Maneuver | | - | - | 1333 | - | ~262 | 924 | | | | | | | | |
| Stage 1 | | - | - | - | - | 900 | - | | | | | | | | |
| Stage 2 | | - | - | - | - | 399 | - | | | | | | | | |
| Platoon blocked, % | | - | - | - | - | - | - | | | | | | | | |
| Mov Cap-1 Maneuver | | - | - | 1333 | - | ~176 | 924 | | | | | | | | |
| Mov Cap-2 Maneuver | | - | - | - | - | ~176 | - | | | | | | | | |
| Stage 1 | | - | - | - | - | 900 | - | | | | | | | | |
| Stage 2 | | - | - | - | - | ~267 | - | | | | | | | | |
| Approach | | EB | | WB | | NB | | | | | | | | | |
| HCM Control Delay, s | | 0 | | 8.4 | | 151.6 | | | | | | | | | |
| HCM LOS | | | | | | F | | | | | | | | | |
| Minor Lane/Major Mvmt | | NBLn1 | NBLn2 | EBT | EBR | WBL | WBT | | | | | | | | |
| Capacity (veh/h) | | 176 | 924 | - | - | 1333 | - | | | | | | | | |
| HCM Lane V/C Ratio | | 1.661 | 0.492 | - | - | 0.324 | - | | | | | | | | |
| HCM Control Delay (s) | | \$ 367.7 | 12.6 | - | - | 9 | 0 | | | | | | | | |
| HCM Lane LOS | | F | B | - | - | A | A | | | | | | | | |
| HCM 95th %tile Q(veh) | | 20 | 2.8 | - | - | 1.4 | - | | | | | | | | |
| Notes | | | | | | | | | | | | | | | |
| Volume exceeds capacity | | \$: Delay exceeds 300s *: Computation Not Defined **: All major volume in platoon | | | | | | | | | | | | | |

Notes
 --: Volume exceeds capacity \$: Delay exceeds 300s *: Computation Not Defined **: All major volume in platoon

HCM 2010 TWSC

13: I-10 WB Ramps & 8th St

2/27/2017

| Intersection | | | | | | | | | | | | |
|----------------------------|--|--------------------------------|--|--------|--|--------|--|--------|--|-------|--|-------|
| Int Delay, s/veh | | 43.7 | | | | | | | | | | |
| | | | | | | | | | | | | |
| Movement | | EBT | | EBR | | WBL | | WBT | | NBL | | NBR |
| Vol veh/h | | 18 | | 194 | | 396 | | 19 | | 212 | | 375 |
| Conflicting Peds. #/hr | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 |
| Sign Control | | Free | | Free | | Free | | Free | | Stop | | Stop |
| RT Channelized | | - None | | - None | | - None | | - None | | - | | None |
| Storage Length | | - | | - | | - | | - | | 160 | | 0 |
| Veh in Median Storage, # | | 0 | | - | | - | | 0 | | 0 | | - |
| Grade, % | | 0 | | - | | - | | 0 | | 0 | | - |
| Peak Hour Factor | | 92 | | 92 | | 92 | | 92 | | 92 | | 92 |
| Heavy Vehicles, % | | 2 | | 2 | | 2 | | 2 | | 2 | | 2 |
| Mvmt Flow | | 20 | | 211 | | 430 | | 21 | | 230 | | 408 |
| | | | | | | | | | | | | |
| Major/Minor | | Major1 | | Major2 | | Minor1 | | | | | | |
| Conflicting Flow All | | 0 | | 0 | | 230 | | 0 | | 1007 | | 125 |
| Stage 1 | | - | | - | | - | | - | | 125 | | - |
| Stage 2 | | - | | - | | - | | - | | 882 | | - |
| Critical Hwy | | - | | - | | 4.12 | | - | | 6.42 | | 6.22 |
| Critical Hwy Stg 1 | | - | | - | | - | | - | | 5.42 | | - |
| Critical Hwy Stg 2 | | - | | - | | - | | - | | 5.42 | | - |
| Follow-up Hwy | | - | | - | | 2.218 | | - | | 3.518 | | 3.318 |
| Pot Cap-1 Maneuver | | - | | - | | 1338 | | - | | 267 | | 926 |
| Stage 1 | | - | | - | | - | | - | | 901 | | - |
| Stage 2 | | - | | - | | - | | - | | 405 | | - |
| Platoon blocked, % | | - | | - | | - | | - | | - | | - |
| Mov Cap-1 Maneuver | | - | | - | | 1338 | | - | | ~ 180 | | 926 |
| Mov Cap-2 Maneuver | | - | | - | | - | | - | | ~ 180 | | - |
| Stage 1 | | - | | - | | - | | - | | 901 | | - |
| Stage 2 | | - | | - | | - | | - | | 273 | | - |
| | | | | | | | | | | | | |
| Approach | | EB | | WB | | WB | | WB | | NB | | |
| HCM Control Delay, s | | 0 | | 8.6 | | 8.6 | | 84.3 | | F | | |
| HCM LOS | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| Minor Lane/Major Mvmt | | NBLn1 | | NBLn2 | | EBT | | EBR | | WBL | | WBT |
| Capacity (veh/h) | | 180 | | 926 | | - | | - | | 1338 | | - |
| HCM Lane V/C Ratio | | 1.28 | | 0.44 | | - | | - | | 0.322 | | - |
| HCM Control Delay (s) | | 212.5 | | 11.9 | | - | | 9 | | 0 | | 0 |
| HCM Lane LOS | | F | | B | | - | | A | | A | | A |
| HCM 95th %ile Q(veh) | | 13 | | 2.3 | | - | | 1.4 | | - | | - |
| | | | | | | | | | | | | |
| Notes | | | | | | | | | | | | |
| -: Volume exceeds capacity | | \$: Delay exceeds 300s | | | | | | | | | | |
| -: Volume exceeds capacity | | +: Computation Not Defined | | | | | | | | | | |
| -: Volume exceeds capacity | | *: All major volume in platoon | | | | | | | | | | |

Notes
 --: Volume exceeds capacity \$: Delay exceeds 300s *: Computation Not Defined *: All major volume in platoon

HCM 2010 TWSC

11: I-5 SB On-Ramp/US 101 SB Off-Ramp & 7th Street

2/27/2017

| Intersection | | | | | | | | | | | | | |
|--------------------------|--------|------|------|--------|------|-------|----------------|-------|------|------|------|------|--|
| Int Delay, s/veh | | 7.3 | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | |
| Vol, veh/h | 0 | 318 | 147 | 0 | 2079 | 0 | 0 | 0 | 0 | 21 | 0 | 150 | |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Sign Control | Free | Free | Free | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | None | - | |
| Storage Length | - | - | - | - | - | - | - | - | - | 35 | - | - | |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | - | 0 | |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | - | 0 | |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| Mvmt Flow | 0 | 346 | 160 | 0 | 2260 | 0 | 0 | 0 | 0 | 23 | 0 | 170 | |
| | | | | | | | | | | | | | |
| Major/Minor | Major1 | | | Major2 | | | Minor2 | | | | | | |
| Conflicting Flow All | 2260 | 0 | 0 | 505 | 0 | 0 | 2433 2765 1130 | | | | | | |
| Stage 1 | - | - | - | - | - | - | 2260 2260 | | | | | | |
| Stage 2 | - | - | - | - | - | - | 173 505 | | | | | | |
| Critical Hdwy | 4.14 | - | - | 4.14 | - | - | 6.84 6.54 6.94 | | | | | | |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 5.84 5.54 | | | | | | |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 5.84 5.54 | | | | | | |
| Follow-up Hdwy | 2.22 | - | - | 2.22 | - | - | 3.52 4.02 3.31 | | | | | | |
| Pot Cap-1 Maneuver | 223 | - | - | 1056 | - | - | 26 19 190 | | | | | | |
| Stage 1 | - | - | - | - | - | - | 65 76 | | | | | | |
| Stage 2 | - | - | - | - | - | - | 840 539 | | | | | | |
| Platoon blocked, % | - | - | - | - | - | - | - | | | | | | |
| Mov Cap-1 Maneuver | 223 | - | - | 1056 | - | - | 26 0 190 | | | | | | |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 26 0 | | | | | | |
| Stage 1 | - | - | - | - | - | - | 65 0 | | | | | | |
| Stage 2 | - | - | - | - | - | - | 840 0 | | | | | | |
| | | | | | | | | | | | | | |
| Approach | EB | WB | | | | SB | | | | SB | | | |
| HCM Control Delay, s | 0 | 0 | | | | 112.7 | | | | F | | | |
| HCM LOS | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Minor Lane/Major Mvmt | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 | | | | | |
| Capacity (veh/h) | 223 | - | - | 1056 | - | - | 26 | 198 | | | | | |
| HCM Lane V/C Ratio | - | - | - | - | - | - | 0.878 | 0.856 | | | | | |
| HCM Control Delay (s) | 0 | - | - | 0 | - | - | \$ 351.5 | 80.6 | | | | | |
| HCM Lane LOS | A | - | - | A | - | - | F | F | | | | | |
| HCM 95th %ile Q(veh) | 0 | - | - | 0 | - | - | 2.7 | 6.4 | | | | | |

HCM 2010 TWSC

11: I-5 SB On-Ramp/US 101 SB Off-Ramp & 7th Street

2/27/2017

| Intersection | | | | | | | | | | | | |
|--------------------------|--------|------|------|--------|------|------|--------|-------|------|--------|------|------|
| Init Delay, S/veh | | | | | | | | | | | | |
| 1.6 | | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Vol. veh/h | 0 | 1013 | 145 | 0 | 718 | 0 | 0 | 0 | 0 | 50 | 0 | 86 |
| Conflicting Peds. #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | 35 | - | 0 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | - | 0 |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 1101 | 158 | 0 | 780 | 0 | 0 | 0 | 0 | 54 | 0 | 93 |
| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
| Conflicting Flow All | 780 | | | 1259 | | | 0 | | | 1331 | | |
| Stage 1 | - | | | - | | | - | | | 780 | | |
| Stage 2 | - | | | - | | | - | | | 551 | | |
| Critical Hdwy | 4.14 | | | 4.14 | | | - | | | 6.84 | | |
| Critical Hdwy Slg 1 | - | | | - | | | - | | | 5.84 | | |
| Critical Hdwy Slg 2 | - | | | - | | | - | | | 5.84 | | |
| Follow-up Hdwy | 2.22 | | | 2.22 | | | - | | | 3.52 | | |
| Pot Cap-1 Maneuver | 833 | | | 548 | | | - | | | 146 | | |
| Stage 1 | - | | | - | | | - | | | 412 | | |
| Stage 2 | - | | | - | | | - | | | 541 | | |
| Platoon blocked, % | - | | | - | | | - | | | - | | |
| Mov Cap-1 Maneuver | 833 | | | 548 | | | - | | | 146 | | |
| Mov Cap-2 Maneuver | - | | | - | | | - | | | 146 | | |
| Stage 1 | - | | | - | | | - | | | 412 | | |
| Stage 2 | - | | | - | | | - | | | 541 | | |
| Approach | EB | | | WB | | | SB | | | SB | | |
| HCM Control Delay, s | 0 | | | 0 | | | 23.6 | | | 23.6 | | |
| HCM LOS | | | | | | | C | | | C | | |
| Minor Lane/Major Mvmt | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 | | | | |
| Capacity (veh/h) | 833 | - | - | 548 | - | - | 146 | 609 | | | | |
| HCM Lane V/C Ratio | - | - | - | - | - | - | 0.372 | 0.153 | | | | |
| HCM Control Delay (s) | 0 | - | 0 | - | - | - | 43.6 | 12 | | | | |
| HCM Lane LOS | A | - | - | A | - | - | E | B | | | | |
| HCM 95th %tile Q(veh) | 0 | - | - | 0 | - | - | 1.6 | 0.5 | | | | |

HCM 2010 TWSC

15: Private Dwy/I-10 EB Ramps & Porter St

2/27/2017

| Intersection | | | | | | | | | | | | | |
|-------------------------------|-----------------------|-------|------|--------|------|------|--------|--------|-------|--------|------|------|-------|
| Init Delay, s/veh | | | | | | | | | | | | | |
| 184 | | | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | |
| Vol. veh/h | 139 | 99 | 1 | 0 | 21 | 379 | 0 | 0 | 0 | 593 | 0 | 153 | 0 |
| Conflicting Peds. #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None | - |
| Storage Length | - | - | - | - | - | - | - | - | - | 150 | - | 25 | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 151 | 108 | 1 | 0 | 23 | 412 | 0 | 0 | 0 | 645 | 0 | 166 | 0 |
| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | | |
| Conflicting Flow All | 435 | | | 109 | | | 639 | | | 639 | | | 229 |
| Stage 1 | - | | | - | | | 410 | | | 410 | | | 229 |
| Stage 2 | - | | | - | | | 229 | | | 435 | | | 410 |
| Critical Hdwy | 4.12 | | | 4.12 | | | 7.12 | | | 6.52 | | | 7.12 |
| Critical Hdwy Slg 1 | - | | | - | | | 6.12 | | | 5.52 | | | 6.12 |
| Critical Hdwy Slg 2 | - | | | - | | | 6.12 | | | 5.52 | | | 6.12 |
| Follow-up Hdwy | 2.218 | | | 2.218 | | | 3.518 | | | 4.018 | | | 3.318 |
| Pot Cap-1 Maneuver | 1125 | | | 1481 | | | 389 | | | 300 | | | 946 |
| Stage 1 | - | | | - | | | 619 | | | 595 | | | 774 |
| Stage 2 | - | | | - | | | 774 | | | 580 | | | - |
| Platoon blocked, % | - | | | - | | | - | | | - | | | - |
| Mov Cap-1 Maneuver | 1125 | | | 1481 | | | 275 | | | 257 | | | 946 |
| Mov Cap-2 Maneuver | - | | | - | | | 275 | | | 257 | | | - |
| Stage 1 | - | | | - | | | 530 | | | 510 | | | - |
| Stage 2 | - | | | - | | | 615 | | | 580 | | | - |
| Approach | EB | | | WB | | | NB | | | SB | | | |
| HCM Control Delay, s | 5.1 | | | 0 | | | 0 | | | \$ 340 | | | |
| HCM LOS | | | | | | | A | | | F | | | |
| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 | SBLn3 | | | |
| Capacity (veh/h) | - | 1125 | - | - | 1481 | - | - | 346 | - | 810 | | | |
| HCM Lane V/C Ratio | - | 0.134 | - | - | - | - | - | 1.863 | - | 0.205 | | | |
| HCM Control Delay (s) | 0 | 8.7 | 0 | - | 0 | - | - | \$ 425 | 0 | 10.6 | | | |
| HCM Lane LOS | A | A | A | - | A | - | - | F | A | B | | | |
| HCM 95th %ile Q(veh) | - | 0.5 | - | - | 0 | - | - | 42.9 | - | 0.8 | | | |
| Notes | | | | | | | | | | | | | |
| - Volume exceeds capacity | \$ Delay exceeds 300s | | | | | | | | | | | | |
| - Computation Not Defined | + | | | | | | | | | | | | |
| - All major volume in platoon | * | | | | | | | | | | | | |

HCM 2010 TWSC

15: Private Dwy/I-10 EB Ramps & Porter St

2/27/2017

| Intersection | | 16.4 | | | | | | | | | | | | | |
|--------------------------|--|--------|-------|------|--------|-------|------|--------|-------|-------|--------|-------|-------|--|--|
| Init Delay, s/veh | | | | | | | | | | | | | | | |
| Movement | | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | | |
| Vol, veh/h | | 172 | 129 | 1 | 2 | 23 | 572 | 2 | 0 | 2 | 196 | 2 | 76 | | |
| Conflicting Peds, #/hr | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Sign Control | | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop | | |
| RT Channelized | | - | - | None | - | - | None | - | - | None | - | - | None | | |
| Storage Length | | - | - | - | - | - | - | - | - | - | 150 | - | 25 | | |
| Veh in Median Storage, # | | - | 0 | - | - | 0 | - | - | 0 | - | - | - | 0 | | |
| Grade, % | | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | | |
| Peak Hour Factor | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | |
| Heavy Vehicles, % | | 187 | 140 | 1 | 2 | 25 | 622 | 2 | 0 | 2 | 213 | 2 | 83 | | |
| Mvmt Flow | | | | | | | | | | | | | | | |
| Major/Minor | | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | | | |
| Conflicting Flow All | | 647 | 0 | 0 | 141 | 0 | 0 | 856 | 1166 | 141 | 856 | 855 | 336 | | |
| Stage 1 | | - | - | - | - | - | - | 515 | 515 | - | 340 | 340 | - | | |
| Stage 2 | | - | - | - | - | - | - | 341 | 651 | - | 516 | 515 | - | | |
| Critical Hwy | | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | | |
| Critical Hwy Stg 1 | | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - | | |
| Critical Hwy Stg 2 | | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - | | |
| Follow-up Hwy | | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | | |
| Pot Cap-1 Maneuver | | 939 | - | - | 1442 | - | - | 218 | 194 | 907 | 218 | 296 | 706 | | |
| Stage 1 | | - | - | - | - | - | - | 543 | 535 | - | 675 | 639 | - | | |
| Stage 2 | | - | - | - | - | - | - | 674 | 465 | - | 542 | 535 | - | | |
| Platoon blocked, % | | - | - | - | - | - | - | - | - | - | - | - | - | | |
| Mov Cap-1 Maneuver | | 939 | - | - | 1442 | - | - | 203 | 152 | 907 | 231 | 232 | 706 | | |
| Mov Cap-2 Maneuver | | - | - | - | - | - | - | 203 | 152 | - | 231 | 232 | - | | |
| Stage 1 | | - | - | - | - | - | - | 426 | 419 | - | 529 | 638 | - | | |
| Stage 2 | | - | - | - | - | - | - | 592 | 464 | - | 424 | 419 | - | | |
| Approach | | EB | | WB | | NB | | SB | | | | | | | |
| HCM Control Delay, s | | 5.6 | | 0 | | 16 | | 64.2 | | | | | | | |
| HCM LOS | | | | | | C | | F | | | | | | | |
| Minor Lane/Major Mvmt | | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 | SBLn3 | | | | |
| Capacity (veh/h) | | 332 | 939 | - | - | 1442 | - | - | 231 | 232 | 706 | | | | |
| HCM Lane V/C Ratio | | 0.013 | 0.199 | - | - | 0.002 | - | - | 0.922 | 0.009 | 0.117 | | | | |
| HCM Control Delay (s) | | 16 | 9.8 | 0 | - | 7.5 | 0 | - | 85.4 | 20.7 | 10.8 | | | | |
| HCM Lane LOS | | C | A | A | - | A | A | - | F | C | B | | | | |
| HCM 95th %ile Q(veh) | | 0 | 0.7 | - | - | 0 | - | - | 7.9 | 0 | 0.4 | | | | |

Notes
 --: Volume exceeds capacity \$: Delay exceeds 300s *: Computation Not Defined **: All major volume in platoon

HCM 2010 TWSC

13: I-10 WB Ramps & 8th St

2/27/2017

| Intersection | | | | | | | | | | | | | | | |
|--------------------------|--|---|-------|-------|--------|-------|-------|--------|--|--|--|--|--|--|--|
| Int Delay, s/veh | | 99 | | | | | | | | | | | | | |
| Movement | | EBT | EBR | WBL | WBT | NBL | NBR | | | | | | | | |
| Vol, veh/h | | 16 | 203 | 397 | 29 | 291 | 418 | | | | | | | | |
| Conflicting Peds, #/hr | | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | | |
| Sign Control | | Free | Free | Free | Free | Stop | Stop | | | | | | | | |
| RT Channelized | | - | None | - | None | - | None | | | | | | | | |
| Storage Length | | - | - | - | - | 160 | 0 | | | | | | | | |
| Veh in Median Storage, # | | 0 | - | - | 0 | 0 | - | | | | | | | | |
| Grade, % | | 0 | - | - | 0 | 0 | - | | | | | | | | |
| Peak Hour Factor | | 92 | 92 | 92 | 92 | 92 | 92 | | | | | | | | |
| Heavy Vehicles, % | | 2 | 2 | 2 | 2 | 2 | 2 | | | | | | | | |
| Mvmt Flow | | 17 | 221 | 432 | 32 | 316 | 454 | | | | | | | | |
| Major/Minor | | Major1 | | | Major2 | | | Minor1 | | | | | | | |
| Conflicting Flow All | | 0 | 0 | 238 | 0 | 1023 | 128 | | | | | | | | |
| Stage 1 | | - | - | - | - | 128 | - | | | | | | | | |
| Stage 2 | | - | - | - | - | 895 | - | | | | | | | | |
| Critical Hdwy | | - | - | 4.12 | - | 6.42 | 6.22 | | | | | | | | |
| Critical Hdwy Stg 1 | | - | - | - | - | 5.42 | - | | | | | | | | |
| Critical Hdwy Stg 2 | | - | - | - | - | 5.42 | - | | | | | | | | |
| Follow-up Hdwy | | - | - | 2.218 | - | 3.518 | 3.318 | | | | | | | | |
| Pot Cap-1 Maneuver | | - | - | 1329 | - | ~261 | 922 | | | | | | | | |
| Stage 1 | | - | - | - | - | 898 | - | | | | | | | | |
| Stage 2 | | - | - | - | - | 399 | - | | | | | | | | |
| Platoon blocked, % | | - | - | - | - | - | - | | | | | | | | |
| Mov Cap-1 Maneuver | | - | - | 1329 | - | ~175 | 922 | | | | | | | | |
| Mov Cap-2 Maneuver | | - | - | - | - | ~175 | - | | | | | | | | |
| Stage 1 | | - | - | - | - | 898 | - | | | | | | | | |
| Stage 2 | | - | - | - | - | ~267 | - | | | | | | | | |
| Approach | | EB | | WB | | NB | | | | | | | | | |
| HCM Control Delay, s | | 0 | | 8.4 | | 184 | | | | | | | | | |
| HCM LOS | | | | | | F | | | | | | | | | |
| Minor Lane/Major Mvmt | | NBLn1 | NBLn2 | EBT | EBR | WBL | WBT | | | | | | | | |
| Capacity (veh/h) | | 175 | 922 | - | - | 1329 | - | | | | | | | | |
| HCM Lane V/C Ratio | | 1.807 | 0.493 | - | - | 0.325 | - | | | | | | | | |
| HCM Control Delay (s) | | \$ 430.3 | 12.6 | - | - | 9 | 0 | | | | | | | | |
| HCM Lane LOS | | F | B | - | - | A | A | | | | | | | | |
| HCM 95th %tile Q(veh) | | 22.9 | 2.8 | - | - | 1.4 | - | | | | | | | | |
| Notes | | | | | | | | | | | | | | | |
| Volume exceeds capacity | | \$: Delay exceeds 300s *: Computation Not Defined **: All major volume in platoon | | | | | | | | | | | | | |

Notes
 --: Volume exceeds capacity \$: Delay exceeds 300s *: Computation Not Defined **: All major volume in platoon

HCM 2010 TWSC

13: I-10 WB Ramps & 8th St

6/12/2017

| Intersection | | | | | | | | | | |
|---|---------|-------|-------|--------|----------|-------|--------|--|--|--|
| Int Delay, s/veh | | 730.1 | | | | | | | | |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR | | | | |
| Vol, veh/h | 19 | 244 | 574 | 39 | 495 | 679 | | | | |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| Sign Control | Free | Free | Free | Free | Stop | Stop | | | | |
| RT Channelized | - | None | - | None | - | None | | | | |
| Storage Length | - | - | - | - | 160 | 0 | | | | |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - | | | | |
| Grade, % | 0 | - | - | 0 | 0 | - | | | | |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | | | | |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | | | | |
| Mvmt Flow | 21 | 265 | 624 | 42 | 538 | 738 | | | | |
| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | |
| Conflicting Flow All | 0 | 0 | 286 | 0 | 1443 | 153 | | | | |
| Stage 1 | - | - | - | - | 153 | - | | | | |
| Stage 2 | - | - | - | - | 1290 | - | | | | |
| Critical Hwy | - | - | 4.12 | - | 6.42 | 6.22 | | | | |
| Critical Hwy Stg 1 | - | - | - | - | 5.42 | - | | | | |
| Critical Hwy Stg 2 | - | - | - | - | 5.42 | - | | | | |
| Follow-up Hwy | - | - | 2.218 | - | 3.518 | 3.318 | | | | |
| Pot Cap-1 Maneuver | - | - | 1276 | - | ~146 | 893 | | | | |
| Stage 1 | - | - | - | - | 875 | - | | | | |
| Stage 2 | - | - | - | - | ~258 | - | | | | |
| Platoon blocked, % | - | - | - | - | - | - | | | | |
| Mov Cap-1 Maneuver | - | - | 1276 | - | ~73 | 893 | | | | |
| Mov Cap-2 Maneuver | - | - | - | - | ~73 | - | | | | |
| Stage 1 | - | - | - | - | 875 | - | | | | |
| Stage 2 | - | - | - | - | ~129 | - | | | | |
| Approach | EB | | WB | | NB | | | | | |
| HCM Control Delay, s | 0 | | 9.8 | | \$1269.7 | | | | | |
| HCM LOS | | | | | F | | | | | |
| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL | WBT | | | | |
| Capacity (veh/h) | 73 | 893 | - | - | 1276 | - | | | | |
| HCM Lane V/C Ratio | 7.37 | 0.826 | - | - | 0.489 | - | | | | |
| HCM Control Delay (s) | \$ 2971 | 25 | - | - | 10.5 | 0 | | | | |
| HCM Lane LOS | F | D | - | - | B | A | | | | |
| HCM 95th %ile Q(veh) | 61.4 | 9.6 | - | - | 2.8 | - | | | | |
| Notes | | | | | | | | | | |
| -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined **: All major volume in platoon | | | | | | | | | | |

HCM 2010 TWSC

11: I-5 SB On-Ramp/US 101 SB Off-Ramp & 7th Street

6/12/2017

| Intersection | | | | | | | | | | | | |
|---|--------|------|------|--------|------|------|-----------|-----------|------|------|------|------|
| Int Delay, s/veh | | 95.4 | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Vol. veh/h | 0 | 599 | 357 | 0 | 2711 | 0 | 0 | 0 | 0 | 22 | 0 | 330 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | 35 | - | 0 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | - | 0 |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 651 | 388 | 0 | 2947 | 0 | 0 | 0 | 0 | 24 | 0 | 359 |
| Major/Minor | Major1 | | | Major2 | | | Minor2 | | | | | |
| Conflicting Flow All | 2947 | 0 | 0 | 1039 | 0 | 0 | | | | 3273 | 3986 | 1473 |
| Stage 1 | - | - | - | - | - | - | - | - | - | 2947 | 2947 | - |
| Stage 2 | - | - | - | - | - | - | - | - | - | 326 | 1039 | - |
| Critical Hdwy | 4.14 | - | - | - | 4.14 | - | - | - | - | 6.84 | 6.54 | 6.94 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | - | - | - | 5.84 | 5.54 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | - | - | - | 5.84 | 5.54 | - |
| Follow-up Hdwy | 2.22 | - | - | 2.22 | - | - | - | - | - | 3.52 | 4.02 | 3.32 |
| Pot Cap-1 Maneuver | 119 | - | - | 665 | - | - | - | - | - | -7 | 3 | -116 |
| Stage 1 | - | - | - | - | - | - | - | - | - | 26 | 33 | - |
| Stage 2 | - | - | - | - | - | - | - | - | - | 704 | 306 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 119 | - | - | 665 | - | - | - | - | - | -7 | 0 | -116 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | - | - | - | -7 | 0 | - |
| Stage 1 | - | - | - | - | - | - | - | - | - | 26 | 0 | - |
| Stage 2 | - | - | - | - | - | - | - | - | - | 704 | 0 | - |
| Approach | EB | | WB | | SB | | | | | | | |
| HCM Control Delay, s | 0 | | 0 | | | | \$ 1089.1 | | | | | |
| HCM LOS | | | | | | | F | | | | | |
| Minor Lane/Major Mvmt | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 | | | | |
| Capacity (veh/h) | 119 | - | - | 665 | - | - | 7 | 116 | | | | |
| HCM Lane V/C Ratio | - | - | - | - | - | - | 3.416 | 3.092 | | | | |
| HCM Control Delay (s) | 0 | - | - | 0 | - | - | \$ 2105 | \$ 1021.4 | | | | |
| HCM Lane LOS | A | - | - | A | - | - | F | F | | | | |
| HCM 95th %tile Q(veh) | 0 | - | - | 0 | - | - | 4.2 | 34.3 | | | | |
| Notes | | | | | | | | | | | | |
| -: Volume exceeds capacity \$: Delay exceeds 300s *: Computation Not Defined **: All major volume in platoon | | | | | | | | | | | | |

HCM 2010 TWSC

11: I-5 SB On-Ramp/US 101 SB Off-Ramp & 7th Street

6/12/2017

| Intersection | | 8.2 | | | | | | | | | | | |
|--------------------------|--------|------------------------|------|----------------------------|------|--------------------------------|----------------|--------|------|------|------|------|--|
| Init Delay, s/veh | | | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | |
| Vol. veh/h | 0 | 1770 | 648 | 0 | 1135 | 0 | 0 | 0 | 0 | 53 | 0 | 221 | |
| Conflicting Peds. #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Sign Control | Free | Free | Free | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None | |
| Storage Length | - | - | - | - | - | - | - | - | - | 35 | - | 0 | |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - | |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - | |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| Mvmt Flow | 0 | 1924 | 704 | 0 | 1234 | 0 | 0 | 0 | 0 | 58 | 0 | 240 | |
| Major/Minor | Major1 | Major2 | | | | | | Minor2 | | | | | |
| Conflicting Flow All | 1234 | 0 | 0 | 2628 | 0 | 0 | 2196 3862 617 | | | | | | |
| Stage 1 | - | - | - | - | - | - | 1234 1234 - | | | | | | |
| Stage 2 | - | - | - | - | - | - | 962 2628 - | | | | | | |
| Critical Hdwy | 4.14 | - | - | 4.14 | - | - | 6.84 6.54 6.94 | | | | | | |
| Critical Hdwy Slg 1 | - | - | - | - | - | - | 5.84 5.54 - | | | | | | |
| Critical Hdwy Slg 2 | - | - | - | - | - | - | 5.84 5.54 - | | | | | | |
| Follow-up Hdwy | 2.22 | - | - | 2.22 | - | - | 3.52 4.02 3.32 | | | | | | |
| Pot Cap-1 Maneuver | 560 | - | - | 160 | - | - | ~ 38 4 433 | | | | | | |
| Stage 1 | - | - | - | - | - | - | 238 247 - | | | | | | |
| Stage 2 | - | - | - | - | - | - | 331 49 - | | | | | | |
| Platoon blocked, % | - | - | - | - | - | - | - - - | | | | | | |
| Mov Cap-1 Maneuver | 560 | - | - | 160 | - | - | ~ 38 0 433 | | | | | | |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | ~ 38 0 - | | | | | | |
| Stage 1 | - | - | - | - | - | - | 238 0 - | | | | | | |
| Stage 2 | - | - | - | - | - | - | 331 0 - | | | | | | |
| Approach | EB | WB | | | | | | SB | | | | | |
| HCM Control Delay, s | 0 | 0 | | | | | | 114.5 | | | | | |
| HCM LOS | | | | | | | | F | | | | | |
| Minor Lane/Major Mvmt | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 | | | | | |
| Capacity (veh/h) | 560 | - | - | 160 | - | - | 38 | 433 | | | | | |
| HCM Lane V/C Ratio | - | - | - | - | - | - | 1.516 | 0.555 | | | | | |
| HCM Control Delay (s) | 0 | - | - | 0 | - | - | \$ 495.3 | 23.2 | | | | | |
| HCM Lane LOS | A | - | - | A | - | - | F | C | | | | | |
| HCM 95th %ile Q(veh) | 0 | - | - | 0 | - | - | 6 | 3.3 | | | | | |
| Notes | | | | | | | | | | | | | |
| Volume exceeds capacity | | \$: Delay exceeds 300s | | +: Computation Not Defined | | *: All major volume in platoon | | | | | | | |

HCM 2010 TWSC

15: Private Dwy/I-10 EB Ramps & Porter St

6/12/2017

| Intersection | | 1497.5 | | | | | | | | | | | |
|----------------------------|------------------------|--------|----------------------------|--------|--------------------------------|------|--------|-----------|-------|-----------|-------|-------|--|
| Init Delay, s/veh | | | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | |
| Vol. veh/h | 375 | 105 | 0 | 0 | 22 | 433 | 0 | 0 | 0 | 900 | 0 | 306 | |
| Conflicting Peds. #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop | |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None | |
| Storage Length | - | - | - | - | - | - | - | - | - | 150 | - | 25 | |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | - | 0 | |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | - | 0 | |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| Mvmt Flow | 408 | 114 | 0 | 0 | 24 | 471 | 0 | 0 | 0 | 978 | 0 | 333 | |
| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | | |
| Conflicting Flow All | 495 | 0 | 0 | 114 | 0 | 0 | 1188 | 1424 | 114 | 1188 | 1188 | 259 | |
| Stage 1 | - | - | - | - | - | - | - | 929 | 929 | - | 259 | 259 | |
| Stage 2 | - | - | - | - | - | - | - | 259 | 495 | - | 929 | 929 | |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | |
| Critical Hdwy Slg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - | |
| Critical Hdwy Slg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - | |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | |
| Pot Cap-1 Maneuver | 1069 | - | - | 1475 | - | - | 165 | 136 | 939 | - | 165 | 188 | |
| Stage 1 | - | - | - | - | - | - | 321 | 346 | - | - | 746 | 694 | |
| Stage 2 | - | - | - | - | - | - | 746 | 546 | - | - | 321 | 346 | |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - | |
| Mov Cap-1 Maneuver | 1069 | - | - | 1475 | - | - | 65 | 81 | 939 | - | 112 | 111 | |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 65 | 81 | - | - | 112 | 111 | |
| Stage 1 | - | - | - | - | - | - | 190 | 205 | - | - | 442 | 694 | |
| Stage 2 | - | - | - | - | - | - | 428 | 546 | - | - | 190 | 205 | |
| Approach | EB | EBT | EBR | WB | WBT | WBR | NB | NBT | NBR | SB | SBT | SBR | |
| HCM Control Delay, s | 8.1 | | | 0 | | | 0 | | | \$ 2655.2 | | | |
| HCM LOS | | | | | | | A | | | F | | | |
| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 | SBLn3 | | | |
| Capacity (veh/h) | - | 1069 | - | - | 1475 | - | - | 112 | - | 780 | | | |
| HCM Lane V/C Ratio | - | 0.381 | - | - | - | - | - | 8.734 | - | 0.426 | | | |
| HCM Control Delay (s) | 0 | 10.4 | 0 | - | 0 | - | - | \$ 3553.6 | 0 | 13 | | | |
| HCM Lane LOS | A | B | A | - | A | - | - | F | A | B | | | |
| HCM 95th %ile Q(veh) | - | 1.8 | - | - | 0 | - | - | 111.6 | - | 2.1 | | | |
| Notes | | | | | | | | | | | | | |
| -: Volume exceeds capacity | \$: Delay exceeds 300s | | *: Computation Not Defined | | *: All major volume in platoon | | | | | | | | |

HCM 2010 TWSC

15: Private Dwy/I-10 EB Ramps & Porter St

6/12/2017

| Intersection | | 1329.3 | | | | | | | | | | | | | |
|----------------------------|--|------------------------|-------|----------------------------|--------|--------------------------------|------|-----------|--------|-------|--------|-------|-------|--|--|
| Init Delay, s/veh | | 1329.3 | | | | | | | | | | | | | |
| Movement | | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | | |
| Vol, veh/h | | 754 | 137 | 0 | 2 | 24 | 699 | 2 | 0 | 2 | 442 | 2 | 141 | | |
| Conflicting Peds, #/hr | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Sign Control | | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop | | |
| RT Channelized | | - | - | None | - | - | None | - | - | None | - | - | None | | |
| Storage Length | | - | - | - | - | - | - | - | - | - | 150 | - | 25 | | |
| Veh in Median Storage, # | | - | 0 | - | - | 0 | - | - | 0 | - | - | - | 0 | | |
| Grade, % | | - | 0 | - | - | 0 | - | - | 0 | - | - | - | 0 | | |
| Peak Hour Factor | | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | | |
| Heavy Vehicles, % | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | |
| Mvmt Flow | | 820 | 149 | 0 | 2 | 26 | 760 | 2 | 0 | 2 | 480 | 2 | 153 | | |
| Major/Minor | | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | | | |
| Conflicting Flow All | | 786 | 0 | 0 | 149 | 0 | 0 | 2199 | 2578 | 149 | 2199 | 2198 | 406 | | |
| Stage 1 | | - | - | - | - | - | - | 1788 | 1788 | - | 410 | 410 | - | | |
| Stage 2 | | - | - | - | - | - | - | 411 | 790 | - | 1789 | 1788 | - | | |
| Critical Hdwy | | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | | |
| Critical Hdwy Stg 1 | | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - | | |
| Critical Hdwy Stg 2 | | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - | | |
| Follow-up Hdwy | | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | | |
| Pot Cap-1 Maneuver | | 833 | - | - | 1432 | - | - | 32 | 26 | 898 | - | 32 | 45 | | |
| Stage 1 | | - | - | - | - | - | - | 104 | 133 | - | 619 | 595 | - | | |
| Stage 2 | | - | - | - | - | - | - | 618 | 402 | - | - | 103 | 133 | | |
| Platoon blocked, % | | - | - | - | - | - | - | - | - | - | - | - | - | | |
| Mov Cap-1 Maneuver | | 833 | - | - | 1432 | - | - | 23 | 26 | 898 | - | 32 | 45 | | |
| Mov Cap-2 Maneuver | | - | - | - | - | - | - | 23 | 26 | - | - | 32 | 45 | | |
| Stage 1 | | - | - | - | - | - | - | 104 | 133 | - | 619 | 593 | - | | |
| Stage 2 | | - | - | - | - | - | - | 468 | 401 | - | - | 103 | 133 | | |
| Approach | | EB | | WB | | NB | | SB | | | | | | | |
| HCM Control Delay, s | | 42 | | 0 | | 93.4 | | \$ 4946 | | | | | | | |
| HCM LOS | | | | | | F | | F | | | | | | | |
| Minor Lane/Major Mvmt | | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 | SBLn3 | | | | |
| Capacity (veh/h) | | 45 | 833 | - | - | 1432 | - | - | 32 | 45 | 645 | | | | |
| HCM Lane V/C Ratio | | 0.097 | 0.984 | - | - | 0.002 | - | - | 15.014 | 0.048 | 0.238 | | | | |
| HCM Control Delay (s) | | 93.4 | 49.6 | 0 | - | 7.5 | 0 | \$ 6541.9 | 89 | 12.3 | | | | | |
| HCM Lane LOS | | F | E | A | - | A | - | F | F | B | | | | | |
| HCM 95th %ile Q(veh) | | 0.3 | 16.7 | - | - | 0 | - | 59.1 | 0.1 | 0.9 | | | | | |
| Notes | | | | | | | | | | | | | | | |
| -: Volume exceeds capacity | | \$: Delay exceeds 300s | | *: Computation Not Defined | | *: All major volume in platoon | | | | | | | | | |

HCM 2010 TWSC

13: I-10 WB Ramps & 8th St

6/12/2017

| Intersection | | 1570.8 | | | | | | | | | | | | | |
|----------------------------|--|------------------------|-------|----------------------------|--------|--------------------------------|------|--------|-------|--|--|--|--|--|--|
| Init Delay, s/veh | | 1570.8 | | | | | | | | | | | | | |
| Movement | | EBT | EBR | WBL | WBT | NBL | NBR | | | | | | | | |
| Vol. veh/h | | 17 | 366 | 744 | 84 | 373 | 707 | | | | | | | | |
| Conflicting Peds, #/hr | | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | | |
| Sign Control | | Free | Free | Free | Free | Stop | Stop | | | | | | | | |
| RT Channelized | | - | None | - | None | - | None | | | | | | | | |
| Storage Length | | - | - | - | - | 160 | 0 | | | | | | | | |
| Veh in Median Storage, # | | 0 | - | - | 0 | 0 | - | | | | | | | | |
| Grade, % | | 0 | - | - | 0 | 0 | - | | | | | | | | |
| Peak Hour Factor | | 92 | 92 | 92 | 92 | 92 | 92 | | | | | | | | |
| Heavy Vehicles, % | | 2 | 2 | 2 | 2 | 2 | 2 | | | | | | | | |
| Mvmt Flow | | 18 | 398 | 809 | 91 | 405 | 768 | | | | | | | | |
| Major/Minor | | Major1 | | | Major2 | | | Minor1 | | | | | | | |
| Conflicting Flow All | | 0 | 0 | 0 | 416 | 0 | | 1926 | 217 | | | | | | |
| Stage 1 | | - | - | - | - | - | | 217 | - | | | | | | |
| Stage 2 | | - | - | - | - | - | | 1709 | - | | | | | | |
| Critical Hdwy | | - | - | - | 4.12 | - | | 6.42 | 6.22 | | | | | | |
| Critical Hdwy Stg 1 | | - | - | - | - | - | | 5.42 | - | | | | | | |
| Critical Hdwy Stg 2 | | - | - | - | - | - | | 5.42 | - | | | | | | |
| Follow-up Hdwy | | - | - | 2.218 | - | - | | 3.518 | 3.318 | | | | | | |
| Pot Cap-1 Maneuver | | - | - | 1143 | - | - | | ~ 73 | 823 | | | | | | |
| Stage 1 | | - | - | - | - | - | | 819 | - | | | | | | |
| Stage 2 | | - | - | - | - | - | | ~ 161 | - | | | | | | |
| Platoon blocked, % | | - | - | - | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | | - | - | - | 1143 | - | | ~ 19 | 823 | | | | | | |
| Mov Cap-2 Maneuver | | - | - | - | - | - | | ~ 19 | - | | | | | | |
| Stage 1 | | - | - | - | - | - | | 819 | - | | | | | | |
| Stage 2 | | - | - | - | - | - | | ~ 41 | - | | | | | | |
| Approach | | EB | | WB | | NB | | | | | | | | | |
| HCM Control Delay, s | | 0 | | 13.8 | | \$ 3321.5 | | | | | | | | | |
| HCM LOS | | | | | | F | | | | | | | | | |
| Minor Lane/Major Mvmt | | NBLn1 | NBLn2 | EBT | EBR | WBL | WBT | | | | | | | | |
| Capacity (veh/h) | | 19 | 823 | - | - | 1143 | - | | | | | | | | |
| HCM Lane V/C Ratio | | 21.339 | 0.934 | - | - | 0.708 | - | | | | | | | | |
| HCM Control Delay (s) | | \$ 9541.5 | 39.9 | - | - | 15.4 | 0 | | | | | | | | |
| HCM Lane LOS | | F | E | - | - | C | A | | | | | | | | |
| HCM 95th %tile Q(veh) | | 51.3 | 13.9 | - | - | 6.3 | - | | | | | | | | |
| Notes | | | | | | | | | | | | | | | |
| -: Volume exceeds capacity | | \$: Delay exceeds 300s | | *: Computation Not Defined | | *: All major volume in platoon | | | | | | | | | |

HCM 2010 TWSC

13: I-10 WB Ramps & 8th St

6/12/2017

| Intersection | | | | | | | | | |
|--|---------|--------|-----------|------|-------|-------|--|--|--|
| Int Delay, s/veh | | 770.3 | | | | | | | |
| | | | | | | | | | |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR | | | |
| Vol veh/h | 19 | 249 | 574 | 39 | 506 | 679 | | | |
| Conflicting Peds. #/hr | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Sign Control | Free | Free | Free | Free | Stop | Stop | | | |
| RT Channelized | - | None | - | None | - | None | | | |
| Storage Length | - | - | - | - | 160 | 0 | | | |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - | | | |
| Grade, % | 0 | - | - | 0 | 0 | - | | | |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | | | |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | | | |
| Mvmt Flow | 21 | 271 | 624 | 42 | 550 | 738 | | | |
| | | | | | | | | | |
| Major/Minor | Major1 | Major2 | Minor1 | | | | | | |
| Conflicting Flow All | 0 | 0 | 291 | 0 | 1446 | 156 | | | |
| Stage 1 | - | - | - | - | 156 | - | | | |
| Stage 2 | - | - | - | - | 1290 | - | | | |
| Critical Hwy | - | - | 4.12 | - | 6.42 | 6.22 | | | |
| Critical Hwy Sg 1 | - | - | - | - | 5.42 | - | | | |
| Critical Hwy Sg 2 | - | - | - | - | 5.42 | - | | | |
| Follow-up Hwy | - | - | 2.218 | - | 3.518 | 3.318 | | | |
| Pot Cap-1 Maneuver | - | - | 1271 | - | ~ 145 | 890 | | | |
| Stage 1 | - | - | - | - | 872 | - | | | |
| Stage 2 | - | - | - | - | ~ 258 | - | | | |
| Platoon blocked, % | - | - | - | - | - | - | | | |
| Mov Cap-1 Maneuver | - | - | 1271 | - | ~ 72 | 890 | | | |
| Mov Cap-2 Maneuver | - | - | - | - | ~ 72 | - | | | |
| Stage 1 | - | - | - | - | 872 | - | | | |
| Stage 2 | - | - | - | - | ~ 128 | - | | | |
| | | | | | | | | | |
| Approach | EB | WB | NB | | | | | | |
| HCM Control Delay, s | 0 | 9.9 | \$ 1337.8 | | | | | | |
| HCM LOS | | | F | | | | | | |
| | | | | | | | | | |
| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL | WBT | | | |
| Capacity (veh/h) | 72 | 890 | - | - | 1271 | - | | | |
| HCM Lane V/C Ratio | 7.639 | 0.829 | - | - | 0.491 | - | | | |
| HCM Control Delay (s) | \$ 3099 | 25.3 | - | - | 10.5 | 0 | | | |
| HCM Lane LOS | F | D | - | - | B | A | | | |
| HCM 95th %ile Q(veh) | 63 | 9.7 | - | - | 2.8 | - | | | |
| | | | | | | | | | |
| Notes | | | | | | | | | |
| -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon | | | | | | | | | |

HCM 2010 TWSC

11: I-5 SB On-Ramp/US 101 SB Off-Ramp & 7th Street

6/12/2017

| Intersection | | | | | | | | | |
|----------------------------|------------------------|--------|----------------------------|------|--------------------------------|-----------|-----------|---------|------|
| Int Delay, s/veh | | 98.7 | | | | | | | |
| Movement | | | | | | | | | |
| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR |
| Vol. veh/h | 0 | 608 | 366 | 0 | 2718 | 0 | 0 | 0 | 0 |
| Conflicting Peds. #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage. # | - | 0 | - | - | 0 | - | - | - | 35 |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 661 | 398 | 0 | 2954 | 0 | 0 | 0 | 0 |
| | | | | | | | | | |
| Major/Minor | Major1 | Major2 | | | | | Minor2 | | |
| Conflicting Flow All | 2954 | 0 | 0 | 1059 | 0 | 0 | 3284 | 4013 | 1477 |
| Stage 1 | - | - | - | - | - | - | 2954 | 2954 | - |
| Stage 2 | - | - | - | - | - | - | 330 | 1059 | - |
| Critical Hwy | 4.14 | - | - | 4.14 | - | - | 6.84 | 6.54 | 6.94 |
| Critical Hwy Sig 1 | - | - | - | - | - | - | 5.84 | 5.54 | - |
| Critical Hwy Sig 2 | - | - | - | - | - | - | 5.84 | 5.54 | - |
| Follow-up Hwy | 2.22 | - | - | 2.22 | - | - | 3.52 | 4.02 | 3.32 |
| Pot Cap-1 Maneuver | 118 | - | - | 653 | - | - | -7 | 3 | -118 |
| Stage 1 | - | - | - | - | - | - | 26 | 33 | - |
| Stage 2 | - | - | - | - | - | - | 701 | 299 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 118 | - | - | 653 | - | - | -7 | 0 | -118 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | -7 | 0 | - |
| Stage 1 | - | - | - | - | - | - | 26 | 0 | - |
| Stage 2 | - | - | - | - | - | - | 701 | 0 | - |
| | | | | | | | | | |
| Approach | EB | WB | | | | SB | | | |
| HCM Control Delay, s | 0 | 0 | | | | \$ 1119.7 | | | |
| HCM LOS | | | | | | F | | | |
| | | | | | | | | | |
| Minor Lane/Major Mvmt | EBL | EBT | EBR | WBL | WBT | WBR | SB Ln1 | SB Ln2 | |
| Capacity (veh/h) | 118 | - | - | 653 | - | - | 7 | 115 | |
| HCM Lane V/C Ratio | - | - | - | - | - | - | 3.416 | 3.166 | |
| HCM Control Delay (s) | 0 | - | - | 0 | - | - | \$ 2105.1 | \$ 1055 | |
| HCM Lane LOS | A | - | - | A | - | - | F | F | |
| HCM 95th %ile Q(veh) | 0 | - | - | 0 | - | - | 4.2 | 35 | |
| | | | | | | | | | |
| Notes | | | | | | | | | |
| -: Volume exceeds capacity | \$: Delay exceeds 300s | | +: Computation Not Defined | | *: All major volume in platoon | | | | |

| Intersection | | | | | | | | | | | | | | |
|----------------------------|------|--------------------------------|------|------|--------|------|------|---------|-------|------|------|------|------|------|
| Int Delay, s/vph | | | | | | | | | | | | | | |
| 8.6 | | | | | | | | | | | | | | |
| Movement | | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | |
| Vol. veh/h | | 0 | 1777 | 655 | 0 | 1150 | 0 | 0 | 0 | 0 | 53 | 0 | 232 | |
| Conflicting Peds, #/hr | | | | | | | | | | | | | | |
| RT Channelized | Free | Free | Free | Free | Free | Free | Free | Free | Free | Free | Slop | Slop | Slop | |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - | - | None |
| Veh in Median Storage, # | - | 0 | - | - | - | 0 | - | - | 0 | - | 35 | - | 0 | - |
| Grade, % | - | 0 | - | - | - | 0 | - | - | 0 | - | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 1932 | 712 | | 0 | 1250 | 0 | 0 | 0 | 0 | 58 | 0 | 252 | |
| Major/Minor | | Major1 | | | Major2 | | | Minor2 | | | | | | |
| Conflicting Flow All | 1250 | 0 | 0 | 0 | 2643 | 0 | 0 | | | | 2216 | 3893 | 625 | |
| Stage 1 | - | - | - | - | - | - | - | - | - | - | 1250 | 1250 | - | |
| Stage 2 | - | - | - | - | - | - | - | - | - | - | 966 | 2643 | - | |
| Critical Hdwy | 414 | - | - | - | 414 | - | - | - | - | - | 6.84 | 6.54 | 6.94 | |
| Critical Hdwy Slg 1 | - | - | - | - | - | - | - | - | - | - | 5.84 | 5.54 | - | |
| Critical Hdwy Slg 2 | - | - | - | - | - | - | - | - | - | - | 5.84 | 5.54 | - | |
| Follow-up Hdwy | 222 | - | - | - | 222 | - | - | - | - | - | 3.52 | 4.02 | 3.32 | |
| Pot Cap-1 Maneuver | 553 | - | - | - | 157 | - | - | - | - | - | -37 | 3 | 428 | |
| Stage 1 | - | - | - | - | - | - | - | - | - | - | 233 | 243 | - | |
| Stage 2 | - | - | - | - | - | - | - | - | - | - | 330 | 48 | - | |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Mov Cap-1 Maneuver | 553 | - | - | - | 157 | - | - | - | - | - | -37 | 0 | 428 | |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | - | - | - | - | -37 | 0 | - | |
| Stage 1 | - | - | - | - | - | - | - | - | - | - | 233 | 0 | - | |
| Stage 2 | - | - | - | - | - | - | - | - | - | - | 330 | 0 | - | |
| Approach | | EB | EBT | EBR | WBL | WBT | WBR | SB | | | | | | |
| HCM Control Delay, s | | 0 | | | 0 | | | 116.4 | | | | | | |
| HCM LOS | | | | | | | | F | | | | | | |
| Minor Lane/Major Mvmt | | EBL | EBT | EBR | WBL | WBT | WBR | SBL | SBT | SBR | | | | |
| Capacity (veh/h) | 553 | - | - | - | 157 | - | - | 37 | 428 | | | | | |
| HCM Lane V/C Ratio | - | - | - | - | - | - | - | 1.557 | 0.589 | | | | | |
| HCM Control Delay (s) | 0 | - | - | 0 | - | - | - | \$517.2 | 24.8 | | | | | |
| HCM Lane LOS | A | - | - | A | - | - | - | F | C | | | | | |
| HCM 95th %ile d(veh) | 0 | - | - | 0 | - | - | - | 6.1 | 3.7 | | | | | |
| Notes | | | | | | | | | | | | | | |
| *: Volume exceeds capacity | | \$: Delay exceeds 300s | | | | | | | | | | | | |
| *: Computation Not Defined | | *: All major volume in platoon | | | | | | | | | | | | |

~: Volume exceeds capacity \$: Delay exceeds 300s *: All major volume in platoon
+: Computation Not Defined

| Intersection | | | | | | | | | | | | | | |
|--|--------|--------|------|--------|------|------|-----------|-----------|-------|--------|-------|-------|-----|--|
| Int Delay, s/veh | | 1535.9 | | | | | | | | | | | | |
| Movement | | | | | | | | | | | | | | |
| Vol, veh/h | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBRT | SBR | |
| Conflicting Peds, #/hr | 382 | 105 | 1 | 0 | 22 | 433 | 0 | 0 | 0 | 900 | 0 | 309 | | |
| RT Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop | | |
| Left Channelized | - | - | None | - | - | None | - | - | None | - | - | - | | |
| Storage Length | - | - | - | - | - | - | - | - | - | 150 | - | 25 | | |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | - | 0 | | |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | - | 0 | | |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | | |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | |
| Mvmt Flow | 415 | 114 | 1 | 0 | 24 | 471 | 0 | 0 | 0 | 978 | 0 | 336 | | |
| Major/Minor | | | | | | | | | | | | | | |
| | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | | | |
| Conflicting Flow All | 495 | 0 | 0 | 115 | 0 | 0 | 1204 | 1440 | 115 | 1204 | 1205 | 259 | | |
| Stage 1 | - | - | - | - | - | - | 945 | 945 | - | 259 | 259 | - | | |
| Stage 2 | - | - | - | - | - | - | 259 | 495 | - | 945 | 946 | - | | |
| Critical Hdwy | 412 | - | - | 412 | - | - | 712 | 652 | 622 | 712 | 652 | 622 | | |
| Critical Hdwy Sig 1 | - | - | - | - | - | - | 612 | 552 | - | 612 | 552 | - | | |
| Critical Hdwy Sig 2 | - | - | - | - | - | - | 612 | 552 | - | 612 | 552 | - | | |
| Follow-up Hdwy | 2,218 | - | - | 2,218 | - | - | 3,518 | 4,018 | 3,318 | 3,518 | 4,018 | 3,318 | | |
| Pot Cap-1 Maneuver | 1069 | - | - | 1474 | - | - | 161 | 133 | 937 | -161 | 184 | 780 | | |
| Stage 1 | - | - | - | - | - | - | 314 | 340 | - | -746 | 694 | - | | |
| Stage 2 | - | - | - | - | - | - | 746 | 546 | - | -314 | 340 | - | | |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - | | |
| Mov Cap-1 Maneuver | 1069 | - | - | 1474 | - | - | 62 | 78 | 937 | -109 | 108 | 780 | | |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 62 | 78 | - | -109 | 108 | - | | |
| Stage 1 | - | - | - | - | - | - | 184 | 199 | - | -436 | 694 | - | | |
| Stage 2 | - | - | - | - | - | - | 425 | 546 | - | -184 | 199 | - | | |
| Approach | | | | | | | | | | | | | | |
| | EB | WB | | | NB | | | SB | | | | | | |
| HCM Control Delay, s | 8.2 | 0 | | | 0 | | | \$ 2730.5 | | | | | | |
| HCM LOS | | | | | A | | | F | | | | | | |
| Minor Lane/Major Mvmt | | | | | | | | | | | | | | |
| | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 | SBLn3 | | | | |
| Capacity (veh/h) | - | 1069 | - | - | 1474 | - | - | 109 | - | 780 | | | | |
| HCM Lane V/C Ratio | - | 0.388 | - | - | - | - | - | 8.975 | - | 0.431 | | | | |
| HCM Control Delay (s) | 0 | 10.5 | 0 | - | 0 | - | \$ 3663.5 | 0 | 13.1 | | | | | |
| HCM Lane LOS | A | B | A | - | A | - | - | F | A | B | | | | |
| HCM 95th %ile d(veh) | - | 1.9 | - | - | 0 | - | 111.9 | - | 2.2 | | | | | |
| Notes | | | | | | | | | | | | | | |
| \$. Volume exceeds capacity *: Delay exceeds 300s *: Computation Not Defined *: All major volume in platoon | | | | | | | | | | | | | | |

-: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM 2010 TWSC

15: Private Dwy/I-10 EB Ramps & Porter St

6/12/2017

| Intersection | | | | | | | | | | | | | | | |
|---|------------|--------|------|-------|--------|------|-------|-----------|--------|--------|-------|-------|------|--|--|
| Init Delay, s/veh | | 1367.2 | | | | | | | | | | | | | |
| Movement | | | | | | | | | | | | | | | |
| | Vol. veh/h | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | | |
| Conflicting Peds, #/hr | 760 | 137 | 1 | 2 | 24 | 699 | 2 | 0 | 2 | 442 | 2 | 147 | | | |
| RT Channelized | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop | Stop | | |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - | - | | |
| Veh in Median Storage, # | - | 0 | - | - | - | 0 | - | 0 | - | - | 150 | - | 25 | | |
| Grade, % | - | 0 | - | - | - | 0 | - | - | 0 | - | - | 0 | - | | |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | | |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | |
| Mvmt Flow | 826 | 149 | 1 | 2 | 26 | 760 | 2 | 0 | 2 | 480 | 2 | 160 | | | |
| Major/Minor | | | | | | | | | | | | | | | |
| | Major1 | Major2 | | | Minor1 | | | Minor2 | | | | | | | |
| Conflicting Flow All | 786 | 0 | 0 | 150 | 0 | 0 | 2213 | 2592 | 149 | 2213 | 2212 | 406 | | | |
| Stage 1 | - | - | - | - | - | - | - | 1802 | 1802 | - | 410 | 410 | | | |
| Stage 2 | - | - | - | - | - | - | 411 | 790 | - | 1803 | 1802 | - | | | |
| Critical Hwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | | | |
| Critical Hwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - | | | |
| Critical Hwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - | | | |
| Follow-up Hwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | | | |
| Pot Cap-1 Maneuver | 833 | - | - | 1431 | - | - | 31 | 25 | 898 | - | 31 | 44 | | | |
| Stage 1 | - | - | - | - | - | - | 102 | 131 | - | 619 | 595 | - | | | |
| Stage 2 | - | - | - | - | - | - | 618 | 402 | - | - | 102 | 131 | | | |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - | | | |
| Mov Cap-1 Maneuver | 833 | - | - | 1431 | - | - | 22 | 25 | 898 | - | 31 | 44 | | | |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 22 | 25 | - | - | 31 | 44 | | | |
| Stage 1 | - | - | - | - | - | - | 102 | 131 | - | 619 | 593 | - | | | |
| Stage 2 | - | - | - | - | - | - | 462 | 401 | - | - | 102 | 131 | | | |
| Approach | | | | | | | | | | | | | | | |
| | EB | WB | | | NB | | | SB | | | | | | | |
| HCM Control Delay, s | 43.5 | 0 | | | 97.9 | | | \$ 5064.3 | | | | | | | |
| HCM LOS | | | | | F | | | F | | | | | | | |
| Minor Lane/Major Mvmt | | | | | | | | | | | | | | | |
| | NBL n1 | EBL | EBT | EBR | WBL | WBT | WBR | SBL n1 | SBL n2 | SBL n3 | | | | | |
| Capacity (veh/h) | 43 | 833 | - | - | 1431 | - | - | 31 | 44 | 645 | | | | | |
| HCM Lane V/C Ratio | 0.101 | 0.992 | - | - | 0.002 | - | - | 0.049 | 0.248 | | | | | | |
| HCM Control Delay (s) | 97.9 | 51.4 | 0 | - | 7.5 | 0 | - | \$ 6767 | 91 | 12.4 | | | | | |
| HCM Lane LOS | F | F | A | - | A | A | - | F | F | B | | | | | |
| HCM 95th %ile Q(veh) | 0.3 | 17.2 | - | - | 0 | - | - | 59.2 | 0.2 | 1 | | | | | |
| Notes | | | | | | | | | | | | | | | |
| \$: Volume exceeds capacity *: Delay exceeds 300s **: Computation Not Defined ***: All major volume in platoon | | | | | | | | | | | | | | | |

HCM 2010 TWSC

13: I-10 WB Ramps & 8th St

6/12/2017

| Intersection | | | | | | | | | | | | | | | |
|---|------------|--------|-------|-----------|-------|-------|------|------|------|------|------|------|------|------|------|
| Init Delay, s/veh | | 1840.3 | | | | | | | | | | | | | |
| Movement | | | | | | | | | | | | | | | |
| Vol. veh/h | 17 | 370 | 84 | 744 | 84 | 395 | 707 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Stop | Stop | None | None | None | None | None | None | None | None |
| RT Channelized | - | None | - | None | - | - | - | - | - | - | - | - | - | - | - |
| Storage Length | - | - | - | - | - | 160 | 0 | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | 0 | - | - | - | - | - | - | - | - | - |
| Grade, % | 0 | - | - | 0 | 0 | 0 | - | - | - | - | - | - | - | - | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 18 | 402 | 809 | 91 | 429 | 768 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Major/Minor | | | | | | | | | | | | | | | |
| Major1 | | Major2 | | Minor1 | | | | | | | | | | | |
| Conflicting Flow All | 0 | 0 | 421 | 0 | 1929 | 220 | - | - | - | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | 220 | - | - | - | - | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | 1709 | - | - | - | - | - | - | - | - | - | - |
| Critical Hdwy | - | - | 4.12 | - | 6.42 | 6.22 | - | - | - | - | - | - | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - | 5.42 | - | - | - | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.42 | - | - | - | - | - | - | - | - | - | - |
| Follow-up Hdwy | - | - | 2.218 | - | 3.518 | 3.318 | - | - | - | - | - | - | - | - | - |
| Pot Cap-1 Maneuver | - | - | 1138 | - | ~ 73 | 820 | - | - | - | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | 817 | - | - | - | - | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | ~ 161 | - | - | - | - | - | - | - | - | - | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | - | - | 1138 | - | ~ 18 | 820 | - | - | - | - | - | - | - | - | - |
| Mov Cap-2 Maneuver | - | - | - | - | ~ 18 | - | - | - | - | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | 817 | - | - | - | - | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | ~ 40 | - | - | - | - | - | - | - | - | - | - |
| Approach | | | | | | | | | | | | | | | |
| EB | | WB | | NB | | | | | | | | | | | |
| HCM Control Delay, s | | 0 | | \$ 3858.9 | | | | | | | | | | | |
| HCM LOS | | F | | F | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| Minor Lane/Major Mvmt | | | | | | | | | | | | | | | |
| Capacity (veh/h) | 18 | 820 | - | - | 1138 | - | - | - | - | - | - | - | - | - | - |
| HCM Lane V/C Ratio | 23.853 | 0.937 | - | - | 0.711 | - | - | - | - | - | - | - | - | - | - |
| HCM Control Delay (s) | \$ 10693.4 | 40.5 | - | - | 15.5 | 0 | - | - | - | - | - | - | - | - | - |
| HCM Lane LOS | F | E | - | - | C | A | - | - | - | - | - | - | - | - | - |
| HCM 95th %tile Q(veh) | 54.4 | 14.1 | - | - | 6.4 | - | - | - | - | - | - | - | - | - | - |
| Notes | | | | | | | | | | | | | | | |
| -: Volume exceeds capacity \$: Delay exceeds 300s *: Computation Not Defined **: All major volume in platoon | | | | | | | | | | | | | | | |

Appendix F

Caltrans Analysis

This Appendix presents an analysis of California Department of Transportation (Caltrans) facilities, including freeway mainline segments, Caltrans intersections, and off-ramp queuing to provide further information to the decision makers. As described in Chapter 1 of the Transportation Study, the Project-related increases on the freeway segments and off-ramps do not meet the screening criteria in the approved memorandum of understanding (MOU) and the following Caltrans analysis was conducted for informational purposes only. The analysis follows the guidelines found in *Guide for the Preparation of Traffic Impact Studies* (Caltrans, December 2002) (Caltrans TIS Guide), as required.

Under *State of California Senate Bill No. 743* (Steinberg, 2013), the focus of transportation analysis will shift from driver delay to reduction of greenhouse gas, creation of multimodal networks and promotion of mixed-use developments. To better align with the State's multimodal transportation and environmental action goals, Caltrans is pursuing vehicle miles traveled as a metric of Project impacts, as outlined in *Local Development – Intergovernmental Review Program Interim Guide* (Caltrans, Approved September 2016). This interim guidance will remain in effect until superseded by new Caltrans transportation impact study guidelines, which are currently under development.

ANALYZED FACILITIES

As shown in Table F-1, the analyses conducted on Caltrans facilities included freeway mainline segments, signalized and unsignalized ramp intersections, and off-ramp queuing. Three freeway mainline segments on I-10, one freeway mainline segment on SR 60, two freeway mainline segments on I-5/I-10, and one freeway mainline segment on US 101 were analyzed using *2010 Highway Capacity Manual* (Transportation Research Board, 2010) (HCM) methodology to determine density, speed, and level of service (LOS). The LOS definitions for freeway mainline segments are presented in Table F-2. One signalized and two unsignalized

FREEWAY MAINLINE SEGMENTS

Three freeway mainline segments on I-10, one freeway mainline segment on SR 60, two freeway mainline segments on I-5/I-10, and one freeway mainline segment on US 101 were analyzed using the HCM methodology. Per Caltrans' guidelines, a free-flow speed of 55 miles per hour was assumed in the analysis.

Mainline Segment Analysis

Existing freeway volumes were based on traffic volume data for an average weekday in October 2016 from Caltrans' Performance Measurement System (PeMS) database. Where PeMS data was unavailable, recently published traffic count data from *2015 Traffic Volumes on California State Highways* (Caltrans, 2016), which consists of the annual average daily traffic (AADT) volumes, as well as the two-way peak hour percent of AADT factor ("K factor") and the percent of traffic in the peak direction factor ("D factor") used to develop peak hour volumes, were utilized. Traffic volumes were projected for Year 2022 and Year 2035 to reflect the Project buildout year and a 19-year horizon. The existing traffic volumes were increased by both ambient growth (assumed to be 1% per year) and Related Project traffic, in the same manner as Future without Project traffic volumes were developed for Year 2022 in Chapter 3. The freeway mainline segment volumes are summarized in Table F-3.

Table F-4 summarizes the results of the HCM analysis for Existing Conditions and Existing with Project Conditions. Table F-5 summarizes the results of the HCM analysis for Future without Project Conditions and Future with Project Conditions. Table F-6 summarizes the results of the HCM analysis for Future without Project Conditions and Future with Project Conditions in Year 2035.

Proportionate Share

As previously noted, the Project would add traffic to the cumulative future traffic volumes. Table F-7 summarizes the calculation of the Project's proportionate share of projected future Year 2035 traffic added to each of the freeway mainline segments based on the Appendix B of the

intersections, all freeway ramp locations, were analyzed using HCM methodology to identify average vehicle delay and LOS. One freeway off-ramp along US 101 and three freeway off-ramps along I-10 were analyzed for ramp queue lengths using Synchro software to estimate queues.

LOS worksheets for each type of analysis are provided in the Attachment.

CALTRANS TIS GUIDELINES

The Caltrans TIS Guide states that Caltrans' target LOS is "at the transition between LOS C and LOS D," which is generally interpreted to mean in the lower half of the range of LOS D (where the LOS is determined based on the freeway mainline density or the intersection delay). When that threshold has already been exceeded, the existing condition (or projected future condition) should be maintained with the addition of Project traffic.

However, the Caltrans TIS Guide does not identify specific incremental criteria by which to measure the significance of impacts to freeway mainline segments or intersections with ramp termini and, therefore, it is not possible to identify whether a specific facility would be significantly impacted under Caltrans criteria.

Improvements to Caltrans freeway facilities tend to be beyond the feasibility of any individual project to implement; therefore, Appendix B of the Caltrans TIS Guide provides a methodology to identify a project's proportionate share of the future traffic growth on the Caltrans freeways facilities. The fair share is calculated as the Project's percentage of the total projected traffic growth on a freeway mainline segment up to Year 2035. In accordance with Caltrans' request for projects to review the horizon year of 2012-2035 *Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS): Towards a Sustainable Future* (Southern California Association of Governments, April 2012), the cumulative analysis of freeway facilities includes projections of Year 2035 conditions without and with Project traffic was also conducted.

Intersection Analysis

The analysis of Year 2016 conditions was conducted using available traffic count data from 2009 to 2016, provided in Appendix D. Year 2022 and Year 2035 traffic volumes were developed by increasing the existing traffic volumes with both ambient growth (assumed to be 1% per year) and Related Project traffic, in the same manner as Future without Project traffic volumes were developed for Year 2022 in Chapter 3. Table F-9 summarizes the results of the signalized HCM analysis for Existing Conditions and Existing with Project Conditions for Year 2016. Table F-10 summarizes the results of the signalized HCM analysis for Future without Project Conditions and Future with Project Conditions and for Year 2022. Table F-11 summarizes the results of the signalized HCM analysis for Future without Project Conditions and Future with Project Conditions for Year 2035.

OFF-RAMP QUEUES

One freeway off-ramp from US 101 and three freeway off-ramps from I-10 were analyzed to determine whether the lengths of the ramps were sufficient to accommodate vehicle queue lengths. The queue lengths were estimated using Synchro, which reports the 95th percentile queue length for each approach lane on the off-ramp. Synchro queue results expressed in number of vehicles were converted to feet, with a vehicle length assumption of 25 feet.

The assessment of the off-ramps included a review of the vehicle queue length as compared to the total available queuing capacity of the ramp to determine whether the vehicle queue would extend beyond the length of the ramp onto the mainline. To this end, the queuing analysis looks at two separate components of ramp capacity: the length of each approach lane to the intersection and the remaining length of the ramp, behind any approach lane delineation lines, to the gore point where the ramp diverges from the freeway mainline. The queue may exceed the striped length of a given approach lane, but as long as there is sufficient additional queuing capacity on the ramp, it will not spill over onto the mainline.

Caltrans TIS Guide. As previously noted, the proportionate share is calculated as the Project's percentage of the total projected traffic growth on a freeway mainline segment over the next 19 years (to Year 2035). It should be noted that the Project's proportionate share of future traffic growth on the freeway mainline would be further reduced with implementation of the mitigation program (transportation demand management, transportation management organization, etc.), which would result in a reduction of trips generated by the Project (See Table 11 of the Transportation Study). Thus, the analysis is conservative. The average of the Project's proportionate share of the growth on the freeway segments is 0.31%.

INTERSECTIONS

As described in Chapter 2, a total of 21 intersections located in the City are analyzed as part of the traffic study according to the significance thresholds established by the lead agency (the City). As shown in Table F-1, this Caltrans analysis focuses on three unsignalized and one signalized freeway ramp locations associated with US 101 and I-10.

As described in Chapter 8 of the Transportation Study, in response to significant impacts identified using City significance criteria, the Project would implement mitigation measures that would improve operations at the study intersections, including the intersections within partial Caltrans jurisdiction. The Project would implement a TDM program, which will reduce ambient traffic and Project traffic throughout the Study Area and generally improve intersection operating conditions. As shown in Chapter 8 of the Transportation Study, the mitigation measures would reduce Project-related vehicular traffic and improve intersection operating conditions.

The intersections under Caltrans jurisdiction were further analyzed using the HCM methodology according to Caltrans TIS Guidelines and implemented using the Synchro software. Actual signal timing based on current timing charts provided by LADOT (which operates the signals) was incorporated into the analysis. Table F-8 summarizes the LOS definitions.

TABLE F-1
ANALYZED CALTRANS FACILITIES

| ID | Location |
|--|---|
| Freeway Mainline Segments | |
| FS-1. | I-10 between San Pedro Street/Central Avenue & Alameda Street |
| FS-2. | I-10 between Alameda Street & Santa Fe Avenue |
| FS-3. | I-10 between Santa Fe Avenue & US-101 |
| FS-4. | SR-60 between Lorena Street & Indiana Street |
| FS-5. | I-5 between Indiana Street & SR-60 |
| FS-6. | I-5/I-10 between Fourth Street & Cesar E Chavez Avenue |
| FS-7. | US 101 between Fourth Street & First Street |
| Signalized and Unsignalized Intersections | |
| S-1. | I-5 Southbound On-Ramp/US 101 Southbound Off-Ramp & 7th Street (Intersection #11) |
| S-2. | I-10 Westbound Ramps & 8th Street (Intersection #13) |
| S-3. | I-10 Eastbound Ramps & Porter Street (Intersection #15) |
| S-4. | Alameda Street & I-10 Eastbound Ramps (Intersection #21) |
| Off-ramp Queues | |
| Q-1. | I-5 Southbound On-Ramp/US 101 Southbound Off-Ramp & 7th Street (Intersection #11) |
| Q-2. | I-10 Westbound Ramps & 8th Street (Intersection #13) |
| Q-3. | I-10 Eastbound Ramps & Porter Street (Intersection #15) |
| Q-4. | Alameda Street & I-10 Eastbound Ramps (Intersection #21) |

Off-Ramp Queue Analysis

The analysis of Year 2016 conditions was conducted using available traffic count data from Year 2016. Table F-12 summarizes the results of the queuing analysis for Existing Conditions and Existing with Project Conditions for Year 2016. The Year 2022 and Year 2035 traffic volumes were developed by increasing the existing traffic volumes by both ambient growth (assumed to be 1% per year) and Related Project traffic, in the same manner as Future without Project traffic volumes were developed for Year 2022 in Chapter 3. Tables F-13 and F-14 summarize the results of the queuing analysis for Future without Project Conditions and Future with Project Conditions for Year 2022 and Year 2035, respectively. Implementation of the Project's mitigation program will further reduce Project-related traffic on the off-ramps. Therefore, the off-ramp queue analyses are conservative.

**TABLE F-2
FREEWAY SEGMENT LEVEL OF SERVICE**

| Level of Service | Description | Density [a] |
|------------------|---|----------------------|
| A | Free-flow speeds prevail. Vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream. | ≤ 11 |
| B | Free-flow speeds are maintained. The ability to maneuver with the traffic stream is only slightly restricted. | > 11 and ≤ 18 |
| C | Flow with speeds at or near free-flow speeds. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more care and vigilance on the part of the driver. | > 18 and ≤ 26 |
| D | Speeds decline slightly with increasing flows. Freedom to maneuver with the traffic stream is more noticeably limited, and the driver experiences reduced physical and psychological comfort. | > 26 and ≤ 35 |
| E | Operation at capacity. There are virtually no usable gaps within the traffic stream, leaving little room to maneuver. Any disruption can be expected to produce a breakdown with queuing. | > 35 and ≤ 45 |
| F | Represents a breakdown in flow and oversaturated conditions. | > 45 |

Notes

Source: *2010 Highway Capacity Manual* (Transportation Research Board, 2010) and Caltrans.

[a] Density is defined in vehicles per mile per lane and describes the proximity to other vehicles and is related to the freedom to maneuver within the traffic stream (*2010 Highway Capacity Manual*, Transportation Research Board, 2010).

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**TABLE F-3
FREEWAY MAINLINE SEGMENT TRAFFIC VOLUMES**

| ID | Freeway Mainline Segment | Peak Hour | Direction | Vehicles per Hour (VPH) | | | | | |
|-------|---|--------------|-----------|-------------------------|----------------------------------|---|--|---|--|
| | | | | Existing Conditions [a] | Existing with Project Conditions | Future without Project Conditions (Year 2022) | Future with Project Conditions (Year 2022) | Future without Project Conditions (Year 2035) | Future with Project Conditions (Year 2035) |
| FS-1. | I-10 between San Pedro Street/Central Avenue & Alameda Street | AM Peak Hour | EB | 2,890 | 2,901 | 3,987 | 3,998 | 7,170 | 7,181 |
| | | | WB | 6,304 | 6,324 | 7,425 | 7,445 | 10,549 | 10,569 |
| | | PM Peak Hour | EB | 4,893 | 4,917 | 6,177 | 6,201 | 9,844 | 9,868 |
| | | | WB | 5,676 | 5,692 | 7,130 | 7,146 | 11,277 | 11,293 |
| FS-2. | I-10 between Alameda Street & Santa Fe Avenue | AM Peak Hour | EB | 7,756 | 7,759 | 9,148 | 9,151 | 13,031 | 13,034 |
| | | | WB | 12,719 | 12,724 | 14,183 | 14,188 | 18,093 | 18,098 |
| | | PM Peak Hour | EB | 11,683 | 11,689 | 13,341 | 13,347 | 17,870 | 17,876 |
| | | | WB | 7,705 | 7,709 | 9,237 | 9,241 | 13,542 | 13,546 |
| FS-3. | I-10 between Santa Fe Avenue & US-101 | AM Peak Hour | EB | 2,899 | 2,912 | 3,839 | 3,852 | 6,550 | 6,563 |
| | | | WB | 6,311 | 6,326 | 7,721 | 7,736 | 11,709 | 11,724 |
| | | PM Peak Hour | EB | 5,686 | 5,696 | 6,878 | 6,888 | 10,237 | 10,247 |
| | | | WB | 6,321 | 6,351 | 7,869 | 7,899 | 12,275 | 12,305 |
| FS-4. | SR-60 between Lorena Street & Indiana Street | AM Peak Hour | EB | 4,555 | 4,564 | 5,260 | 5,269 | 7,201 | 7,210 |
| | | | WB | 5,603 | 5,608 | 6,387 | 6,392 | 8,526 | 8,531 |
| | | PM Peak Hour | EB | 7,123 | 7,130 | 8,040 | 8,047 | 10,522 | 10,529 |
| | | | WB | 6,224 | 6,235 | 7,186 | 7,197 | 9,835 | 9,846 |
| FS-5. | I-5 between Indiana Street & SR-60 | AM Peak Hour | NB | 5,929 | 5,938 | 6,455 | 6,464 | 7,808 | 7,817 |
| | | | SB | 9,210 | 9,215 | 9,922 | 9,927 | 11,710 | 11,715 |
| | | PM Peak Hour | NB | 6,071 | 6,078 | 6,555 | 6,562 | 7,776 | 7,783 |
| | | | SB | 5,415 | 5,426 | 6,015 | 6,026 | 7,609 | 7,620 |
| FS-6. | I-5/I-10 between Fourth Street & Cesar E Chavez Avenue | AM Peak Hour | NB/EB | 7,250 | 7,259 | 8,228 | 8,237 | 10,890 | 10,899 |
| | | | SB/WB | 7,975 | 7,985 | 9,065 | 9,075 | 12,032 | 12,042 |
| | | PM Peak Hour | NB/EB | 7,880 | 7,887 | 9,093 | 9,100 | 12,432 | 12,439 |
| | | | SB/WB | 5,680 | 5,699 | 6,689 | 6,708 | 9,501 | 9,520 |
| FS-7. | US 101 between Fourth Street & First Street | AM Peak Hour | NB | 3,919 | 3,919 | 4,253 | 4,253 | 5,103 | 5,103 |
| | | | SB | 3,119 | 3,124 | 3,398 | 3,403 | 4,118 | 4,123 |
| | | PM Peak Hour | NB | 4,003 | 4,003 | 4,368 | 4,368 | 5,313 | 5,313 |
| | | | SB | 3,133 | 3,144 | 3,433 | 3,444 | 4,214 | 4,225 |

Notes

[a] Traffic volume data from traffic volumes published in Caltrans' Performance Measurement System (PeMS) are based on peak hour average for weekdays between May 11, 2016 and July 13, 2016. Where PeMS data was unavailable, recently published traffic count data from 2015 Traffic Volumes on California State Highways (Caltrans, 2016) were used. An ambient growth rate of 1% per year was applied to the traffic volume data from Caltrans published volume data to reflect Existing year 2016 traffic conditions.

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**TABLE F-4
EXISTING OPERATING CONDITIONS (YEAR 2016)
FREEWAY SEGMENT LEVEL OF SERVICE EVALUATION**

| ID | Freeway Segment | Peak Hour | Direction | Existing Conditions | | | Existing with Project Conditions | | |
|-------|---|-----------|-----------|---------------------|----------------|-----|----------------------------------|----------------|-----|
| | | | | Speed [a][b] | Density [b][c] | LOS | Speed [a][b] | Density [b][c] | LOS |
| FS-1. | I-10 between San Pedro Street/Central Avenue & Alameda Street | AM | EB | 55.0 | 11.4 | B | 55.0 | 11.5 | B |
| | | | WB | 55.0 | 24.9 | C | 55.0 | 25.0 | C |
| | | PM | EB | 55.0 | 19.3 | C | 55.0 | 19.4 | C |
| | | | WB | 55.0 | 22.4 | C | 55.0 | 22.5 | C |
| FS-2. | I-10 between Alameda Street & Santa Fe Avenue | AM | EB | 55.0 | 30.6 | D | 55.0 | 30.6 | D |
| | | | WB | 32.2 | 85.7 | F | 32.2 | 85.9 | F |
| | | PM | EB | 41.6 | 60.9 | F | 41.6 | 61.1 | F |
| | | | WB | 55.0 | 30.4 | D | 55.0 | 30.4 | D |
| FS-3. | I-10 between Santa Fe Avenue & US-101 | AM | EB | 55.0 | 28.6 | D | 55.0 | 28.7 | D |
| | | | WB | OVERFLOW | OVERFLOW | F | OVERFLOW | OVERFLOW | F |
| | | PM | EB | 14.2 | OVERFLOW | F | 13.8 | OVERFLOW | F |
| | | | WB | OVERFLOW | OVERFLOW | F | OVERFLOW | OVERFLOW | F |
| FS-4. | SR-60 between Lorena Street & Indiana Street | AM | EB | 55.0 | 18.0 | B | 55.0 | 18.0 | B |
| | | | WB | 55.0 | 22.1 | C | 55.0 | 22.1 | C |
| | | PM | EB | 55.0 | 28.1 | D | 55.0 | 28.1 | D |
| | | | WB | 55.0 | 24.6 | C | 55.0 | 24.6 | C |
| FS-5. | I-5 between Indiana Street & SR-60 | AM | NB | 55.0 | 23.4 | C | 55.0 | 23.4 | C |
| | | | SB | 54.0 | 37.0 | E | 54.0 | 37.1 | E |
| | | PM | NB | 55.0 | 24.0 | C | 55.0 | 24.0 | C |
| | | | SB | 55.0 | 21.4 | C | 55.0 | 21.4 | C |
| FS-6. | I-5/I-10 between Fourth Street & Cesar E Chavez Avenue | AM | NB/EB | 55.0 | 28.6 | D | 55.0 | 28.7 | D |
| | | | SB/WB | 55.0 | 31.5 | D | 55.0 | 31.5 | D |
| | | PM | NB/EB | 55.0 | 31.1 | D | 55.0 | 31.1 | D |
| | | | SB/WB | 55.0 | 22.4 | C | 55.0 | 22.5 | C |
| FS-7. | US 101 between Fourth Street & First Street | AM | NB | 55.0 | 25.8 | C | 55.0 | 25.8 | C |
| | | | SB | 55.0 | 20.5 | C | 55.0 | 20.5 | C |
| | | PM | NB | 55.0 | 26.3 | D | 55.0 | 26.3 | D |
| | | | SB | 55.0 | 20.6 | C | 55.0 | 20.7 | C |

Notes

OVERFLOW: Traffic demand exceeds the available capacity of the freeway mainline segment.

[a] Mean speed measured in miles per hour (mph).

[b] Methodology from *Highway Capacity Manual 2010*, Transportation Research Board, 2010.

[c] Measured in vehicles per mile per lane (v/mi/l) for freeways with a free-flow speed of 55 mph.

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**TABLE F-5
FUTURE OPERATING CONDITIONS (YEAR 2022)
FREEWAY SEGMENT LEVEL OF SERVICE EVALUATION**

| ID | Freeway Segment | Peak Hour | Direction | Future without Project Conditions | | | Future with Project Conditions | | |
|-------|---|-----------|-----------|-----------------------------------|----------------|-----|--------------------------------|----------------|-----|
| | | | | Speed [a][b] | Density [b][c] | LOS | Speed [a][b] | Density [b][c] | LOS |
| FS-1. | I-10 between San Pedro Street/Central Avenue & Alameda Street | AM | EB | 55.0 | 15.7 | B | 55.0 | 15.8 | B |
| | | | WB | 55.0 | 29.3 | D | 55.0 | 29.4 | D |
| | | PM | EB | 55.0 | 24.4 | C | 55.0 | 24.5 | C |
| | | | WB | 55.0 | 28.1 | D | 55.0 | 28.2 | D |
| FS-2. | I-10 between Alameda Street & Santa Fe Avenue | AM | EB | 54.1 | 36.7 | E | 54.1 | 36.7 | E |
| | | | WB | 14.6 | OVERFLOW | F | 14.5 | OVERFLOW | F |
| | | PM | EB | 25.3 | 114.3 | F | 25.2 | 114.8 | F |
| | | | WB | 54.0 | 37.2 | E | 54.0 | 37.2 | E |
| FS-3. | I-10 between Santa Fe Avenue & US-101 | AM | EB | 53.0 | 39.3 | E | 52.9 | 39.5 | E |
| | | | WB | OVERFLOW | OVERFLOW | F | OVERFLOW | OVERFLOW | F |
| | | PM | EB | OVERFLOW | OVERFLOW | F | OVERFLOW | OVERFLOW | F |
| | | | WB | OVERFLOW | OVERFLOW | F | OVERFLOW | OVERFLOW | F |
| FS-4. | SR-60 between Lorena Street & Indiana Street | AM | EB | 55.0 | 20.8 | C | 55.0 | 20.8 | C |
| | | | WB | 55.0 | 25.2 | C | 55.0 | 25.2 | C |
| | | PM | EB | 55.0 | 31.7 | D | 55.0 | 31.8 | D |
| | | | WB | 55.0 | 28.4 | D | 55.0 | 28.4 | D |
| FS-5. | I-5 between Indiana Street & SR-60 | AM | NB | 55.0 | 25.5 | C | 55.0 | 25.5 | C |
| | | | SB | 51.9 | 41.5 | E | 51.9 | 41.5 | E |
| | | PM | NB | 55.0 | 25.9 | C | 55.0 | 25.9 | C |
| | | | SB | 55.0 | 23.7 | C | 55.0 | 23.8 | C |
| FS-6. | I-5/I-10 between Fourth Street & Cesar E Chavez Avenue | AM | NB/EB | 55.0 | 32.5 | D | 55.0 | 32.5 | D |
| | | | SB/WB | 54.3 | 36.2 | E | 54.3 | 36.3 | E |
| | | PM | NB/EB | 54.3 | 36.4 | E | 54.2 | 36.4 | E |
| | | | SB/WB | 55.0 | 26.4 | D | 55.0 | 26.5 | D |
| FS-7. | US 101 between Fourth Street & First Street | AM | NB | 55.0 | 28.0 | D | 55.0 | 28.0 | D |
| | | | SB | 55.0 | 22.4 | C | 55.0 | 22.4 | C |
| | | PM | NB | 55.0 | 28.7 | D | 55.0 | 28.7 | D |
| | | | SB | 55.0 | 22.6 | C | 55.0 | 22.7 | C |

Notes

OVERFLOW: Traffic demand exceeds the available capacity of the freeway mainline segment.

[a] Mean speed measured in miles per hour (mph).

[b] Methodology from *Highway Capacity Manual 2010*, Transportation Research Board, 2010.

[c] Measured in vehicles per mile per lane (v/mi/l) for freeways with a free-flow speed of 55 mph.

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**TABLE F-6
FUTURE OPERATING CONDITIONS (YEAR 2035)
FREEWAY SEGMENT LEVEL OF SERVICE EVALUATION**

| ID | Freeway Segment | Peak Hour | Direction | Future without Project Conditions | | | Future with Project Conditions | | |
|-------|---|-----------|-----------|-----------------------------------|----------------|-----|--------------------------------|----------------|-----|
| | | | | Speed [a][b] | Density [b][c] | LOS | Speed [a][b] | Density [b][c] | LOS |
| FS-1. | I-10 between San Pedro Street/Central Avenue & Alameda Street | AM | EB | 55.0 | 28.3 | D | 55.0 | 28.3 | D |
| | | | WB | 49.1 | 46.7 | F | 49.0 | 46.9 | F |
| | | PM | EB | 52.2 | 40.9 | E | 52.1 | 41.1 | E |
| | | | WB | 44.6 | 54.8 | F | 44.5 | 55.1 | F |
| FS-2. | I-10 between Alameda Street & Santa Fe Avenue | AM | EB | 28.9 | 98.0 | F | 28.8 | 98.2 | F |
| | | | WB | OVERFLOW | OVERFLOW | F | OVERFLOW | OVERFLOW | F |
| | | PM | EB | OVERFLOW | OVERFLOW | F | OVERFLOW | OVERFLOW | F |
| | | | WB | 22.9 | 128.3 | F | 22.9 | 128.7 | F |
| FS-3. | I-10 between Santa Fe Avenue & US-101 | AM | EB | OVERFLOW | OVERFLOW | F | OVERFLOW | OVERFLOW | F |
| | | | WB | OVERFLOW | OVERFLOW | F | OVERFLOW | OVERFLOW | F |
| | | PM | EB | OVERFLOW | OVERFLOW | F | OVERFLOW | OVERFLOW | F |
| | | | WB | OVERFLOW | OVERFLOW | F | OVERFLOW | OVERFLOW | F |
| FS-4. | SR-60 between Lorena Street & Indiana Street | AM | EB | 55.0 | 28.4 | D | 55.0 | 28.5 | D |
| | | | WB | 54.9 | 33.7 | D | 54.9 | 33.7 | D |
| | | PM | EB | 49.2 | 46.4 | F | 49.2 | 46.5 | F |
| | | | WB | 52.2 | 40.9 | E | 52.2 | 41.0 | E |
| FS-5. | I-5 between Indiana Street & SR-60 | AM | NB | 55.0 | 30.8 | D | 55.0 | 30.9 | D |
| | | | SB | 41.4 | 61.4 | F | 41.4 | 61.5 | F |
| | | PM | NB | 55.0 | 30.7 | D | 55.0 | 30.7 | D |
| | | | SB | 55.0 | 30.0 | D | 55.0 | 30.1 | D |
| FS-6. | I-5/I-10 between Fourth Street & Cesar E Chavez Avenue | AM | NB/EB | 47.1 | 50.1 | F | 47.1 | 50.2 | F |
| | | | SB/WB | 38.7 | 67.5 | F | 38.6 | 67.6 | F |
| | | PM | NB/EB | 35.0 | 77.0 | F | 35.0 | 77.3 | F |
| | | | SB/WB | 53.3 | 38.7 | E | 53.2 | 38.8 | E |
| FS-7. | US 101 between Fourth Street & First Street | AM | NB | 54.9 | 33.6 | D | 54.9 | 33.6 | D |
| | | | SB | 55.0 | 27.1 | D | 55.0 | 27.1 | D |
| | | PM | NB | 54.6 | 35.2 | E | 54.6 | 35.2 | E |
| | | | SB | 55.0 | 27.7 | D | 55.0 | 27.8 | D |

Notes

OVERFLOW: Traffic demand exceeds the available capacity of the freeway mainline segment.

[a] Mean speed measured in miles per hour (mph).

[b] Methodology from *Highway Capacity Manual 2010*, Transportation Research Board, 2010.

[c] Measured in vehicles per mile per lane (v/mi/l) for freeways with a free-flow speed of 55 mph.

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**TABLE F-7
PROPORTION OF PROJECTED FUTURE TRAFFIC
FUTURE YEAR 2035 CONDITIONS**

| ID | Freeway Mainline Segment | Peak Hour | Direction | Vehicles per Hour (VPH) | | | | | Proportion of Project-Related Traffic |
|--|---|--------------|-----------|-------------------------|------------------|----------------|---------|--------------|---------------------------------------|
| | | | | Existing | Related Projects | Ambient Growth | Project | Total Growth | |
| FS-1. | I-10 between San Pedro Street/Central Avenue & Alameda Street | AM Peak Hour | EB | 2,890 | 3,679 | 601 | 11 | 4,291 | 0.30% |
| | | | WB | 6,304 | 2,933 | 1,312 | 20 | 4,265 | 0.50% |
| | | PM Peak Hour | EB | 4,893 | 3,933 | 1,018 | 24 | 4,975 | 0.50% |
| | | | WB | 5,676 | 4,420 | 1,181 | 16 | 5,617 | 0.30% |
| FS-2. | I-10 between Alameda Street & Santa Fe Avenue | AM Peak Hour | EB | 7,756 | 3,661 | 1,614 | 3 | 5,278 | 0.10% |
| | | | WB | 12,719 | 2,727 | 2,647 | 5 | 5,379 | 0.10% |
| | | PM Peak Hour | EB | 11,683 | 3,756 | 2,431 | 6 | 6,193 | 0.10% |
| | | | WB | 7,705 | 4,234 | 1,603 | 4 | 5,841 | 0.10% |
| FS-3. | I-10 between Santa Fe Avenue & US-101 | AM Peak Hour | EB | 2,899 | 3,048 | 603 | 13 | 3,664 | 0.40% |
| | | | WB | 6,311 | 4,085 | 1,313 | 15 | 5,413 | 0.30% |
| | | PM Peak Hour | EB | 5,686 | 3,368 | 1,183 | 10 | 4,561 | 0.20% |
| | | | WB | 6,321 | 4,639 | 1,315 | 30 | 5,984 | 0.50% |
| FS-4. | SR-60 between Lorena Street & Indiana Street | AM Peak Hour | EB | 4,555 | 1,698 | 948 | 9 | 2,655 | 0.30% |
| | | | WB | 5,603 | 1,757 | 1,166 | 5 | 2,928 | 0.20% |
| | | PM Peak Hour | EB | 7,123 | 1,917 | 1,482 | 7 | 3,406 | 0.20% |
| | | | WB | 6,224 | 2,316 | 1,295 | 11 | 3,622 | 0.30% |
| FS-5. | I-5 between Indiana Street & SR-60 | AM Peak Hour | NB | 5,929 | 645 | 1,234 | 9 | 1,888 | 0.50% |
| | | | SB | 9,210 | 583 | 1,917 | 5 | 2,505 | 0.20% |
| | | PM Peak Hour | NB | 6,071 | 442 | 1,263 | 7 | 1,712 | 0.40% |
| | | | SB | 5,415 | 1,067 | 1,127 | 11 | 2,205 | 0.50% |
| FS-6. | I-5/I-10 between Fourth Street & Cesar E Chavez Avenue | AM Peak Hour | NB/EB | 7,250 | 2,131 | 1,509 | 9 | 3,649 | 0.20% |
| | | | SB/WB | 7,975 | 2,397 | 1,660 | 10 | 4,067 | 0.20% |
| | | PM Peak Hour | NB/EB | 7,880 | 2,912 | 1,640 | 7 | 4,559 | 0.20% |
| | | | SB/WB | 5,680 | 2,639 | 1,182 | 19 | 3,840 | 0.50% |
| FS-7. | US 101 between Fourth Street & First Street | AM Peak Hour | NB | 3,919 | 368 | 816 | 0 | 1,184 | 0.00% |
| | | | SB | 3,119 | 350 | 649 | 5 | 1,004 | 0.50% |
| | | PM Peak Hour | NB | 4,003 | 477 | 833 | 0 | 1,310 | 0.00% |
| | | | SB | 3,133 | 429 | 652 | 11 | 1,092 | 1.00% |
| Average Proportion of Project-Related Traffic to Mainline Segments | | | | | | | | | 0.31% |

F-13

**TABLE F-8
INTERSECTION LEVEL OF SERVICE**

| Level of Service | Description | Delay [a] | |
|------------------|---|--------------------------|----------------------------|
| | | Signalized Intersections | Unsignalized Intersections |
| A | EXCELLENT. No vehicle waits longer than one red light and no approach phase is fully used. | ≤ 10 | 0.0 - 10.0 |
| B | VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles. | > 10 and ≤ 20 | 10.1 - 15.0 |
| C | GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles. | > 20 and ≤ 35 | 15.1 - 25.0 |
| D | FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups. | > 35 and ≤ 55 | 25.1 - 35.0 |
| E | POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles. | > 55 and ≤ 80 | 35.1 - 50.0 |
| F | FAILURE. Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Tremendous delays with continuously increasing queue lengths. | > 80 | > 50.0 |

Notes

Source: 2010 Highway Capacity Manual (Transportation Research Board, 2010).

[a] Measured in seconds.

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**TABLE F-9
EXISTING WITH PROJECT CONDITIONS (YEAR 2016)
INTERSECTION PEAK HOUR LEVELS OF SERVICE**

| No. | Intersection | Peak Hour | Existing | | Existing with Project | |
|-------------|---|--------------|---------------|--------|-----------------------|--------|
| | | | Delay | LOS | Delay | LOS |
| S-1.
[a] | I-5 Southbound On-Ramp/US 101 Southbound Off-Ramp & 7th Street (Intersection #11) | A.M.
P.M. | 6.8
1.5 | A
A | 7.3
1.6 | A
A |
| S-2.
[a] | I-10 Westbound Ramps
8th Street (Intersection #13) | A.M.
P.M. | 37.8
81.1 | E
F | 43.7
99.0 | E
F |
| S-3.
[a] | I-10 Eastbound Ramps & Porter Street (Intersection #15) | A.M.
P.M. | 174.0
15.3 | F
C | 184.0
16.4 | F
C |
| S-4. | Alameda Street & I-10 Eastbound Ramps (Intersection #21) | A.M.
P.M. | 19.2
16.0 | B
B | 19.4
16.4 | B
B |

Delay is measured in seconds per vehicle

LOS = Level of service

Results per Vistro (HCM 2010 methodology).

[a] Intersection is unsignalized and reported delay is average delay.

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TABLE F-10
FUTURE WITH PROJECT CONDITIONS (YEAR 2022)
INTERSECTION PEAK HOUR LEVELS OF SERVICE

| No. | Intersection | Peak Hour | Future without Project | | Future with Project | |
|-------------|---|--------------|------------------------|--------|----------------------|--------|
| | | | Delay | LOS | Delay | LOS |
| S-1.
[a] | I-5 Southbound On-Ramp/US 101 Southbound Off-Ramp & 7th Street (Intersection #11) | A.M.
P.M. | 95.4
8.2 | F
A | 98.7
8.6 | F
A |
| S-2.
[a] | I-10 Westbound Ramps 8th Street (Intersection #13) | A.M.
P.M. | Overflow
Overflow | F
F | Overflow
Overflow | F
F |
| S-3.
[a] | I-10 Eastbound Ramps & Porter Street (Intersection #15) | A.M.
P.M. | Overflow
Overflow | F
F | Overflow
Overflow | F
F |
| S-4. | Alameda Street & I-10 Eastbound Ramps (Intersection #21) | A.M.
P.M. | 30.6
27.6 | D
D | 32.7
29.1 | D
D |

Delay is measured in seconds per vehicle

LOS = Level of service

Results per Vistro (HCM 2010 methodology).

[a] Intersection is unsignalized and reported delay is average delay.

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TABLE F-11
FUTURE WITH PROJECT CONDITIONS (YEAR 2035)
INTERSECTION PEAK HOUR LEVELS OF SERVICE

| No. | Intersection | Peak Hour | Future without Project | | Future with Project | |
|-------------|---|--------------|------------------------|--------|----------------------|--------|
| | | | Delay | LOS | Delay | LOS |
| S-1.
[a] | I-5 Southbound On-Ramp/US 101 Southbound Off-Ramp & 7th Street (Intersection #11) | A.M.
P.M. | Overflow
168.7 | F
F | Overflow
174.5 | F
F |
| S-2.
[a] | I-10 Westbound Ramps 8th Street (Intersection #13) | A.M.
P.M. | Overflow
Overflow | F
F | Overflow
Overflow | F
F |
| S-3.
[a] | I-10 Eastbound Ramps & Porter Street (Intersection #15) | A.M.
P.M. | Overflow
Overflow | F
F | Overflow
Overflow | F
F |
| S-4. | Alameda Street & I-10 Eastbound Ramps (Intersection #21) | A.M.
P.M. | 53.8
81.6 | F
F | 55.1
82.9 | F
F |

Delay is measured in seconds per vehicle

LOS = Level of service

Results per Vistro (HCM 2010 methodology).

[a] Intersection is unsignalized and reported delay is average delay.

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**TABLE F-12
FREEWAY OFF-RAMP QUEUE EVALUATION
EXISTING OPERATING CONDITIONS (YEAR 2016)**

| ID | Freeway Off-ramp | Ramp and Lane Description | Vehicle Storage Capacity
[a] | Existing Conditions | | | | Existing with Project Conditions | | | |
|------|---|----------------------------|---------------------------------|-----------------------------|-------------------|-----------------------------|-------------------|----------------------------------|-------------------|-----------------------------|-------------------|
| | | | | AM Peak Hour | | PM Peak Hour | | AM Peak Hour | | PM Peak Hour | |
| | | | | Vehicle Queue Length
[b] | Exceeds Capacity? | Vehicle Queue Length
[b] | Exceeds Capacity? | Vehicle Queue Length
[b] | Exceeds Capacity? | Vehicle Queue Length
[b] | Exceeds Capacity? |
| Q-1. | I-5 Southbound On-Ramp/US 101 Southbound Off-Ramp & 7th Street (Intersection #11) | US 101 Southbound Off-Ramp | | | | | | | | | |
| | | Left | 35 | 35 | | 35 | | 35 | | 35 | |
| | | Right | 35 | 35 | | 13 | | 35 | | 13 | |
| | | Ramp | 245 | 148 | NO | 3 | NO | 158 | NO | 5 | NO |
| Q-2. | I-10 Westbound Ramps & 8th Street (Intersection #13) | I-10 Westbound Off-Ramp | | | | | | | | | |
| | | Left | 160 | 160 | | 160 | | 160 | | 160 | |
| | | Right | 160 | 58 | | 70 | | 58 | | 70 | |
| | | Ramp | 670 | 133 | NO | 340 | NO | 165 | NO | 413 | NO |
| Q-3. | I-10 Eastbound Ramps & Porter Street (Intersection #15) | I-10 Eastbound Off-Ramp | | | | | | | | | |
| | | Left | 150 | 150 | | 150 | | 150 | | 150 | |
| | | Shared Left/Through | 150 | 150 | | 150 | | 150 | | 150 | |
| | | Right | 25 | 18 | | 10 | | 20 | | 10 | |
| | | Ramp | 445 | 893 | YES | 38 | NO | 923 | YES | 48 | NO |
| Q-4. | Alameda Street
I-10 Eastbound Ramps (Intersection #21) | I-10 Eastbound Off-Ramp | | | | | | | | | |
| | | Left | 255 | 255 | | 77 | | 255 | | 83 | |
| | | Right | 255 | 253 | | 97 | | 253 | | 97 | |
| | | Ramp | 870 | 60 | NO | 0 | NO | 65 | NO | 0 | NO |

[a] Expressed in feet.

[b] 95th Percentile queue results per Synchro (2010 Highway Capacity Manual [Transportation Research Board, 2010] methodology). Synchro queue results expressed in feet or number of vehicles. Vehicle length is assumed to be 25 feet.

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**TABLE F-13
FREEWAY OFF-RAMP QUEUE EVALUATION
FUTURE OPERATING CONDITIONS (YEAR 2022)**

| ID | Freeway Off-ramp | Ramp and Lane Description | Vehicle Storage Capacity
[a] | Future without Project Conditions | | | | Future with Project Conditions | | | |
|------|---|----------------------------|---------------------------------|-----------------------------------|-------------------|-----------------------------|-------------------|--------------------------------|-------------------|-----------------------------|-------------------|
| | | | | AM Peak Hour | | PM Peak Hour | | AM Peak Hour | | PM Peak Hour | |
| | | | | Vehicle Queue Length
[b] | Exceeds Capacity? | Vehicle Queue Length
[b] | Exceeds Capacity? | Vehicle Queue Length
[b] | Exceeds Capacity? | Vehicle Queue Length
[b] | Exceeds Capacity? |
| Q-1. | I-5 Southbound On-Ramp/US 101 Southbound Off-Ramp & 7th Street (Intersection #11) | US 101 Southbound Off-Ramp | | | | | | | | | |
| | | Left | 35 | 35 | | 35 | | 35 | | 35 | |
| | | Right | 35 | 35 | | 35 | | 35 | | 35 | |
| | | Ramp | 245 | 713 | YES | 138 | NO | 730 | YES | 148 | NO |
| Q-2. | I-10 Westbound Ramps & 8th Street (Intersection #13) | I-10 Westbound Off-Ramp | | | | | | | | | |
| | | Left | 160 | 160 | | 160 | | 160 | | 160 | |
| | | Right | 160 | 160 | | 160 | | 160 | | 160 | |
| | | Ramp | 670 | 1,393 | YES | 1,250 | YES | 1,435 | YES | 1,325 | YES |
| Q-3. | I-10 Eastbound Ramps & Porter Street (Intersection #15) | I-10 Eastbound Off-Ramp | | | | | | | | | |
| | | Left | 150 | 150 | | 150 | | 150 | | 150 | |
| | | Shared Left/Through | 150 | 150 | | 150 | | 150 | | 150 | |
| | | Right | 25 | 25 | | 23 | | 25 | | 25 | |
| | | Ramp | 445 | 2,398 | YES | 1,303 | YES | 2,415 | YES | 1,305 | YES |
| Q-4. | Alameda Street
I-10 Eastbound Ramps (Intersection #21) | I-10 Eastbound Off-Ramp | | | | | | | | | |
| | | Left | 255 | 255 | | 255 | | 255 | | 255 | |
| | | Right | 255 | 255 | | 139 | | 255 | | 139 | |
| | | Ramp | 870 | 181 | NO | 28 | NO | 208 | NO | 37 | NO |

[a] Expressed in feet.

[b] 95th Percentile queue results per Synchro (2010 Highway Capacity Manual [Transportation Research Board, 2010] methodology). Synchro queue results expressed in feet or number of vehicles. Vehicle length is assumed to be 25 feet.

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**TABLE F-14
FREEWAY OFF-RAMP QUEUE EVALUATION
FUTURE OPERATING CONDITIONS (YEAR 2035)**

| ID | Freeway Off-ramp | Ramp and Lane Description | Vehicle Storage Capacity
[a] | Future without Project Conditions | | | | Future with Project Conditions | | | |
|------|---|----------------------------|---------------------------------|-----------------------------------|-------------------|-----------------------------|-------------------|--------------------------------|-------------------|-----------------------------|-------------------|
| | | | | AM Peak Hour | | PM Peak Hour | | AM Peak Hour | | PM Peak Hour | |
| | | | | Vehicle Queue Length
[b] | Exceeds Capacity? | Vehicle Queue Length
[b] | Exceeds Capacity? | Vehicle Queue Length
[b] | Exceeds Capacity? | Vehicle Queue Length
[b] | Exceeds Capacity? |
| Q-1. | I-5 Southbound On-Ramp/US 101 Southbound Off-Ramp & 7th Street (Intersection #11) | US 101 Southbound Off-Ramp | | | | | | | | | |
| | | Left | 35 | 35 | | 35 | | 35 | | 35 | |
| | | Right | 35 | 35 | | 35 | | 35 | | 35 | |
| | | Ramp | 245 | 2,065 | YES | 1,538 | YES | 2,085 | YES | 1,580 | YES |
| Q-2. | I-10 Westbound Ramps & 8th Street (Intersection #13) | I-10 Westbound Off-Ramp | | | | | | | | | |
| | | Left | 160 | 160 | | 160 | | 160 | | 160 | |
| | | Right | 160 | 160 | | 160 | | 160 | | 160 | |
| | | Ramp | 670 | 2,698 | YES | 1,848 | YES | 2,735 | YES | 1,925 | YES |
| Q-3. | I-10 Eastbound Ramps & Porter Street (Intersection #15) | I-10 Eastbound Off-Ramp | | | | | | | | | |
| | | Left | 150 | 150 | | 150 | | 150 | | 150 | |
| | | Shared Left/Through | 150 | 150 | | 150 | | 150 | | 150 | |
| | | Right | 25 | 25 | | 25 | | 25 | | 25 | |
| | | Ramp | 445 | 3,390 | YES | 1,678 | YES | 3,398 | YES | 1,680 | YES |
| Q-4. | Alameda Street
I-10 Eastbound Ramps (Intersection #21) | I-10 Eastbound Off-Ramp | | | | | | | | | |
| | | Left | 255 | 255 | | 255 | | 255 | | 255 | |
| | | Right | 255 | 255 | | 155 | | 255 | | 155 | |
| | | Ramp | 870 | 519 | NO | 235 | NO | 523 | NO | 247 | NO |

[a] Expressed in feet.

[b] 95th Percentile queue results per Synchro (2010 Highway Capacity Manual [Transportation Research Board, 2010] methodology). Synchro queue results expressed in feet or number of vehicles. Vehicle length is assumed to be 25 feet.

EXISTING CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-1 I-10 Westbound

between San Pedro Street/Central Avenue and Alameda Street
AM Peak Hour

| SPEED AND FLOW INPUTS | |
|---|---|
| Flow Inputs
Volume (V): 6,304 veh/h
Peak Hour Factor (PHF): 0.940
% Trucks & Buses (P _T): 4.04 %
% RVs (P _R): 0.00 %
Grade Length: 0.00 mi
Grade %: 0.00 %
Terrain Type: Level
Driver Type: Commuter/Weekday | Speed Inputs
[a] Free Flow Speed: 55.0 mph
Lane Width: 11.5 ft
Right-shoulder: 4.0 ft
Lateral Clearance: 4.0 ft
Number of Ramps in 6 miles: 0
Centered on Segment: 0
Other Inputs: 5.0 lanes
Number of Lanes: 5.0 lanes |
| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
| Flow Adjustment Calculations
Driver Population Factor (f _p): 1.00
Passenger Car Equivalents for Trucks & Buses (E _T): 1.5
for RVs (E _R): 1.2
Heavy Vehicle Factor (f _{hw}): 0.980
$1 + P_T(E_T - 1) + P_R(E_R - 1)$ = 0.980 | Speed Adjustment Calculations
Lane Width (f _{lw}): 1.00
Lateral Clearance (f _{lc}): 1.00
Total Ramp Density (TRD): 0.00
Free-Flow Speed: 55.0
$75.4 - f_{lw} - f_{lc} - 3.22TRD \wedge (0.84)$ = 55.0
mi/h |
| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
| Flow Rate (v _s):
$\frac{V}{PHF * N * f_{pw} * f_p}$ = 1,369 pc/h/ln | Density (D):
$\frac{v_s}{S}$ = 24.9 pc/mi/ln |
| Speed (S): 55.0 mi/h | Level of Service (LOS): C |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p_T/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.

[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

EXISTING CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-1 I-10 Eastbound

between San Pedro Street/Central Avenue and Alameda Street
AM Peak Hour

| SPEED AND FLOW INPUTS | |
|---|---|
| Flow Inputs
Volume (V): 2,890 veh/h
Peak Hour Factor (PHF): 0.940
% Trucks & Buses (P _T): 4.04 %
% RVs (P _R): 0.00 %
Grade Length: 0.00 mi
Grade %: 0.00 %
Terrain Type: Level
Driver Type: Commuter/Weekday | Speed Inputs
[a] Free Flow Speed: 55.0 mph
Lane Width: 11.5 ft
Right-shoulder: 4.0 ft
Lateral Clearance: 4.0 ft
Number of Ramps in 6 miles: 0
Centered on Segment: 0
Other Inputs: 5.0 lanes
Number of Lanes: 5.0 lanes |
| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
| Flow Adjustment Calculations
Driver Population Factor (f _p): 1.00
Passenger Car Equivalents for Trucks & Buses (E _T): 1.5
for RVs (E _R): 1.2
Heavy Vehicle Factor (f _{hw}): 0.980
$1 + P_T(E_T - 1) + P_R(E_R - 1)$ = 0.980 | Speed Adjustment Calculations
Lane Width (f _{lw}): 1.00
Lateral Clearance (f _{lc}): 1.00
Total Ramp Density (TRD): 0.00
Free-Flow Speed: 55.0
$75.4 - f_{lw} - f_{lc} - 3.22TRD \wedge (0.84)$ = 55.0
mi/h |
| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
| Flow Rate (v _s):
$\frac{V}{PHF * N * f_{pw} * f_p}$ = 627 pc/h/ln | Density (D):
$\frac{v_s}{S}$ = 11.4 pc/mi/ln |
| Speed (S): 55.0 mi/h | Level of Service (LOS): B |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; E_T/E_R from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.

[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

EXISTING CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-1 I-10 Westbound

between San Pedro Street/Central Avenue and Alameda Street
PM Peak Hour

| SPEED AND FLOW INPUTS | | | | | | | | | |
|---|------------------|---------|--|------|--------------------------------------|--|--|--|--|
| Flow Inputs | | | | | Speed Inputs | | | | |
| Volume (V): | 5,676 | veh/h | [a] Free Flow Speed: | 55.0 | mph | | | | |
| Peak Hour Factor (PHF): | 0.940 | | Lane Width: | | ft | | | | |
| % Trucks & Buses (P _T): | 4.04 | % | Right-shoulder | | ft | | | | |
| % RVs (P _R): | 0.00 | % | Lateral Clearance: | | ft | | | | |
| Grade Length: | | mi | Number of Ramps in 6 miles | | | | | | |
| Grade %: | | % | Centered on Segment: | | ramps | | | | |
| Terrain Type: | Level | | Other Inputs | | | | | | |
| Driver Type: | Commuter/Weekday | | Number of Lanes: | 5.0 | lanes | | | | |
| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | | | | | | | |
| Flow Adjustment Calculations | | | | | Speed Adjustment Calculations | | | | |
| Driver Population Factor (f _p): | 1.00 | | Lane Width (f _{lw}): | | mi/h | | | | |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | | Lateral Clearance (f _{lc}): | | mi/h | | | | |
| for RVs (E _R): | 1.2 | | Total Ramp Density (TRD): | | ramps/mi | | | | |
| Heavy Vehicle Factor (f _{hw}): | | | Free-Flow Speed: | | mi/h | | | | |
| 1 | | | 75.4 - f _{lw} - f _{lc} | | | | | | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | 0.980 | | - 3.22TRD^(0.84) | | | | | | |
| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | | | | | | | |
| Flow Rate (v _s): | | | Density (D): | | pc/mi/ln | | | | |
| PHF * N * f _{hw} * f _p | 1,232 | pc/h/ln | v _s | | S | | | | |
| Speed (S): | 55.0 | mi/h | Level of Service (LOS): | | C | | | | |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

EXISTING CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-1 I-10 Eastbound

between San Pedro Street/Central Avenue and Alameda Street
PM Peak Hour

| SPEED AND FLOW INPUTS | | | | | | | | | |
|---|------------------|---------|--|------|--------------------------------------|--|--|--|--|
| Flow Inputs | | | | | Speed Inputs | | | | |
| Volume (V): | 4,893 | veh/h | [a] Free Flow Speed: | 55.0 | mph | | | | |
| Peak Hour Factor (PHF): | 0.940 | | Lane Width: | | ft | | | | |
| % Trucks & Buses (P _T): | 4.04 | % | Right-shoulder | | ft | | | | |
| % RVs (P _R): | 0.00 | % | Lateral Clearance: | | ft | | | | |
| Grade Length: | | mi | Number of Ramps in 6 miles | | | | | | |
| Grade %: | | % | Centered on Segment: | | ramps | | | | |
| Terrain Type: | Level | | Other Inputs | | | | | | |
| Driver Type: | Commuter/Weekday | | Number of Lanes: | 5.0 | lanes | | | | |
| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | | | | | | | |
| Flow Adjustment Calculations | | | | | Speed Adjustment Calculations | | | | |
| Driver Population Factor (f _p): | 1.00 | | Lane Width (f _{lw}): | | mi/h | | | | |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | | Lateral Clearance (f _{lc}): | | mi/h | | | | |
| for RVs (E _R): | 1.2 | | Total Ramp Density (TRD): | | ramps/mi | | | | |
| Heavy Vehicle Factor (f _{hw}): | | | Free-Flow Speed: | | mi/h | | | | |
| 1 | | | 75.4 - f _{lw} - f _{lc} | | | | | | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | 0.980 | | - 3.22TRD^(0.84) | | | | | | |
| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | | | | | | | |
| Flow Rate (v _s): | | | Density (D): | | pc/mi/ln | | | | |
| PHF * N * f _{hw} * f _p | 1,062 | pc/h/ln | v _s | | S | | | | |
| Speed (S): | 55.0 | mi/h | Level of Service (LOS): | | C | | | | |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

EXISTING CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-2 I-10 Westbound

between Alameda Street and Santa Fe Avenue
AM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 12,719 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 2,761 | $\frac{v_s}{S}$ | = 85.7 |
| Speed (S): | 32.2 | Level of Service (LOS): | F |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

EXISTING CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-2 I-10 Eastbound

between Alameda Street and Santa Fe Avenue
AM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 7,756 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 1,684 | $\frac{v_s}{S}$ | = 30.6 |
| Speed (S): | 55.0 | Level of Service (LOS): | D |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

EXISTING CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-2 I-10 Westbound

between Alameda Street and Santa Fe Avenue
PM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 7,705 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.2TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 1.673 | $\frac{v_s}{S}$ | = 30.4 |
| Speed (S): | 55.0 | Level of Service (LOS): | D |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

EXISTING CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-2 I-10 Eastbound

between Alameda Street and Santa Fe Avenue
PM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 11,683 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.2TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 2.536 | $\frac{v_s}{S}$ | = 60.9 |
| Speed (S): | 41.6 | Level of Service (LOS): | F |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

EXISTING CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-3 I-10 Westbound
between Santa Fe Avenue and US 101
AM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 6,311 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 2.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 3,425 | $\frac{v_s}{S}$ | = -335.9 |
| Speed (S): | -10.2 | Level of Service (LOS): | A |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{lc} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

EXISTING CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-3 I-10 Eastbound
between Santa Fe Avenue and US 101
AM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 2,899 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 2.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 1,573 | $\frac{v_s}{S}$ | = 28.6 |
| Speed (S): | 55.0 | Level of Service (LOS): | D |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{lc} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

EXISTING CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-3 I-10 Westbound
between Santa Fe Avenue and US 101
PM Peak Hour

| SPEED AND FLOW INPUTS | |
|---|--|
| Flow Inputs
Volume (V): 6,321 veh/h
Peak Hour Factor (PHF): 0.940
% Trucks & Buses (P _T): 4.04 %
% RVs (P _R): 0.00 %
Grade Length: 0.00 mi
Grade %: 0.00 %
Terrain Type: Level
Driver Type: Commuter/Weekday | Speed Inputs
[a] Free Flow Speed: 55.0 mph
Lane Width: 11.5 ft
Right-shoulder: 4.04 ft
Lateral Clearance: 4.04 ft
Number of Ramps in 6 miles: 0.00
Centered on Segment: 0.00
Other Inputs: 2.0 lanes
Number of Lanes: 2.0 lanes |
| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
| Flow Adjustment Calculations
Driver Population Factor (f _p): 1.00
Passenger Car Equivalents for Trucks & Buses (E _T): 1.5
for RVs (E _R): 1.2
Heavy Vehicle Factor (f _{hw}): 0.980
$1 + P_T(E_T - 1) + P_R(E_R - 1)$ = 0.980 | Speed Adjustment Calculations
Lane Width (f _{lw}): 1.00
Lateral Clearance (f _{lc}): 1.00
Total Ramp Density (TRD): 1.5
Free-Flow Speed: 75.4 - f _{lw} - f _{lc} - 3.22TRD^(0.84) = 55.0 mi/h |
| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
| Flow Rate (v _s):
$\frac{V}{PHF * N * f_{hw} * f_p}$ = 3,431 pc/h/ln | Density (D):
$\frac{v_s}{S}$ = 321.3 pc/mi/ln
Level of Service (LOS): A |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{lc} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

EXISTING CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-3 I-10 Eastbound
between Santa Fe Avenue and US 101
PM Peak Hour

| SPEED AND FLOW INPUTS | |
|---|--|
| Flow Inputs
Volume (V): 5,686 veh/h
Peak Hour Factor (PHF): 0.940
% Trucks & Buses (P _T): 4.04 %
% RVs (P _R): 0.00 %
Grade Length: 0.00 mi
Grade %: 0.00 %
Terrain Type: Level
Driver Type: Commuter/Weekday | Speed Inputs
[a] Free Flow Speed: 55.0 mph
Lane Width: 11.5 ft
Right-shoulder: 4.04 ft
Lateral Clearance: 4.04 ft
Number of Ramps in 6 miles: 0.00
Centered on Segment: 0.00
Other Inputs: 2.0 lanes
Number of Lanes: 2.0 lanes |
| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
| Flow Adjustment Calculations
Driver Population Factor (f _p): 1.00
Passenger Car Equivalents for Trucks & Buses (E _T): 1.5
for RVs (E _R): 1.2
Heavy Vehicle Factor (f _{hw}): 0.980
$1 + P_T(E_T - 1) + P_R(E_R - 1)$ = 0.980 | Speed Adjustment Calculations
Lane Width (f _{lw}): 1.00
Lateral Clearance (f _{lc}): 1.00
Total Ramp Density (TRD): 1.5
Free-Flow Speed: 75.4 - f _{lw} - f _{lc} - 3.22TRD^(0.84) = 55.0 mi/h |
| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
| Flow Rate (v _s):
$\frac{V}{PHF * N * f_{hw} * f_p}$ = 3,086 pc/h/ln | Density (D):
$\frac{v_s}{S}$ = 217.8 pc/mi/ln
Level of Service (LOS): F |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{lc} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

EXISTING CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-4 SR 60 Westbound
between Lorena Street and Indiana Street
AM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 5,603 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|---------|
| Flow Rate (v _s): | | Density (D): | pc/h/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 1,216 | $\frac{v_s}{S}$ | = 22.1 |
| Speed (S): | 55.0 | Level of Service (LOS): | C |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

EXISTING CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-4 SR 60 Eastbound
between Lorena Street and Indiana Street
AM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 4,555 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|-------|-------------------------|---------|
| Flow Rate (v _s): | | Density (D): | pc/h/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 989 | $\frac{v_s}{S}$ | = 18.0 |
| Speed (S): | 55.0 | Level of Service (LOS): | B |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

EXISTING CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-4 SR 60 Westbound
between Lorena Street and Indiana Street
PM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 6,224 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|-----------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 1,351 | $\frac{v_s}{S}$ | = 24.6 |
| Speed (S): | 55.0 mi/h | Level of Service (LOS): | C |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{lc} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

EXISTING CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-4 SR 60 Eastbound
between Lorena Street and Indiana Street
PM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 7,123 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|-----------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 1,546 | $\frac{v_s}{S}$ | = 28.1 |
| Speed (S): | 55.0 mi/h | Level of Service (LOS): | D |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{lc} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

EXISTING CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-5 I-5 Southbound
between Indiana Street and SR-60
PM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 5,415 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 1,176 | $\frac{v_s}{S}$ | = 21.4 |
| Speed (S): | 55.0 | Level of Service (LOS): | C |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{lc} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

EXISTING CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-5 I-5 Northbound
between Indiana Street and SR-60
PM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 6,071 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 1,318 | $\frac{v_s}{S}$ | = 24.0 |
| Speed (S): | 55.0 | Level of Service (LOS): | C |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{lc} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

EXISTING CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-6 I-5 Southbound

between Fourth Street and Cesar E Chavez Avenue
AM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 7,975 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.2TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|-----------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{pw} * f_p}$ | = 1,731 | $\frac{v_s}{S}$ | = 31.5 |
| Speed (S): | 55.0 mi/h | Level of Service (LOS): | D |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

EXISTING CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-6 I-5 Northbound

between Fourth Street and Cesar E Chavez Avenue
AM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 7,250 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.2TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|-----------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{pw} * f_p}$ | = 1,574 | $\frac{v_s}{S}$ | = 28.6 |
| Speed (S): | 55.0 mi/h | Level of Service (LOS): | D |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

EXISTING CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-6 I-5 Southbound

between Fourth Street and Cesar E Chavez Avenue
PM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 5,680 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|-----------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 1,233 | $\frac{v_s}{S}$ | = 22.4 |
| Speed (S): | 55.0 mi/h | Level of Service (LOS): | C |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{lc} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

EXISTING CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-6 I-5 Northbound

between Fourth Street and Cesar E Chavez Avenue
PM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 7,880 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|-----------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 1,711 | $\frac{v_s}{S}$ | = 31.1 |
| Speed (S): | 55.0 mi/h | Level of Service (LOS): | D |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{lc} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-7 US 101 Southbound

*between Fourth Street and First Street
AM Peak Hour*

| SPEED AND FLOW INPUTS | |
|---|--|
| Flow Inputs
Volume (V): 3,119 veh/h
Peak Hour Factor (PHF): 0.940
% Trucks & Buses (P _t): 4.04 %
% RVs (P _r): 0.00 %
Grade Length: mi
Grade %: %
Terrain Type: Level
Driver Type: Commuter/Weekday | Speed Inputs
[a] Free Flow Speed: 55.0 mph
Lane Width: ft
Right-shoulder Lateral Clearance: ft
Number of Ramps in 6 miles
Centered on Segment: ramps
Other Inputs: lanes
Number of Lanes: 3.0 |
| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
| Flow Adjustment Calculations
Driver Population Factor (f _d): 1.00
Passenger Car Equivalents for Trucks & Buses (E _t): 1.5
for RVs (E _r): 1.2
Heavy Vehicle Factor (f _{hw}):
$\frac{1}{1 + P_t(E_t - 1) + P_r(E_r - 1)}$ = 0.980 | Speed Adjustment Calculations
Lane Width (f _{lw}): mi/h
Lateral Clearance (f _{lc}): mi/h
Total Ramp Density (TRD): ramps/mi
Free-Flow Speed:
$75.4 - f_{lw} - f_{lc} - 3.22TRD(0.84)$ = mi/h |
| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
| Flow Rate (v ₀):
$\frac{PHF * N * f_{HV} * f_p}{V}$ = 1,129 pc/h/in | Density (D):
$\frac{v_0}{S}$ = 20.5 pc/mi/in |
| Speed (S):
$PHF * N * f_{HV} * f_p$ = 55.0 mi/h | Level of Service (LOS): C |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010. Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S ; FFS, ψ ; from Exhibits 11-5 and 11-6; E_T/E_R from Exhibits 11-10 through 11-13; f_w from Exhibit 11-8; f_c from Exhibit 11-9; f_d from Page 11-18.

a) Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-7 US 101 Northbound

*between Fourth Street and First Street
AM Peak Hour*

| SPEED AND FLOW INPUTS | | | | | |
|--|------------------|---------|---|------------------------|----------|
| Flow Inputs | | | Speed Inputs | | |
| Volume (V): | 3,919 | veh/h | a) Free Flow Speed: | 55.0 | mph |
| Peak Hour Factor (PHF): | 0.940 | | Lane Width: | _____ | ft |
| % Trucks & Buses (P _t): | 4.04 | % | Right-shoulder | _____ | |
| % RVs (P _r): | 0.00 | % | Lateral Clearance: | _____ | ft |
| Grade Length: | _____ | mi | Number of Ramps in 6 miles | _____ | |
| Grade %: | _____ | % | Centered on Segment: | _____ | ramps |
| Terrain Type: | Level | | Other Inputs | _____ | |
| Driver Type: | Commuter/Weekday | | Number of Lanes: | 3.0 | lanes |
| | | | | | |
| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | | | |
| Flow Adjustment Calculations | | | Speed Adjustment Calculations | | |
| Driver Population Factor (f _p): | 1.00 | | Lane Width (f _w): | _____ | mi/h |
| Passenger Car Equivalents
for Trucks & Buses (E _t): | 1.5 | | Lateral Clearance (f _c): | _____ | mi/h |
| for RVs (E _r): | 1.2 | | Total Ramp Density (TRD): | _____ | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | _____ | | Free-Flow Speed: | _____ | |
| $\frac{1}{1 + P_t(E_t - 1) + P_r(E_r - 1)}$ | = 0.980 | | 75.4 - f _{fw} - f _c | _____ | |
| | | | - 3.22TRD*(0.84) | = _____ | mi/h |
| | | | | | |
| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | | | |
| Flow Rate (v _s): | _____ | | Density (D): | v _s = _____ | pc/mi/in |
| V | = 1,418 | pc/h/in | S | | |
| PHF * N * f _{hw} * f _p | _____ | | Speed (S): | 55.0 | mi/h |
| | | | Level of Service (LOS): | C | |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010. Adjustment factors from HCM 2010 Chapter 11 as follows: LOS 5, FFS, w , from Exhibits 11-5 and 11-6; E_v/E_r from Exhibits 11-10 through 11-13; f_{w} from Exhibit 11-8; f_c from Exhibit 11-9; f_p from Page 11-18.

[a] Free Flow Speed of 55 m/h was used for segments at Caltrans' request.

[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request.

EXISTING CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-7 US 101 Southbound
between Fourth Street and First Street
PM Peak Hour

| SPEED AND FLOW INPUTS | |
|--|-------------------------------|
| Flow Inputs | Speed Inputs |
| Volume (V): 3,133 veh/h | [a] Free Flow Speed: 55.0 mph |
| Peak Hour Factor (PHF): 0.940 | Lane Width: ft |
| % Trucks & Buses (P _T): 4.04 % | Right-shoulder |
| % RVs (P _R): 0.00 % | Lateral Clearance: ft |
| Grade Length: mi | Number of Ramps in 6 miles |
| Grade %: % | Centered on Segment: ramps |
| Terrain Type: Level | Other Inputs |
| Driver Type: Commuter/Weekday | Number of Lanes: 3.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
|---|---|
| Flow Adjustment Calculations | Speed Adjustment Calculations |
| Driver Population Factor (f _p): 1.00 | Lane Width (f _{lw}): mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): 1.5 | Lateral Clearance (f _{lc}): mi/h |
| for RVs (E _R): 1.2 | Total Ramp Density (TRD): ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | Free-Flow Speed: 75.4 - f _{lw} - f _{lc} |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) = 0.980 | - 3.22TRD^(0.84) = mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
|--|---------------------------------|
| Flow Rate (v _s): | Density (D): |
| $\frac{V}{PHF * N * f_{pw} * f_p} = 1.134$ pc/h/ln | $\frac{v_p}{S} = 20.6$ pc/mi/ln |
| Speed (S): 55.0 mi/h | Level of Service (LOS): C |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

EXISTING CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-7 US 101 Northbound
between Fourth Street and First Street
PM Peak Hour

| SPEED AND FLOW INPUTS | |
|--|-------------------------------|
| Flow Inputs | Speed Inputs |
| Volume (V): 4,003 veh/h | [a] Free Flow Speed: 55.0 mph |
| Peak Hour Factor (PHF): 0.940 | Lane Width: ft |
| % Trucks & Buses (P _T): 4.04 % | Right-shoulder |
| % RVs (P _R): 0.00 % | Lateral Clearance: ft |
| Grade Length: mi | Number of Ramps in 6 miles |
| Grade %: % | Centered on Segment: ramps |
| Terrain Type: Level | Other Inputs |
| Driver Type: Commuter/Weekday | Number of Lanes: 3.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
|---|---|
| Flow Adjustment Calculations | Speed Adjustment Calculations |
| Driver Population Factor (f _p): 1.00 | Lane Width (f _{lw}): mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): 1.5 | Lateral Clearance (f _{lc}): mi/h |
| for RVs (E _R): 1.2 | Total Ramp Density (TRD): ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | Free-Flow Speed: 75.4 - f _{lw} - f _{lc} |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) = 0.980 | - 3.22TRD^(0.84) = mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
|--|---------------------------------|
| Flow Rate (v _s): | Density (D): |
| $\frac{V}{PHF * N * f_{pw} * f_p} = 1.448$ pc/h/ln | $\frac{v_p}{S} = 26.3$ pc/mi/ln |
| Speed (S): 55.0 mi/h | Level of Service (LOS): D |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; E_T/E_R from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

EXISTING WITH PROJECT CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-1 I-10 Westbound

between *San Pedro Street/Central Avenue and Alameda Street*
AM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 6,324 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | ft |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|---------|
| Flow Rate (v _s): | | Density (D): | pc/h/ln |
| $\frac{V}{PHF * N * f_{pw} * f_p}$ | = 1.373 | $\frac{v_s}{S}$ | = 25.0 |
| Speed (S): | 55.0 | Level of Service (LOS): | C |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

EXISTING WITH PROJECT CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-1 I-10 Eastbound

between *San Pedro Street/Central Avenue and Alameda Street*
AM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 2,903 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | ft |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|-------|-------------------------|---------|
| Flow Rate (v _s): | | Density (D): | pc/h/ln |
| $\frac{V}{PHF * N * f_{pw} * f_p}$ | = 630 | $\frac{v_s}{S}$ | = 11.5 |
| Speed (S): | 55.0 | Level of Service (LOS): | B |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

EXISTING WITH PROJECT CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-1 I-10 Westbound

between San Pedro Street/Central Avenue and Alameda Street
PM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 5,693 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | ft |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 1,236 | $\frac{v_s}{S}$ | = 22.5 |
| Speed (S): | 55.0 | Level of Service (LOS): | C |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

EXISTING WITH PROJECT CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-1 I-10 Eastbound

between San Pedro Street/Central Avenue and Alameda Street
PM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 4,917 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | ft |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 1,068 | $\frac{v_s}{S}$ | = 19.4 |
| Speed (S): | 55.0 | Level of Service (LOS): | C |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

EXISTING WITH PROJECT CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-2 I-10 Westbound

between Alameda Street and Santa Fe Avenue
AM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 12,725 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{pw} * f_p}$ | = 2,763 | $\frac{v_s}{S}$ | = 86.1 |
| Speed (S): | 32.1 | Level of Service (LOS): | F |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

EXISTING WITH PROJECT CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-2 I-10 Eastbound

between Alameda Street and Santa Fe Avenue
AM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 7,760 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{pw} * f_p}$ | = 1,685 | $\frac{v_s}{S}$ | = 30.6 |
| Speed (S): | 55.0 | Level of Service (LOS): | D |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

EXISTING WITH PROJECT CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-2 I-10 Westbound

between Alameda Street and Santa Fe Avenue
PM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 7,710 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 1.674 | $\frac{v_s}{S}$ | = 30.4 |
| Speed (S): | 55.0 | Level of Service (LOS): | D |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{lc} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

EXISTING WITH PROJECT CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-2 I-10 Eastbound

between Alameda Street and Santa Fe Avenue
PM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 11,689 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 2.538 | $\frac{v_s}{S}$ | = 61.1 |
| Speed (S): | 41.6 | Level of Service (LOS): | F |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{lc} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

EXISTING WITH PROJECT CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-3 I-10 Westbound

between Santa Fe Avenue and US 101
AM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 6,328 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | ft |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 2.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|------------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{pw} * f_p}$ | = 3,435 | $\frac{v_s}{S}$ | = -312.2 |
| Speed (S): | -11.0 mi/h | Level of Service (LOS): | A |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

EXISTING WITH PROJECT CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-3 I-10 Eastbound

between Santa Fe Avenue and US 101
AM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 2,912 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | ft |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 2.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|-----------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{pw} * f_p}$ | = 1,581 | $\frac{v_s}{S}$ | = 28.7 |
| Speed (S): | 55.0 mi/h | Level of Service (LOS): | D |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

EXISTING WITH PROJECT CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-3 I-10 Westbound

between Santa Fe Avenue and US 101
PM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 6,351 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 2.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|------------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{pw} * f_p}$ | = 3,447 | $\frac{v_s}{S}$ | = -287.9 |
| Speed (S): | -12.0 mi/h | Level of Service (LOS): | A |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

EXISTING WITH PROJECT CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-3 I-10 Eastbound

between Santa Fe Avenue and US 101
PM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 5,697 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 2.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|-----------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{pw} * f_p}$ | = 3,092 | $\frac{v_s}{S}$ | = 224.3 |
| Speed (S): | 13.8 mi/h | Level of Service (LOS): | F |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

EXISTING WITH PROJECT CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-4 SR 60 Westbound
between Lorena Street and Indiana Street
AM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 5,609 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| Heavy Vehicle Factor (f _{hw}): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| | | Free-Flow Speed: | |
| | | 75.4 - f _{lw} - f _{lc} | |
| | | - 3.22TRD^(0.84) | = |
| | | | mi/h |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | | |
| | 0.980 | | |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|--|-------|-------------------------|-------------------------------|
| Flow Rate (v _s): | | Density (D): | v _s = 22.1 pc/mi/h |
| PHF * N * f _{pw} * f _p | 1,218 | Speed (S): | 55.0 mi/h |
| | | Level of Service (LOS): | C |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

EXISTING WITH PROJECT CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-4 SR 60 Eastbound
between Lorena Street and Indiana Street
AM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 4,564 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| Heavy Vehicle Factor (f _{hw}): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| | | Free-Flow Speed: | |
| | | 75.4 - f _{lw} - f _{lc} | |
| | | - 3.22TRD^(0.84) | = |
| | | | mi/h |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | | |
| | 0.980 | | |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|--|-----|-------------------------|-------------------------------|
| Flow Rate (v _s): | | Density (D): | v _s = 18.0 pc/mi/h |
| PHF * N * f _{pw} * f _p | 991 | Speed (S): | 55.0 mi/h |
| | | Level of Service (LOS): | B |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

EXISTING WITH PROJECT CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-4 SR 60 Westbound

between Lorena Street and Indiana Street
PM Peak Hour

| SPEED AND FLOW INPUTS | |
|---|---|
| Flow Inputs
Volume (V): 6,235 veh/h
Peak Hour Factor (PHF): 0.940
% Trucks & Buses (P _T): 4.04 %
% RVs (P _R): 0.00 %
Grade Length: 0.00 mi
Grade %: 0.00 %
Terrain Type: Level
Driver Type: Commuter/Weekday | Speed Inputs
[a] Free Flow Speed: 55.0 mph
Lane Width: 11.5 ft
Right-shoulder: 4.0 ft
Lateral Clearance: 4.0 ft
Number of Ramps in 6 miles: 0
Centered on Segment: 0
Other Inputs: 5.0 lanes |
| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
| Flow Adjustment Calculations
Driver Population Factor (f _p): 1.00
Passenger Car Equivalents for Trucks & Buses (E _T): 1.5
for RVs (E _R): 1.2
Heavy Vehicle Factor (f _{hw}): 1
$1 + P_T(E_T - 1) + P_R(E_R - 1)$ = 0.980 | Speed Adjustment Calculations
Lane Width (f _{lw}): 11.5 mi/h
Lateral Clearance (f _{lc}): 4.0 mi/h
Total Ramp Density (TRD): 0
Free-Flow Speed: 75.4 - f _{lw} - f _{lc} - 3.22TRD^(0.84) = 55.0 mi/h |
| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
| Flow Rate (v _s):
$\frac{V}{PHF * N * f_{hw} * f_p}$ = 1,354 pc/h/ln | Density (D):
$\frac{v_s}{S}$ = 24.6 pc/mi/ln
Level of Service (LOS): C |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{lc} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

EXISTING WITH PROJECT CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-4 SR 60 Eastbound

between Lorena Street and Indiana Street
PM Peak Hour

| SPEED AND FLOW INPUTS | |
|---|---|
| Flow Inputs
Volume (V): 7,131 veh/h
Peak Hour Factor (PHF): 0.940
% Trucks & Buses (P _T): 4.04 %
% RVs (P _R): 0.00 %
Grade Length: 0.00 mi
Grade %: 0.00 %
Terrain Type: Level
Driver Type: Commuter/Weekday | Speed Inputs
[a] Free Flow Speed: 55.0 mph
Lane Width: 11.5 ft
Right-shoulder: 4.0 ft
Lateral Clearance: 4.0 ft
Number of Ramps in 6 miles: 0
Centered on Segment: 0
Other Inputs: 5.0 lanes |
| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
| Flow Adjustment Calculations
Driver Population Factor (f _p): 1.00
Passenger Car Equivalents for Trucks & Buses (E _T): 1.5
for RVs (E _R): 1.2
Heavy Vehicle Factor (f _{hw}): 1
$1 + P_T(E_T - 1) + P_R(E_R - 1)$ = 0.980 | Speed Adjustment Calculations
Lane Width (f _{lw}): 11.5 mi/h
Lateral Clearance (f _{lc}): 4.0 mi/h
Total Ramp Density (TRD): 0
Free-Flow Speed: 75.4 - f _{lw} - f _{lc} - 3.22TRD^(0.84) = 55.0 mi/h |
| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
| Flow Rate (v _s):
$\frac{V}{PHF * N * f_{hw} * f_p}$ = 1,548 pc/h/ln | Density (D):
$\frac{v_s}{S}$ = 28.1 pc/mi/ln
Level of Service (LOS): D |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{lc} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

EXISTING WITH PROJECT CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-5 I-5 Southbound
between Indiana Street and SR-60
AM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 9,216 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | 0.980 | - 3.2TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|---------|
| Flow Rate (v _s): | | Density (D): | pc/h/ln |
| $\frac{V}{PHF * N * f_{pw} * f_p}$ | = 2,001 | $\frac{v_s}{S}$ | = 37.1 |
| Speed (S): | 54.0 | Level of Service (LOS): | E |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

EXISTING WITH PROJECT CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-5 I-5 Northbound
between Indiana Street and SR-60
AM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 5,938 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | 0.980 | - 3.2TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|---------|
| Flow Rate (v _s): | | Density (D): | pc/h/ln |
| $\frac{V}{PHF * N * f_{pw} * f_p}$ | = 1,289 | $\frac{v_s}{S}$ | = 23.4 |
| Speed (S): | 55.0 | Level of Service (LOS): | C |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

EXISTING WITH PROJECT CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-5 I-5 Southbound
between Indiana Street and SR-60
PM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 5,426 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | 0.980 | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{pw} * f_p}$ | = 1.178 | $\frac{v_s}{S}$ | = 21.4 |
| Speed (S): | 55.0 | Level of Service (LOS): | C |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

EXISTING WITH PROJECT CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-5 I-5 Northbound
between Indiana Street and SR-60
PM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 6,079 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | 0.980 | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{pw} * f_p}$ | = 1.320 | $\frac{v_s}{S}$ | = 24.0 |
| Speed (S): | 55.0 | Level of Service (LOS): | C |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; E_T/E_R from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

EXISTING WITH PROJECT CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-6 I-5 Southbound

between Fourth Street and Cesar E Chavez Avenue
AM Peak Hour

| SPEED AND FLOW INPUTS | |
|---|---|
| Flow Inputs
Volume (V): 7,986 veh/h
Peak Hour Factor (PHF): 0.940
% Trucks & Buses (P _T): 4.04 %
% RVs (P _R): 0.00 %
Grade Length: _____ mi
Grade %: _____ %
Terrain Type: Level
Driver Type: Commuter/Weekday | Speed Inputs
[a] Free Flow Speed: 55.0 mph
Lane Width: _____ ft
Right-shoulder: _____ ft
Lateral Clearance: _____ ft
Number of Ramps in 6 miles: _____
Centered on Segment: _____
Other Inputs: _____
Number of Lanes: 5.0 lanes |
| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
| Flow Adjustment Calculations
Driver Population Factor (f _p): 1.00
Passenger Car Equivalents for Trucks & Buses (E _T): 1.5
for RVs (E _R): 1.2
Heavy Vehicle Factor (f _{hw}): _____
$1 + P_T(E_T - 1) + P_R(E_R - 1)$ = 0.980 | Speed Adjustment Calculations
Lane Width (f _{lw}): _____ mi/h
Lateral Clearance (f _{lc}): _____ mi/h
Total Ramp Density (TRD): _____ ramps/mi
Free-Flow Speed: _____
$75.4 - f_{lw} - f_{lc}$
$- 3.22TRD \wedge (0.84)$ = _____ mi/h |
| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
| Flow Rate (v _s):
$\frac{V}{PHF * N * f_{hw} * f_p}$ = 1.734 pc/h/ln | Density (D): _____ S = 31.5 pc/mi/ln
Level of Service (LOS): D |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.

[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

EXISTING WITH PROJECT CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-6 I-5 Northbound

between Fourth Street and Cesar E Chavez Avenue
AM Peak Hour

| SPEED AND FLOW INPUTS | |
|---|---|
| Flow Inputs
Volume (V): 7,260 veh/h
Peak Hour Factor (PHF): 0.940
% Trucks & Buses (P _T): 4.04 %
% RVs (P _R): 0.00 %
Grade Length: _____ mi
Grade %: _____ %
Terrain Type: Level
Driver Type: Commuter/Weekday | Speed Inputs
[a] Free Flow Speed: 55.0 mph
Lane Width: _____ ft
Right-shoulder: _____ ft
Lateral Clearance: _____ ft
Number of Ramps in 6 miles: _____
Centered on Segment: _____
Other Inputs: _____
Number of Lanes: 5.0 lanes |
| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
| Flow Adjustment Calculations
Driver Population Factor (f _p): 1.00
Passenger Car Equivalents for Trucks & Buses (E _T): 1.5
for RVs (E _R): 1.2
Heavy Vehicle Factor (f _{hw}): _____
$1 + P_T(E_T - 1) + P_R(E_R - 1)$ = 0.980 | Speed Adjustment Calculations
Lane Width (f _{lw}): _____ mi/h
Lateral Clearance (f _{lc}): _____ mi/h
Total Ramp Density (TRD): _____ ramps/mi
Free-Flow Speed: _____
$75.4 - f_{lw} - f_{lc}$
$- 3.22TRD \wedge (0.84)$ = _____ mi/h |
| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
| Flow Rate (v _s):
$\frac{V}{PHF * N * f_{hw} * f_p}$ = 1.576 pc/h/ln | Density (D): _____ S = 28.7 pc/mi/ln
Level of Service (LOS): D |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.

[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

EXISTING WITH PROJECT CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-6 I-5 Southbound

between Fourth Street and Cesar E Chavez Avenue
PM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 5,699 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{pw} * f_p}$ | = 1,237 | $\frac{v_s}{S}$ | = 22.5 |
| Speed (S): | 55.0 | Level of Service (LOS): | C |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

EXISTING WITH PROJECT CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-6 I-5 Northbound

between Fourth Street and Cesar E Chavez Avenue
PM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 7,888 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{pw} * f_p}$ | = 1,713 | $\frac{v_s}{S}$ | = 31.1 |
| Speed (S): | 55.0 | Level of Service (LOS): | D |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-7 US 101 Southbound

*between Fourth Street and First Street
AM Peak Hour*

| SPEED AND FLOW INPUTS | |
|--|--|
| <div> <div>Flow Inputs</div> <div> <div>Volume (V): 3,125 veh/h</div> <div>Peak Hour Factor (PHF): 0.940</div> <div>% Trucks & Buses (P_t): 4.04 %</div> <div>% RVs (P_r): 0.00 %</div> <div>Grade Length: mi</div> <div>Grade %:</div> <div>Terrain Type:</div> <div>Driver Type: Commuter/Weekday</div> </div> </div> | |
| <div> <div>Speed Inputs</div> <div> <div>[a] Free Flow Speed: 55.0 mph</div> <div>Lane Width: ft</div> <div>Right-shoulder Lateral Clearance: ft</div> <div>Number of Ramps in 6 miles Centered on Segment: ramps</div> <div>Other Inputs</div> <div>Number of Lanes: 3.0 lanes</div> </div> </div> | |
| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
| <div> <div>Flow Adjustment Calculations</div> <div> <div>Driver Population Factor (f_p): 1.00</div> <div>Passenger Car Equivalents for Trucks & Buses (E_t): 1.5</div> <div>for RVs (E_r): 1.2</div> <div>Heavy Vehicle Factor (f_{hw}): 0.980</div> <div> $1 + P_t \cdot (E_t - 1) + P_r \cdot (E_r - 1)$ </div> </div> </div> | <div> <div>Speed Adjustment Calculations</div> <div> <div>Lane Width (f_w): mi/h</div> <div>Lateral Clearance (f_l): mi/h</div> <div>Total Ramp Density (TRD): ramps/mi</div> <div>Free-Flow Speed: 75.4 - f_w - f_{lc}</div> <div> $- 3.22TRD \cdot (0.84) = \text{mi/h}$ </div> </div> </div> |
| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
| <div> <div>Flow Rate (v₀): V</div> <div> $PHF * N * f_{hw} * f_p$ </div> </div> | <div> <div>Density (D): v₀ S</div> <div>Level of Service (LOS): C</div> </div> |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010. Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S ; FFS, ψ ; from Exhibits 11-5 and 11-6; E_f/E_r from Exhibits 11-10 through 11-13; f_w from Exhibit 11-8; f_c from Exhibit 11-9; f_d from Page 11-18.

a) Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-7 US 101 Northbound

*between Fourth Street and First Street
AM Peak Hour*

| SPEED AND FLOW INPUTS | |
|---|------------------|
| Flow Inputs | |
| Volume (V): | 3.919 veh/h |
| Peak Hour Factor (PHF): | 0.940 |
| % Trucks & Buses (P _t): | 4.04 % |
| % RVs (P _r): | 0.00 % |
| Grade Length: | mi |
| Grade %: | % |
| Terrain Type: | Level |
| Driver Type: | Commuter/Weekday |
| Speed Inputs | |
| [a] Free Flow Speed: | 55.0 mph |
| Lane Width: | ft |
| Right-shoulder | |
| Lateral Clearance: | ft |
| Number of Ramps in 6 miles | |
| Centered on Segment: | ramps |
| Other Inputs | |
| Number of Lanes: | 3.0 lanes |
| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
| Flow Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 |
| Passenger Car Equivalents for Trucks & Buses (E _t): | 1.5 |
| for RVs (E _r): | 1.2 |
| Heavy Vehicle Factor (f _{hw}): | |
| $1 + P_t(E_t - 1) + P_r(E_r - 1)$ | 0.980 |
| Speed Adjustment Calculations | |
| Lane Width (f _{lw}): | mi/h |
| Lateral Clearance (f _{lc}): | mi/h |
| Total Ramp Density (TRD): | ramps/mi |
| Free-Flow Speed: | |
| $75.4 - f_{lc} - f_{lw} - 3.22TRD(0.84)$ | mi/h |
| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
| Flow Rate (v ₀): | |
| $PHF * N * f_{pw} * f_p$ | |
| Density (D): | pc/h/ln |
| $v_0 = \frac{V}{S}$ | 25.8 pc/mi/ln |
| Speed (S): | mi/h |
| Level of Service (LOS): | C |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010. Adjustment factors from HCM 2010 Chapter 11 as follows: LOS 5, FFS, w , from Exhibits 11-5 and 11-6; E_v/E_r from Exhibits 11-10 through 11-13; f_{w} from Exhibit 11-8; f_c from Exhibit 11-9; f_p from Page 11-18.

[a] Free Flow Speed of 55 m/h was used for segments at Caltrans' request.

[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request.

EXISTING WITH PROJECT CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-7 US 101 Southbound
between Fourth Street and First Street
PM Peak Hour

| SPEED AND FLOW INPUTS | |
|--|-------------------------------|
| Flow Inputs | Speed Inputs |
| Volume (V): 3,144 veh/h | [a] Free Flow Speed: 55.0 mph |
| Peak Hour Factor (PHF): 0.940 | Lane Width: ft |
| % Trucks & Buses (P _T): 4.04 % | Right-shoulder |
| % RVs (P _R): 0.00 % | Lateral Clearance: ft |
| Grade Length: mi | Number of Ramps in 6 miles |
| Grade %: % | Centered on Segment: ramps |
| Terrain Type: Level | Other Inputs |
| Driver Type: Commuter/Weekday | Number of Lanes: 3.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
|---|---|
| Flow Adjustment Calculations | Speed Adjustment Calculations |
| Driver Population Factor (f _p): 1.00 | Lane Width (f _{lw}): mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): 1.5 | Lateral Clearance (f _{lc}): mi/h |
| for RVs (E _R): 1.2 | Total Ramp Density (TRD): ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | Free-Flow Speed: 75.4 - f _{lw} - f _{lc} |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) = 0.980 | - 3.22TRD^(0.84) = mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
|--|---------------------------------|
| Flow Rate (v _s): | Density (D): |
| $\frac{V}{PHF * N * f_{pw} * f_p} = 1.138$ pc/h/ln | $\frac{v_s}{S} = 20.7$ pc/mi/ln |
| Speed (S): 55.0 mi/h | Level of Service (LOS): C |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

EXISTING WITH PROJECT CONDITIONS (YEAR 2016)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-7 US 101 Northbound
between Fourth Street and First Street
PM Peak Hour

| SPEED AND FLOW INPUTS | |
|--|-------------------------------|
| Flow Inputs | Speed Inputs |
| Volume (V): 4,003 veh/h | [a] Free Flow Speed: 55.0 mph |
| Peak Hour Factor (PHF): 0.940 | Lane Width: ft |
| % Trucks & Buses (P _T): 4.04 % | Right-shoulder |
| % RVs (P _R): 0.00 % | Lateral Clearance: ft |
| Grade Length: mi | Number of Ramps in 6 miles |
| Grade %: % | Centered on Segment: ramps |
| Terrain Type: Level | Other Inputs |
| Driver Type: Commuter/Weekday | Number of Lanes: 3.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
|---|---|
| Flow Adjustment Calculations | Speed Adjustment Calculations |
| Driver Population Factor (f _p): 1.00 | Lane Width (f _{lw}): mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): 1.5 | Lateral Clearance (f _{lc}): mi/h |
| for RVs (E _R): 1.2 | Total Ramp Density (TRD): ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | Free-Flow Speed: 75.4 - f _{lw} - f _{lc} |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) = 0.980 | - 3.22TRD^(0.84) = mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
|--|---------------------------------|
| Flow Rate (v _s): | Density (D): |
| $\frac{V}{PHF * N * f_{pw} * f_p} = 1.448$ pc/h/ln | $\frac{v_s}{S} = 26.3$ pc/mi/ln |
| Speed (S): 55.0 mi/h | Level of Service (LOS): D |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; E_T/E_R from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2022)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-1 I-10 Westbound

between San Pedro Street/Central Avenue and Alameda Street
AM Peak Hour

| SPEED AND FLOW INPUTS | |
|---|--|
| Flow Inputs
Volume (V): 7,425 veh/h
Peak Hour Factor (PHF): 0.940
% Trucks & Buses (P _T): 4.04 %
% RVs (P _R): 0.00 %
Grade Length: 0.00 mi
Grade %: 0.00 %
Terrain Type: Level
Driver Type: Commuter/Weekday | Speed Inputs
[a] Free Flow Speed: 55.0 mph
Lane Width: 11.5 ft
Right-shoulder: 11.5 ft
Lateral Clearance: 11.5 ft
Number of Ramps in 6 miles: 0
Centered on Segment: 0
Other Inputs: 5.0 lanes
Number of Lanes: 5.0 lanes |
| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
| Flow Adjustment Calculations
Driver Population Factor (f _p): 1.00
Passenger Car Equivalents for Trucks & Buses (E _T): 1.5
for RVs (E _R): 1.2
Heavy Vehicle Factor (f _{hw}): 1
$1 + P_T(E_T - 1) + P_R(E_R - 1)$ = 0.980 | Speed Adjustment Calculations
Lane Width (f _{lw}): 11.5 mi/h
Lateral Clearance (f _{lc}): 11.5 mi/h
Total Ramp Density (TRD): 0
Free-Flow Speed: 75.4 - f _{lw} - f _{lc} - 3.22TRD^(0.84) = 55.0 mi/h |
| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
| Flow Rate (v _s):
$\frac{V}{PHF * N * f_{hw} * f_p}$ = 1,612 pc/h/ln | Density (D):
$\frac{v_s}{S}$ = 29.3 pc/mi/ln
Level of Service (LOS): D |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2022)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-1 I-10 Eastbound

between San Pedro Street/Central Avenue and Alameda Street
AM Peak Hour

| SPEED AND FLOW INPUTS | |
|---|--|
| Flow Inputs
Volume (V): 3,987 veh/h
Peak Hour Factor (PHF): 0.940
% Trucks & Buses (P _T): 4.04 %
% RVs (P _R): 0.00 %
Grade Length: 0.00 mi
Grade %: 0.00 %
Terrain Type: Level
Driver Type: Commuter/Weekday | Speed Inputs
[a] Free Flow Speed: 55.0 mph
Lane Width: 11.5 ft
Right-shoulder: 11.5 ft
Lateral Clearance: 11.5 ft
Number of Ramps in 6 miles: 0
Centered on Segment: 0
Other Inputs: 5.0 lanes
Number of Lanes: 5.0 lanes |
| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
| Flow Adjustment Calculations
Driver Population Factor (f _p): 1.00
Passenger Car Equivalents for Trucks & Buses (E _T): 1.5
for RVs (E _R): 1.2
Heavy Vehicle Factor (f _{hw}): 1
$1 + P_T(E_T - 1) + P_R(E_R - 1)$ = 0.980 | Speed Adjustment Calculations
Lane Width (f _{lw}): 11.5 mi/h
Lateral Clearance (f _{lc}): 11.5 mi/h
Total Ramp Density (TRD): 0
Free-Flow Speed: 75.4 - f _{lw} - f _{lc} - 3.22TRD^(0.84) = 55.0 mi/h |
| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
| Flow Rate (v _s):
$\frac{V}{PHF * N * f_{hw} * f_p}$ = 866 pc/h/ln | Density (D):
$\frac{v_s}{S}$ = 15.7 pc/mi/ln
Level of Service (LOS): B |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2022)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-1 I-10 Westbound

between San Pedro Street/Central Avenue and Alameda Street
PM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 7,130 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 1,548 | $\frac{v_s}{S}$ | = 28.1 |
| Speed (S): | 55.0 | Level of Service (LOS): | D |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2022)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-1 I-10 Eastbound

between San Pedro Street/Central Avenue and Alameda Street
PM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 6,177 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 1,341 | $\frac{v_s}{S}$ | = 24.4 |
| Speed (S): | 55.0 | Level of Service (LOS): | C |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2022)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-2 I-10 Westbound
between Alameda Street and Santa Fe Avenue
AM Peak Hour

| SPEED AND FLOW INPUTS | |
|--|-------------------------------|
| Flow Inputs | Speed Inputs |
| Volume (V): 14,183 veh/h | [a] Free Flow Speed: 55.0 mph |
| Peak Hour Factor (PHF): 0.940 | Lane Width: ft |
| % Trucks & Buses (P _T): 4.04 % | Right-shoulder |
| % RVs (P _R): 0.00 % | Lateral Clearance: ft |
| Grade Length: mi | Number of Ramps in 6 miles |
| Grade %: % | Centered on Segment: ramps |
| Terrain Type: Level | Other Inputs |
| Driver Type: Commuter/Weekday | Number of Lanes: 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
|---|---|
| Flow Adjustment Calculations | Speed Adjustment Calculations |
| Driver Population Factor (f _p): 1.00 | Lane Width (f _{lw}): mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): 1.5 | Lateral Clearance (f _{lc}): mi/h |
| for RVs (E _R): 1.2 | Total Ramp Density (TRD): ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | Free-Flow Speed: 75.4 - f _{lw} - f _{lc} |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) = 0.980 | - 3.22TRD^(0.84) = mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
|--|----------------------------------|
| Flow Rate (v _s): | Density (D): |
| $\frac{V}{PHF * N * f_{pw} * f_p}$ = 3.079 pc/h/ln | $\frac{v_p}{S}$ = 210.7 pc/mi/ln |
| Speed (S): 14.6 mi/h | Level of Service (LOS): F |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2022)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-2 I-10 Eastbound
between Alameda Street and Santa Fe Avenue
AM Peak Hour

| SPEED AND FLOW INPUTS | |
|--|-------------------------------|
| Flow Inputs | Speed Inputs |
| Volume (V): 9,148 veh/h | [a] Free Flow Speed: 55.0 mph |
| Peak Hour Factor (PHF): 0.940 | Lane Width: ft |
| % Trucks & Buses (P _T): 4.04 % | Right-shoulder |
| % RVs (P _R): 0.00 % | Lateral Clearance: ft |
| Grade Length: mi | Number of Ramps in 6 miles |
| Grade %: % | Centered on Segment: ramps |
| Terrain Type: Level | Other Inputs |
| Driver Type: Commuter/Weekday | Number of Lanes: 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
|---|---|
| Flow Adjustment Calculations | Speed Adjustment Calculations |
| Driver Population Factor (f _p): 1.00 | Lane Width (f _{lw}): mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): 1.5 | Lateral Clearance (f _{lc}): mi/h |
| for RVs (E _R): 1.2 | Total Ramp Density (TRD): ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | Free-Flow Speed: 75.4 - f _{lw} - f _{lc} |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) = 0.980 | - 3.22TRD^(0.84) = mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
|--|---------------------------------|
| Flow Rate (v _s): | Density (D): |
| $\frac{V}{PHF * N * f_{pw} * f_p}$ = 1.986 pc/h/ln | $\frac{v_p}{S}$ = 36.7 pc/mi/ln |
| Speed (S): 54.1 mi/h | Level of Service (LOS): E |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; E_T/E_R from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2022)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-2 I-10 Westbound

between Alameda Street and Santa Fe Avenue
PM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 9,237 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 2,005 | v_p | = 37.2 |
| Speed (S): | 54.0 | Level of Service (LOS): | E |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2022)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-2 I-10 Eastbound

between Alameda Street and Santa Fe Avenue
PM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 13,341 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 2,896 | v_p | = 114.3 |
| Speed (S): | 25.3 | Level of Service (LOS): | F |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2022)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-3 I-10 Westbound

between Santa Fe Avenue and US 101
AM Peak Hour

| SPEED AND FLOW INPUTS | |
|---|--|
| Flow Inputs
Volume (V): 7,721 veh/h
Peak Hour Factor (PHF): 0.940
% Trucks & Buses (P _T): 4.04 %
% RVs (P _R): 0.00 %
Grade Length: 0.00 mi
Grade %: 0.00 %
Terrain Type: Level
Driver Type: Commuter/Weekday | Speed Inputs
[a] Free Flow Speed: 55.0 mph
Lane Width: 11.5 ft
Right-shoulder: 4.0 ft
Lateral Clearance: 4.0 ft
Number of Ramps in 6 miles: 0
Centered on Segment: 0
Other Inputs: 2.0 lanes
Number of Lanes: 2.0 |
| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
| Flow Adjustment Calculations
Driver Population Factor (f _p): 1.00
Passenger Car Equivalents for Trucks & Buses (E _T): 1.5
for RVs (E _R): 1.2
Heavy Vehicle Factor (f _{hw}): 0.980
$1 + P_T(E_T - 1) + P_R(E_R - 1)$ = 0.980 | Speed Adjustment Calculations
Lane Width (f _{lw}): 11.5 mi/h
Lateral Clearance (f _{lc}): 4.0 mi/h
Total Ramp Density (TRD): 0.0 ramps/mi
Free-Flow Speed: 75.4 - f _{lw} - f _{lc} - 3.22TRD^(0.84) = 55.0 mi/h |
| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
| Flow Rate (v _s):
$\frac{V}{PHF * N * f_{hw} * f_p}$ = 4,191 pc/h/ln | Density (D): $\frac{v_s}{S}$ = -48.6 pc/mi/ln
Level of Service (LOS): A |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2022)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-3 I-10 Eastbound

between Santa Fe Avenue and US 101
AM Peak Hour

| SPEED AND FLOW INPUTS | |
|---|--|
| Flow Inputs
Volume (V): 3,839 veh/h
Peak Hour Factor (PHF): 0.940
% Trucks & Buses (P _T): 4.04 %
% RVs (P _R): 0.00 %
Grade Length: 0.00 mi
Grade %: 0.00 %
Terrain Type: Level
Driver Type: Commuter/Weekday | Speed Inputs
[a] Free Flow Speed: 55.0 mph
Lane Width: 11.5 ft
Right-shoulder: 4.0 ft
Lateral Clearance: 4.0 ft
Number of Ramps in 6 miles: 0
Centered on Segment: 0
Other Inputs: 2.0 lanes
Number of Lanes: 2.0 |
| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
| Flow Adjustment Calculations
Driver Population Factor (f _p): 1.00
Passenger Car Equivalents for Trucks & Buses (E _T): 1.5
for RVs (E _R): 1.2
Heavy Vehicle Factor (f _{hw}): 0.980
$1 + P_T(E_T - 1) + P_R(E_R - 1)$ = 0.980 | Speed Adjustment Calculations
Lane Width (f _{lw}): 11.5 mi/h
Lateral Clearance (f _{lc}): 4.0 mi/h
Total Ramp Density (TRD): 0.0 ramps/mi
Free-Flow Speed: 75.4 - f _{lw} - f _{lc} - 3.22TRD^(0.84) = 55.0 mi/h |
| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
| Flow Rate (v _s):
$\frac{V}{PHF * N * f_{hw} * f_p}$ = 2,084 pc/h/ln | Density (D): $\frac{v_s}{S}$ = 39.3 pc/mi/ln
Level of Service (LOS): E |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2022)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-3 I-10 Westbound
between Santa Fe Avenue and US 101
PM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 7,869 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 2.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 4,271 | $\frac{v_s}{S}$ | = -44.6 |
| Speed (S): | -95.8 | Level of Service (LOS): | A |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; P_T/E_T from Exhibits 11-10 through 11-13; f_{lc} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_{lc} from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2022)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-3 I-10 Eastbound
between Santa Fe Avenue and US 101
PM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 6,878 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 2.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 3,733 | $\frac{v_s}{S}$ | = -100.2 |
| Speed (S): | -37.3 | Level of Service (LOS): | A |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; P_T/E_T from Exhibits 11-10 through 11-13; f_{lc} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_{lc} from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2022)

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-4 SR 60 Westbound

between Lorena Street and Indiana Street
AM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 6,387 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | ft |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 1,387 | $\frac{v_s}{S}$ | = 25.2 |
| Speed (S): | 55.0 | Level of Service (LOS): | C |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2022)

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-4 SR 60 Eastbound

between Lorena Street and Indiana Street
AM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 5,260 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | ft |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 1,142 | $\frac{v_s}{S}$ | = 20.8 |
| Speed (S): | 55.0 | Level of Service (LOS): | C |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2022)

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-4 SR 60 Westbound

between Lorena Street and Indiana Street
PM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 7,186 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _t): | 4.04 % | Right-shoulder | |
| % RVs (P _r): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _t): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _r): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _t (E _t - 1) + P _r (E _r - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{pw} * f_p}$ | = 1.560 | $\frac{v_s}{S}$ | = 28.4 |
| Speed (S): | 55.0 | Level of Service (LOS): | D |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_t from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_r from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2022)

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-4 SR 60 Eastbound

between Lorena Street and Indiana Street
PM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 8,040 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _t): | 4.04 % | Right-shoulder | |
| % RVs (P _r): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _t): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _r): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _t (E _t - 1) + P _r (E _r - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{pw} * f_p}$ | = 1.746 | $\frac{v_s}{S}$ | = 31.7 |
| Speed (S): | 55.0 | Level of Service (LOS): | D |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_t from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_r from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2022)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-5 I-5 Southbound
between Indiana Street and SR-60
AM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 9,922 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | 0.980 | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|---------|
| Flow Rate (v _s): | | Density (D): | pc/h/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 2,154 | $\frac{v_s}{S}$ | = 41.5 |
| Speed (S): | 51.9 | Level of Service (LOS): | E |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2022)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-5 I-5 Northbound
between Indiana Street and SR-60
AM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 6,455 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | 0.980 | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|---------|
| Flow Rate (v _s): | | Density (D): | pc/h/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 1,401 | $\frac{v_s}{S}$ | = 25.5 |
| Speed (S): | 55.0 | Level of Service (LOS): | C |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2022)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-5 I-5 Southbound
between Indiana Street and SR-60
PM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 6,015 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.2TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|-----------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 1,306 | $\frac{v_s}{S}$ | = 23.7 |
| Speed (S): | 55.0 mi/h | Level of Service (LOS): | C |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2022)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-5 I-5 Northbound
between Indiana Street and SR-60
PM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 6,555 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.2TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|-----------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 1,423 | $\frac{v_s}{S}$ | = 25.9 |
| Speed (S): | 55.0 mi/h | Level of Service (LOS): | C |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-6 I-5 Southbound

between Fourth Street and Cesar E Chavez Avenue
AM Peak Hour

| SPEED AND FLOW INPUTS | |
|--|----------------------------------|
| Flow Inputs | Speed Inputs |
| Volume (V): 9,065 veh/h | a) Free Flow Speed: 55.0 mph |
| Peak Hour Factor (PHF): 0.940 | Lane Width: _____ ft |
| % Trucks & Buses (P _t): 4.04 % | Right-shoulder |
| % RVs (P _r): 0.00 % | Lateral Clearance: _____ ft |
| Grade Length: _____ mi | Number of Ramps in 6 miles |
| Grade %: _____ % | Centered on Segment: _____ ramps |
| Terrain Type: _____ Level | Other Inputs |
| Driver Type: Commuter/Weekday | Number of Lanes: 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
|---|--|
| Flow Adjustment Calculations | Speed Adjustment Calculations |
| Driver Population Factor (f _p): 1.00 | Lane Width (f _{lw}): _____ mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _t): 1.5 | Lateral Clearance (f _{lc}): _____ mi/h |
| for RVs (E _r): 1.2 | Total Ramp Density (TRD): _____ ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | Free-Flow Speed: _____ |
| $\frac{1}{1 + P_t(E_t - 1) + P_r(E_r - 1)}$ | 75.4 - f _{lw} - f _{lc} |
| | - 3.22TRD(0.84) = _____ mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
|---|-------------------------|
| Flow Rate (v ₀): | Density (D): |
| $\frac{PHF * N * f_{w} * f_p}{V}$ | $\frac{v_0}{S}$ |
| = 1,968 pc/h/mi | = 36.2 pc/mi/in |
| Speed (S): | Level of Service (LOS): |
| 54.3 mi/h | E |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010. Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S ; FFS, ψ ; from Exhibits 11-5 and 11-6; E_f/E_r from Exhibits 11-10 through 11-13; f_w from Exhibit 11-8; f_c from Exhibit 11-9; f_d from Page 11-18.

a) Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

6668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-6 I-5 Northbound

between Fourth Street and Cesar E Chavez Avenue
AM Peak Hour

| SPEED AND FLOW INPUTS | |
|---|------------------|
| Flow Inputs | |
| Volume (V): | 8,228 veh/h |
| Peak Hour Factor (PHF): | 0.940 |
| % Trucks & Buses (P _t): | 4.04 % |
| % RVs (P _r): | 0.00 % |
| Grade Length: | mi |
| Grade %: | % |
| Terrain Type: | Level |
| Driver Type: | Commuter/Weekday |
| Speed Inputs | |
| [a] Free Flow Speed: | 55.0 mph |
| Lane Width: | ft |
| Right-shoulder | |
| Lateral Clearance: | ft |
| Number of Ramps in 6 miles | |
| Centered on Segment: | ramps |
| Other Inputs | |
| Number of Lanes: | 5.0 lanes |
| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
| Flow Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 |
| Passenger Car Equivalents for Trucks & Buses (E _t): | 1.5 |
| for RVs (E _r): | 1.2 |
| Heavy Vehicle Factor (f _{hw}): | |
| $1 + P_t(E_t - 1) + P_r(E_r - 1)$ | 0.980 |
| Speed Adjustment Calculations | |
| Lane Width (f _w): | mi/h |
| Lateral Clearance (f _{cl}): | mi/h |
| Total Ramp Density (TRD): | ramps/mi |
| Free-Flow Speed: | |
| $75.4 - f_{wv} - f_{cl}$ | |
| $- 3.22TRD(0.84)$ | mi/h |
| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
| Flow Rate (v ₀): | |
| $PHF * N * f_{pV} * f_p$ | |
| Density (D): | pc/h/in |
| v_0 | 32.5 pc/mi/in |
| Speed (S): | mi/h |
| Level of Service (LOS): | D |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010. Adjustment factors from HCM 2010 Chapter 11 as follows: LOS 5, FFS, w , from Exhibits 11-5 and 11-6; E_v/E_r from Exhibits 11-10 through 11-13; f_{w} from Exhibit 11-8; f_c from Exhibit 11-9; f_p from Page 11-18.

[a] Free Flow Speed of 55 m/h was used for segments at Caltrans' request.

[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request.

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2022)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-6 I-5 Southbound

between Fourth Street and Cesar E Chavez Avenue
PM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 6,689 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.2TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{pw} * f_p}$ | = 1,452 | $\frac{v_s}{S}$ | = 26.4 |
| Speed (S): | 55.0 | Level of Service (LOS): | D |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2022)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-6 I-5 Northbound

between Fourth Street and Cesar E Chavez Avenue
PM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 9,093 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.2TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{pw} * f_p}$ | = 1,974 | $\frac{v_s}{S}$ | = 36.4 |
| Speed (S): | 54.3 | Level of Service (LOS): | E |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2022)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-7 US 101 Southbound
between Fourth Street and First Street
AM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 3,398 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 3.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|--|-------|-------------------------|-----------------------------------|
| Flow Rate (v _s): | | Density (D): | v _s / S = 22.4 pc/mi/h |
| PHF * N * f _{hw} * f _p | 1,230 | Speed (S): | 55.0 mi/h |
| | | Level of Service (LOS): | C |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2022)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-7 US 101 Northbound
between Fourth Street and First Street
AM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 4,253 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 3.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|--|-------|-------------------------|-----------------------------------|
| Flow Rate (v _s): | | Density (D): | v _s / S = 28.0 pc/mi/h |
| PHF * N * f _{hw} * f _p | 1,539 | Speed (S): | 55.0 mi/h |
| | | Level of Service (LOS): | D |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2022)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-7 US 101 Southbound
between Fourth Street and First Street
PM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 3,433 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 3.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) = | |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|--|-------|-------------------------|-------------------------------|
| Flow Rate (v _s): | | Density (D): | v _s = 22.6 pc/mi/h |
| PHF * N * f _{hw} * f _p | 1,242 | Speed (S): | 55.0 mi/h |
| | | Level of Service (LOS): | C |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2022)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-7 US 101 Northbound
between Fourth Street and First Street
PM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 4,368 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 3.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) = | |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|--|-------|-------------------------|-------------------------------|
| Flow Rate (v _s): | | Density (D): | v _s = 28.7 pc/mi/h |
| PHF * N * f _{hw} * f _p | 1,581 | Speed (S): | 55.0 mi/h |
| | | Level of Service (LOS): | D |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITH PROJECT CONDITIONS (YEAR 2022)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-1 I-10 Westbound

between San Pedro Street/Central Avenue and Alameda Street
AM Peak Hour

| SPEED AND FLOW INPUTS | |
|--|-------------------------------|
| Flow Inputs | Speed Inputs |
| Volume (V): 7,445 veh/h | [a] Free Flow Speed: 55.0 mph |
| Peak Hour Factor (PHF): 0.940 | Lane Width: ft |
| % Trucks & Buses (P _T): 4.04 % | Right-shoulder |
| % RVs (P _R): 0.00 % | Lateral Clearance: ft |
| Grade Length: mi | Number of Ramps in 6 miles |
| Grade %: % | Centered on Segment: ramps |
| Terrain Type: Level | Other Inputs |
| Driver Type: Commuter/Weekday | Number of Lanes: 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
|---|---|
| Flow Adjustment Calculations | Speed Adjustment Calculations |
| Driver Population Factor (f _p): 1.00 | Lane Width (f _{lw}): mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): 1.5 | Lateral Clearance (f _{lc}): mi/h |
| for RVs (E _R): 1.2 | Total Ramp Density (TRD): ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | Free-Flow Speed: 75.4 - f _{lw} - f _{lc} |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) = 0.980 | - 3.22TRD^(0.84) = mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
|--|---------------------------------|
| Flow Rate (v _s): | Density (D): |
| $\frac{V}{PHF * N * f_{pw} * f_p} = 1.616$ pc/h/ln | $\frac{v_s}{S} = 29.4$ pc/mi/ln |
| Speed (S): 55.0 mi/h | Level of Service (LOS): D |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITH PROJECT CONDITIONS (YEAR 2022)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-1 I-10 Eastbound

between San Pedro Street/Central Avenue and Alameda Street
AM Peak Hour

| SPEED AND FLOW INPUTS | |
|--|-------------------------------|
| Flow Inputs | Speed Inputs |
| Volume (V): 4,000 veh/h | [a] Free Flow Speed: 55.0 mph |
| Peak Hour Factor (PHF): 0.940 | Lane Width: ft |
| % Trucks & Buses (P _T): 4.04 % | Right-shoulder |
| % RVs (P _R): 0.00 % | Lateral Clearance: ft |
| Grade Length: mi | Number of Ramps in 6 miles |
| Grade %: % | Centered on Segment: ramps |
| Terrain Type: Level | Other Inputs |
| Driver Type: Commuter/Weekday | Number of Lanes: 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
|---|---|
| Flow Adjustment Calculations | Speed Adjustment Calculations |
| Driver Population Factor (f _p): 1.00 | Lane Width (f _{lw}): mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): 1.5 | Lateral Clearance (f _{lc}): mi/h |
| for RVs (E _R): 1.2 | Total Ramp Density (TRD): ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | Free-Flow Speed: 75.4 - f _{lw} - f _{lc} |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) = 0.980 | - 3.22TRD^(0.84) = mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
|--|---------------------------------|
| Flow Rate (v _s): | Density (D): |
| $\frac{V}{PHF * N * f_{pw} * f_p} = 868$ pc/h/ln | $\frac{v_s}{S} = 15.8$ pc/mi/ln |
| Speed (S): 55.0 mi/h | Level of Service (LOS): B |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITH PROJECT CONDITIONS (YEAR 2022)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-1 I-10 Westbound

between San Pedro Street/Central Avenue and Alameda Street
PM Peak Hour

| SPEED AND FLOW INPUTS | |
|---|--|
| Flow Inputs
Volume (V): 7,147 veh/h
Peak Hour Factor (PHF): 0.940
% Trucks & Buses (P _T): 4.04 %
% RVs (P _R): 0.00 %
Grade Length: 0.00 mi
Grade %: 0.00 %
Terrain Type: Level
Driver Type: Commuter/Weekday | Speed Inputs
[a] Free Flow Speed: 55.0 mph
Lane Width: ft
Right-shoulder: ft
Lateral Clearance: ft
Number of Ramps in 6 miles
Centered on Segment: ramps
Other Inputs
Number of Lanes: 5.0 lanes |
| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
| Flow Adjustment Calculations
Driver Population Factor (f _p): 1.00
Passenger Car Equivalents for Trucks & Buses (E _T): 1.5
for RVs (E _R): 1.2
Heavy Vehicle Factor (f _{hw}): 0.980
$1 + P_T(E_T - 1) + P_R(E_R - 1)$ | Speed Adjustment Calculations
Lane Width (f _{lw}): mi/h
Lateral Clearance (f _{lc}): mi/h
Total Ramp Density (TRD): ramps/mi
Free-Flow Speed: 75.4 - f _{lw} - f _{lc}
- 3.22TRD^(0.84) = mi/h
$1 + P_T(E_T - 1) + P_R(E_R - 1)$ |
| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
| Flow Rate (v _s):
$\frac{V}{PHF * N * f_{hw} * f_p}$ = 1.552 pc/h/ln | Density (D):
$\frac{v_s}{S}$ = 28.2 pc/mi/ln
Level of Service (LOS): D |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITH PROJECT CONDITIONS (YEAR 2022)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-1 I-10 Eastbound

between San Pedro Street/Central Avenue and Alameda Street
PM Peak Hour

| SPEED AND FLOW INPUTS | |
|---|--|
| Flow Inputs
Volume (V): 6,201 veh/h
Peak Hour Factor (PHF): 0.940
% Trucks & Buses (P _T): 4.04 %
% RVs (P _R): 0.00 %
Grade Length: 0.00 mi
Grade %: 0.00 %
Terrain Type: Level
Driver Type: Commuter/Weekday | Speed Inputs
[a] Free Flow Speed: 55.0 mph
Lane Width: ft
Right-shoulder: ft
Lateral Clearance: ft
Number of Ramps in 6 miles
Centered on Segment: ramps
Other Inputs
Number of Lanes: 5.0 lanes |
| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
| Flow Adjustment Calculations
Driver Population Factor (f _p): 1.00
Passenger Car Equivalents for Trucks & Buses (E _T): 1.5
for RVs (E _R): 1.2
Heavy Vehicle Factor (f _{hw}): 0.980
$1 + P_T(E_T - 1) + P_R(E_R - 1)$ | Speed Adjustment Calculations
Lane Width (f _{lw}): mi/h
Lateral Clearance (f _{lc}): mi/h
Total Ramp Density (TRD): ramps/mi
Free-Flow Speed: 75.4 - f _{lw} - f _{lc}
- 3.22TRD^(0.84) = mi/h
$1 + P_T(E_T - 1) + P_R(E_R - 1)$ |
| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
| Flow Rate (v _s):
$\frac{V}{PHF * N * f_{hw} * f_p}$ = 1.346 pc/h/ln | Density (D):
$\frac{v_s}{S}$ = 24.5 pc/mi/ln
Level of Service (LOS): C |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITH PROJECT CONDITIONS (YEAR 2022)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-2 I-10 Westbound

between Alameda Street and Santa Fe Avenue
AM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 14,189 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 3,081 | $\frac{v_s}{S}$ | = 212.7 |
| Speed (S): | 14.5 | Level of Service (LOS): | F |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITH PROJECT CONDITIONS (YEAR 2022)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-2 I-10 Eastbound

between Alameda Street and Santa Fe Avenue
AM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 9,152 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 1,987 | $\frac{v_s}{S}$ | = 36.7 |
| Speed (S): | 54.1 | Level of Service (LOS): | E |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITH PROJECT CONDITIONS (YEAR 2022)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-2 I-10 Westbound

between Alameda Street and Santa Fe Avenue
PM Peak Hour

| SPEED AND FLOW INPUTS | |
|--|-------------------------------|
| Flow Inputs | Speed Inputs |
| Volume (V): 9,242 veh/h | [a] Free Flow Speed: 55.0 mph |
| Peak Hour Factor (PHF): 0.940 | Lane Width: ft |
| % Trucks & Buses (P _T): 4.04 % | Right-shoulder |
| % RVs (P _R): 0.00 % | Lateral Clearance: ft |
| Grade Length: mi | Number of Ramps in 6 miles |
| Grade %: % | Centered on Segment: ramps |
| Terrain Type: Level | Other Inputs |
| Driver Type: Commuter/Weekday | Number of Lanes: 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
|---|---|
| Flow Adjustment Calculations | Speed Adjustment Calculations |
| Driver Population Factor (f _p): 1.00 | Lane Width (f _{lw}): mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): 1.5 | Lateral Clearance (f _{lc}): mi/h |
| for RVs (E _R): 1.2 | Total Ramp Density (TRD): ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | Free-Flow Speed: 75.4 - f _{lw} - f _{lc} |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) = 0.980 | - 3.22TRD^(0.84) = mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
|--|--|
| Flow Rate (v _s): | Density (D): v _s = 37.2 pc/mi/h |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ = 2.007 | Speed (S): 53.9 mi/h |
| | Level of Service (LOS): E |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITH PROJECT CONDITIONS (YEAR 2022)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-2 I-10 Eastbound

between Alameda Street and Santa Fe Avenue
PM Peak Hour

| SPEED AND FLOW INPUTS | |
|--|-------------------------------|
| Flow Inputs | Speed Inputs |
| Volume (V): 13,347 veh/h | [a] Free Flow Speed: 55.0 mph |
| Peak Hour Factor (PHF): 0.940 | Lane Width: ft |
| % Trucks & Buses (P _T): 4.04 % | Right-shoulder |
| % RVs (P _R): 0.00 % | Lateral Clearance: ft |
| Grade Length: mi | Number of Ramps in 6 miles |
| Grade %: % | Centered on Segment: ramps |
| Terrain Type: Level | Other Inputs |
| Driver Type: Commuter/Weekday | Number of Lanes: 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
|---|---|
| Flow Adjustment Calculations | Speed Adjustment Calculations |
| Driver Population Factor (f _p): 1.00 | Lane Width (f _{lw}): mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): 1.5 | Lateral Clearance (f _{lc}): mi/h |
| for RVs (E _R): 1.2 | Total Ramp Density (TRD): ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | Free-Flow Speed: 75.4 - f _{lw} - f _{lc} |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) = 0.980 | - 3.22TRD^(0.84) = mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
|--|---|
| Flow Rate (v _s): | Density (D): v _s = 114.8 pc/mi/h |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ = 2.898 | Speed (S): 25.2 mi/h |
| | Level of Service (LOS): F |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-3 I-10 Westbound
between Santa Fe Avenue and US 101
AM Peak Hour

| SPEED AND FLOW INPUTS | |
|--|-------------------------------|
| Flow Inputs | Speed Inputs |
| Volume (V): 7,738 veh/h | [a] Free Flow Speed: 55.0 mph |
| Peak Hour Factor (PHF): 0.940 | Lane Width: ft |
| % Trucks & Buses (P _T): 4.04 % | Right-shoulder |
| % RVs (P _R): 0.00 % | Lateral Clearance: ft |
| Grade Length: mi | Number of Ramps in 6 miles |
| Grade %: % | Centered on Segment: ramps |
| Terrain Type: Level | Other Inputs |
| Driver Type: Commuter/Weekday | Number of Lanes: 2.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
|---|---|
| Flow Adjustment Calculations | Speed Adjustment Calculations |
| Driver Population Factor (f _p): 1.00 | Lane Width (f _{lw}): mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): 1.5 | Lateral Clearance (f _{lc}): mi/h |
| for RVs (E _R): 1.2 | Total Ramp Density (TRD): ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | Free-Flow Speed: 75.4 - f _{lw} - f _{lc} |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) = 0.980 | - 3.22TRD^(0.84) = mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
|--|---|
| Flow Rate (v _s): | Density (D): v _s = -48.2 pc/mi/h |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ = 4,200 pc/h/ln | Level of Service (LOS): A |
| Speed (S): -87.2 mi/h | Level of Service (LOS): A |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-3 I-10 Eastbound
between Santa Fe Avenue and US 101
AM Peak Hour

| SPEED AND FLOW INPUTS | |
|--|-------------------------------|
| Flow Inputs | Speed Inputs |
| Volume (V): 3,852 veh/h | [a] Free Flow Speed: 55.0 mph |
| Peak Hour Factor (PHF): 0.940 | Lane Width: ft |
| % Trucks & Buses (P _T): 4.04 % | Right-shoulder |
| % RVs (P _R): 0.00 % | Lateral Clearance: ft |
| Grade Length: mi | Number of Ramps in 6 miles |
| Grade %: % | Centered on Segment: ramps |
| Terrain Type: Level | Other Inputs |
| Driver Type: Commuter/Weekday | Number of Lanes: 2.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
|---|---|
| Flow Adjustment Calculations | Speed Adjustment Calculations |
| Driver Population Factor (f _p): 1.00 | Lane Width (f _{lw}): mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): 1.5 | Lateral Clearance (f _{lc}): mi/h |
| for RVs (E _R): 1.2 | Total Ramp Density (TRD): ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | Free-Flow Speed: 75.4 - f _{lw} - f _{lc} |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) = 0.980 | - 3.22TRD^(0.84) = mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
|--|--|
| Flow Rate (v _s): | Density (D): v _s = 39.5 pc/mi/h |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ = 2,091 pc/h/ln | Level of Service (LOS): E |
| Speed (S): 52.9 mi/h | Level of Service (LOS): E |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITH PROJECT CONDITIONS (YEAR 2022)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-3 I-10 Westbound
between Santa Fe Avenue and US 101
PM Peak Hour

| SPEED AND FLOW INPUTS | |
|--|-------------------------------|
| Flow Inputs | Speed Inputs |
| Volume (V): 7,899 veh/h | [a] Free Flow Speed: 55.0 mph |
| Peak Hour Factor (PHF): 0.940 | Lane Width: ft |
| % Trucks & Buses (P _T): 4.04 % | Right-shoulder |
| % RVs (P _R): 0.00 % | Lateral Clearance: ft |
| Grade Length: mi | Number of Ramps in 6 miles |
| Grade %: % | Centered on Segment: ramps |
| Terrain Type: Level | Other Inputs |
| Driver Type: Commuter/Weekday | Number of Lanes: 2.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
|---|---|
| Flow Adjustment Calculations | Speed Adjustment Calculations |
| Driver Population Factor (f _p): 1.00 | Lane Width (f _{lw}): mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): 1.5 | Lateral Clearance (f _{lc}): mi/h |
| for RVs (E _R): 1.2 | Total Ramp Density (TRD): ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | Free-Flow Speed: 75.4 - f _{lw} - f _{lc} |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) = 0.980 | - 3.22TRD^(0.84) = mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
|--|----------------------------------|
| Flow Rate (v _s): | Density (D): |
| $\frac{V}{PHF * N * f_{pw} * f_p} = 4.287$ pc/h/ln | $\frac{v_s}{S} = -43.9$ pc/mi/ln |
| Speed (S): -97.7 mi/h | Level of Service (LOS): A |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITH PROJECT CONDITIONS (YEAR 2022)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-3 I-10 Eastbound
between Santa Fe Avenue and US 101
PM Peak Hour

| SPEED AND FLOW INPUTS | |
|--|-------------------------------|
| Flow Inputs | Speed Inputs |
| Volume (V): 6,889 veh/h | [a] Free Flow Speed: 55.0 mph |
| Peak Hour Factor (PHF): 0.940 | Lane Width: ft |
| % Trucks & Buses (P _T): 4.04 % | Right-shoulder |
| % RVs (P _R): 0.00 % | Lateral Clearance: ft |
| Grade Length: mi | Number of Ramps in 6 miles |
| Grade %: % | Centered on Segment: ramps |
| Terrain Type: Level | Other Inputs |
| Driver Type: Commuter/Weekday | Number of Lanes: 2.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
|---|---|
| Flow Adjustment Calculations | Speed Adjustment Calculations |
| Driver Population Factor (f _p): 1.00 | Lane Width (f _{lw}): mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): 1.5 | Lateral Clearance (f _{lc}): mi/h |
| for RVs (E _R): 1.2 | Total Ramp Density (TRD): ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | Free-Flow Speed: 75.4 - f _{lw} - f _{lc} |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) = 0.980 | - 3.22TRD^(0.84) = mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
|--|----------------------------------|
| Flow Rate (v _s): | Density (D): |
| $\frac{V}{PHF * N * f_{pw} * f_p} = 3.739$ pc/h/ln | $\frac{v_s}{S} = -98.8$ pc/mi/ln |
| Speed (S): -37.8 mi/h | Level of Service (LOS): A |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-4 SR 60 Westbound

*between Lorena Street and Indiana Street
AM Peak Hour*

| SPEED AND FLOW INPUTS | |
|---|---|
| Flow Inputs | Speed Inputs |
| Volume (V): 6,393 veh/h | a) Free Flow Speed: 55.0 mph |
| Peak Hour Factor (PHF): 0.940 | Lane Width: _____ ft |
| % Trucks & Buses (P _t): 4.04 % | Right-shoulder |
| % RVs (P _r): 0.00 % | Lateral Clearance: _____ ft |
| Grade Length: _____ mi | Number of Ramps in 6 miles |
| Grade %: _____ % | Centered on Segment: _____ ramps |
| Terrain Type: _____ Level | Other Inputs |
| Driver Type: Commuter/Weekday | Number of Lanes: 5.0 lanes |
| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
| Flow Adjustment Calculations | Speed Adjustment Calculations |
| Driver Population Factor (f _p): 1.00 | Lane Width (f _{lw}): _____ mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _t): 1.5 | Lateral Clearance (f _{lc}): _____ mi/h |
| for RVs (E _r): 1.2 | Total Ramp Density (TRD): _____ ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | Free-Flow Speed: 75.4 - f _{lw} - f _{lc} |
| $1 + P \cdot (E_t - 1) + P_r \cdot (E_r - 1)$ | - 3.22TRD*(0.84) = _____ mi/h |
| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
| Flow Rate (v _p): V | Density (D): v_p = 25.2 pc/mi/in |
| $PHF * N * f_{hw} * f_p$ | S |
| Speed (S): 55.0 mi/h | Level of Service (LOS): C |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010. Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S , FFS , w from Exhibits 11-5 and 11-6; E_v/E_r from Exhibits 11-10 through 11-13; f_{w} from Exhibit 11-8; f_c from Exhibit 11-9; f_b from Page 11-18.

a) Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-4 SR 60 Eastbound

*between Lorena Street and Indiana Street
AM Peak Hour*

| SPEED AND FLOW INPUTS | |
|---|--------------------------------|
| Flow Inputs | |
| Volume (V): | 5,269 veh/h |
| Peak Hour Factor (PHF): | 0.940 |
| % Trucks & Buses (P _t): | 4.04 % |
| % RVs (P _r): | 0.00 % |
| Grade Length: | mi |
| Grade %: | % |
| Terrain Type: | Level |
| Driver Type: | Commuter/Weekday |
| Speed Inputs | |
| a) Free Flow Speed: | 55.0 mph |
| Lane Width: | ft |
| Right-shoulder | |
| Lateral Clearance: | ft |
| Number of Ramps in 6 miles | |
| Centered on Segment: | ramps |
| Other Inputs: | |
| Number of Lanes: | 5.0 lanes |
| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
| Flow Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 |
| Passenger Car Equivalents for Trucks & Buses (E _t): | 1.5 |
| for RVs (E _r): | 1.2 |
| Heavy Vehicle Factor (f _{hw}): | |
| 1 | = 0.980 |
| 1 + P _t (E _t - 1) + P _r (E _r - 1) | |
| Speed Adjustment Calculations | |
| Lane Width (f _w): | mi/h |
| Lateral Clearance (f _l): | mi/h |
| Total Ramp Density (TRD): | ramps/mi |
| Free-Flow Speed: | |
| 75.4 - f _{hw} - f _{lc} | |
| - 3.2TRD*(0.84) | = mi/h |
| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
| Flow Rate (v ₀): | |
| V | = 1,144 pc/h/in |
| PHF * N * f _{pw} * f _p | |
| Speed (S): | 55.0 mi/h |
| Density (D): | v ₀ = 20.8 pc/mi/in |
| | S |
| Level of Service (LOS): | C |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010. Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S ; FFs, w , from Exhibits 11-5 and 11-6; E_v/E_r from Exhibits 11-10 through 11-13; f_{w} from Exhibit 11-8; f_c from Exhibit 11-9; f_p from Page 11-18.

[a] Free Flow Speed of 55 m/h was used for segments at Caltrans' request.

[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request.

FUTURE WITH PROJECT CONDITIONS (YEAR 2022)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-4 SR 60 Westbound
between Lorena Street and Indiana Street
PM Peak Hour

| SPEED AND FLOW INPUTS | |
|--|-------------------------------|
| Flow Inputs | Speed Inputs |
| Volume (V): 7,197 veh/h | [a] Free Flow Speed: 55.0 mph |
| Peak Hour Factor (PHF): 0.940 | Lane Width: ft |
| % Trucks & Buses (P _T): 4.04 % | Right-shoulder |
| % RVs (P _R): 0.00 % | Lateral Clearance: ft |
| Grade Length: mi | Number of Ramps in 6 miles |
| Grade %: % | Centered on Segment: ramps |
| Terrain Type: Level | Other Inputs |
| Driver Type: Commuter/Weekday | Number of Lanes: 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
|---|---|
| Flow Adjustment Calculations | Speed Adjustment Calculations |
| Driver Population Factor (f _p): 1.00 | Lane Width (f _{lw}): mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): 1.5 | Lateral Clearance (f _{lc}): mi/h |
| for RVs (E _R): 1.2 | Total Ramp Density (TRD): ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | Free-Flow Speed: 75.4 - f _{lw} - f _{lc} |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) = 0.980 | - 3.22TRD^(0.84) = mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
|--|---------------------------------|
| Flow Rate (v _s): | Density (D): |
| $\frac{V}{PHF * N * f_{hw} * f_p} = 1.563$ pc/h/ln | $\frac{v_s}{S} = 28.4$ pc/mi/ln |
| Speed (S): 55.0 mi/h | Level of Service (LOS): D |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITH PROJECT CONDITIONS (YEAR 2022)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-4 SR 60 Eastbound
between Lorena Street and Indiana Street
PM Peak Hour

| SPEED AND FLOW INPUTS | |
|--|-------------------------------|
| Flow Inputs | Speed Inputs |
| Volume (V): 8,048 veh/h | [a] Free Flow Speed: 55.0 mph |
| Peak Hour Factor (PHF): 0.940 | Lane Width: ft |
| % Trucks & Buses (P _T): 4.04 % | Right-shoulder |
| % RVs (P _R): 0.00 % | Lateral Clearance: ft |
| Grade Length: mi | Number of Ramps in 6 miles |
| Grade %: % | Centered on Segment: ramps |
| Terrain Type: Level | Other Inputs |
| Driver Type: Commuter/Weekday | Number of Lanes: 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
|---|---|
| Flow Adjustment Calculations | Speed Adjustment Calculations |
| Driver Population Factor (f _p): 1.00 | Lane Width (f _{lw}): mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): 1.5 | Lateral Clearance (f _{lc}): mi/h |
| for RVs (E _R): 1.2 | Total Ramp Density (TRD): ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | Free-Flow Speed: 75.4 - f _{lw} - f _{lc} |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) = 0.980 | - 3.22TRD^(0.84) = mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
|--|---------------------------------|
| Flow Rate (v _s): | Density (D): |
| $\frac{V}{PHF * N * f_{hw} * f_p} = 1.747$ pc/h/ln | $\frac{v_s}{S} = 31.8$ pc/mi/ln |
| Speed (S): 55.0 mi/h | Level of Service (LOS): D |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-5 I-5 Southbound
between Indiana Street and SR-60
AM Peak Hour

| SPEED AND FLOW INPUTS | |
|--|-------------------------------|
| Flow Inputs | Speed Inputs |
| Volume (V): 9,928 veh/h | [a] Free Flow Speed: 55.0 mph |
| Peak Hour Factor (PHF): 0.940 | Lane Width: ft |
| % Trucks & Buses (P _T): 4.04 % | Right-shoulder |
| % RVs (P _R): 0.00 % | Lateral Clearance: ft |
| Grade Length: mi | Number of Ramps in 6 miles |
| Grade %: % | Centered on Segment: ramps |
| Terrain Type: Level | Other Inputs |
| Driver Type: Commuter/Weekday | Number of Lanes: 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
|---|---|
| Flow Adjustment Calculations | Speed Adjustment Calculations |
| Driver Population Factor (f _p): 1.00 | Lane Width (f _{lw}): mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): 1.5 | Lateral Clearance (f _{lc}): mi/h |
| for RVs (E _R): 1.2 | Total Ramp Density (TRD): ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | Free-Flow Speed: 75.4 - f _{lw} - f _{lc} |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) = 0.980 | - 3.22TRD^(0.84) = mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
|--|---------------------------------|
| Flow Rate (v _s): | Density (D): |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ = 2,155 pc/h/ln | $\frac{v_s}{S}$ = 41.5 pc/mi/ln |
| Speed (S): 51.9 mi/h | Level of Service (LOS): E |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{aw} from Exhibit 11-8; f_c from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-5 I-5 Northbound
between Indiana Street and SR-60
AM Peak Hour

| SPEED AND FLOW INPUTS | |
|--|-------------------------------|
| Flow Inputs | Speed Inputs |
| Volume (V): 6,464 veh/h | [a] Free Flow Speed: 55.0 mph |
| Peak Hour Factor (PHF): 0.940 | Lane Width: ft |
| % Trucks & Buses (P _T): 4.04 % | Right-shoulder |
| % RVs (P _R): 0.00 % | Lateral Clearance: ft |
| Grade Length: mi | Number of Ramps in 6 miles |
| Grade %: % | Centered on Segment: ramps |
| Terrain Type: Level | Other Inputs |
| Driver Type: Commuter/Weekday | Number of Lanes: 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
|---|---|
| Flow Adjustment Calculations | Speed Adjustment Calculations |
| Driver Population Factor (f _p): 1.00 | Lane Width (f _{lw}): mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): 1.5 | Lateral Clearance (f _{lc}): mi/h |
| for RVs (E _R): 1.2 | Total Ramp Density (TRD): ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | Free-Flow Speed: 75.4 - f _{lw} - f _{lc} |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) = 0.980 | - 3.22TRD^(0.84) = mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
|--|---------------------------------|
| Flow Rate (v _s): | Density (D): |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ = 1,403 pc/h/ln | $\frac{v_s}{S}$ = 25.5 pc/mi/ln |
| Speed (S): 55.0 mi/h | Level of Service (LOS): C |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; E_T/E_R from Exhibits 11-10 through 11-13; f_{aw} from Exhibit 11-8; f_c from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-5 I-5 Southbound

between Indiana Street and SR-60

PM Peak Hour

| SPEED AND FLOW INPUTS | |
|--|-----------------------------------|
| Flow Inputs | Speed Inputs |
| Volume (V): 6,026 veh/h | a) Free Flow Speed: 55.0 mph |
| Peak Hour Factor (PHF): 0.940 | Lane Width: _____ ft |
| % Trucks & Buses (P _t): 4.04 % | Right-shoulder |
| % RVs (P _r): 0.00 % | Lateral Clearance: _____ ft |
| Grade Length: _____ mi | Number of Ramps in 6 miles: _____ |
| Grade %: _____ % | Centered on Segment: _____ |
| Terrain Type: _____ Level | Other Inputs |
| Driver Type: Commuter/Weekday | Number of Lanes: 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
|---|---|
| Flow Adjustment Calculations | Speed Adjustment Calculations |
| Driver Population Factor (f _p): 1.00 | Lane Width (f _{lw}): _____ mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _t): 1.5 | Lateral Clearance (f _{lc}): _____ mi/h |
| for RVs (E _r): 1.2 | Total Ramp Density (TRD): _____ ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | Free-Flow Speed: 75.4 - f _{kw} - f _{lc} - 3.22TRD*(0.84) = _____ mi/h |
| $1 + P \cdot (E_t - 1) + P_r(E_r - 1)$ | |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
|---|------------------------------------|
| Flow Rate (v _p): V | Density (D): w_p = 23.8 pc/mi/in |
| $PHF * N * f_{hw} * f_p$ | S |
| Speed (S): 55.0 mi/h | Level of Service (LOS): C |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010. Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S ; FFS, ψ ; from Exhibits 11-5 and 11-6; E_f/E_r from Exhibits 11-10 through 11-13; f_w from Exhibit 11-8; f_c from Exhibit 11-9; f_d from Page 11-18.

a) Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

6668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-5 I-5 Northbound

between Indiana Street and SR-60

PM Peak Hour

| SPEED AND FLOW INPUTS | |
|---|--------------------------------|
| Flow Inputs | |
| Volume (V): | 6,563 veh/h |
| Peak Hour Factor (PHF): | 0.940 |
| % Trucks & Buses (P _t): | 4.04 % |
| % RVs (P _r): | 0.00 % |
| Grade Length: | mi |
| Grade %: | % |
| Terrain Type: | Level |
| Driver Type: | Commuter/Weekday |
| Speed Inputs | |
| [a] Free Flow Speed: | 55.0 mph |
| Lane Width: | ft |
| Right-shoulder | |
| Lateral Clearance: | ft |
| Number of Ramps in 6 miles | |
| Centered on Segment: | ramps |
| Other Inputs | |
| Number of Lanes: | 5.0 lanes |
| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
| Flow Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 |
| Passenger Car Equivalents for Trucks & Buses (E _t): | 1.5 |
| for RVs (E _r): | 1.2 |
| Heavy Vehicle Factor (f _{hw}): | |
| 1 | = 0.980 |
| 1 + P _t (E _t - 1) + P _r (E _r - 1) | |
| Speed Adjustment Calculations | |
| Lane Width (f _w): | mi/h |
| Lateral Clearance (f _{cl}): | mi/h |
| Total Ramp Density (TRD): | ramps/mi |
| Free-Flow Speed: | |
| 75.4 - f _w - f _{cl} | |
| - 3.2TRD*(0.84) | = mi/h |
| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
| Flow Rate (v ₀): | |
| V | = 1,425 pc/h/in |
| PHF * N * f _{pw} * f _p | |
| Speed (S): | 55.0 mi/h |
| Density (D): | v ₀ = 25.9 pc/mi/in |
| S | |
| Level of Service (LOS): | C |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010. Adjustment factors from HCM 2010 Chapter 11 as follows: LOS 5, FFS, w , from Exhibits 11-5 and 11-6; E_v/E_r from Exhibits 11-10 through 11-13; f_{w} from Exhibit 11-8; f_c from Exhibit 11-9; f_p from Page 11-18.

[a] Free Flow Speed of 55 m/h was used for segments at Caltrans' request.

[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request.

FUTURE WITH PROJECT CONDITIONS (YEAR 2022)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-6 I-5 Southbound
between Fourth Street and Cesar E Chavez Avenue
AM Peak Hour

| SPEED AND FLOW INPUTS | |
|--|-------------------------------|
| Flow Inputs | Speed Inputs |
| Volume (V): 9,076 veh/h | [a] Free Flow Speed: 55.0 mph |
| Peak Hour Factor (PHF): 0.940 | Lane Width: ft |
| % Trucks & Buses (P _T): 4.04 % | Right-shoulder |
| % RVs (P _R): 0.00 % | Lateral Clearance: ft |
| Grade Length: mi | Number of Ramps in 6 miles |
| Grade %: % | Centered on Segment: ramps |
| Terrain Type: Level | Other Inputs |
| Driver Type: Commuter/Weekday | Number of Lanes: 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
|---|---|
| Flow Adjustment Calculations | Speed Adjustment Calculations |
| Driver Population Factor (f _p): 1.00 | Lane Width (f _{lw}): mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): 1.5 | Lateral Clearance (f _{lc}): mi/h |
| for RVs (E _R): 1.2 | Total Ramp Density (TRD): ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | Free-Flow Speed: 75.4 - f _{lw} - f _{lc} |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) = 0.980 | - 3.22TRD^(0.84) = mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
|--|---------------------------------|
| Flow Rate (v _s): | Density (D): |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ = 1.970 pc/h/ln | $\frac{v_p}{S}$ = 36.3 pc/mi/ln |
| Speed (S): 54.3 mi/h | Level of Service (LOS): E |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITH PROJECT CONDITIONS (YEAR 2022)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-6 I-5 Northbound
between Fourth Street and Cesar E Chavez Avenue
AM Peak Hour

| SPEED AND FLOW INPUTS | |
|--|-------------------------------|
| Flow Inputs | Speed Inputs |
| Volume (V): 8,238 veh/h | [a] Free Flow Speed: 55.0 mph |
| Peak Hour Factor (PHF): 0.940 | Lane Width: ft |
| % Trucks & Buses (P _T): 4.04 % | Right-shoulder |
| % RVs (P _R): 0.00 % | Lateral Clearance: ft |
| Grade Length: mi | Number of Ramps in 6 miles |
| Grade %: % | Centered on Segment: ramps |
| Terrain Type: Level | Other Inputs |
| Driver Type: Commuter/Weekday | Number of Lanes: 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
|---|---|
| Flow Adjustment Calculations | Speed Adjustment Calculations |
| Driver Population Factor (f _p): 1.00 | Lane Width (f _{lw}): mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): 1.5 | Lateral Clearance (f _{lc}): mi/h |
| for RVs (E _R): 1.2 | Total Ramp Density (TRD): ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | Free-Flow Speed: 75.4 - f _{lw} - f _{lc} |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) = 0.980 | - 3.22TRD^(0.84) = mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
|--|---------------------------------|
| Flow Rate (v _s): | Density (D): |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ = 1.789 pc/h/ln | $\frac{v_p}{S}$ = 32.5 pc/mi/ln |
| Speed (S): 55.0 mi/h | Level of Service (LOS): D |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; E_T/E_R from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITH PROJECT CONDITIONS (YEAR 2022)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-6 I-5 Southbound
between Fourth Street and Cesar E Chavez Avenue
PM Peak Hour

| SPEED AND FLOW INPUTS | |
|--|-------------------------------|
| Flow Inputs | Speed Inputs |
| Volume (V): 6,708 veh/h | [a] Free Flow Speed: 55.0 mph |
| Peak Hour Factor (PHF): 0.940 | Lane Width: ft |
| % Trucks & Buses (P _T): 4.04 % | Right-shoulder |
| % RVs (P _R): 0.00 % | Lateral Clearance: ft |
| Grade Length: mi | Number of Ramps in 6 miles |
| Grade %: % | Centered on Segment: ramps |
| Terrain Type: Level | Other Inputs |
| Driver Type: Commuter/Weekday | Number of Lanes: 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
|---|---|
| Flow Adjustment Calculations | Speed Adjustment Calculations |
| Driver Population Factor (f _p): 1.00 | Lane Width (f _{lw}): mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): 1.5 | Lateral Clearance (f _{lc}): mi/h |
| for RVs (E _R): 1.2 | Total Ramp Density (TRD): ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | Free-Flow Speed: 75.4 - f _{lw} - f _{lc} |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) = 0.980 | - 3.22TRD^(0.84) = mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
|--|---------------------------------|
| Flow Rate (v _s): | Density (D): |
| $\frac{V}{PHF * N * f_{pw} * f_p} = 1.456$ pc/h/ln | $\frac{v_s}{S} = 26.5$ pc/mi/ln |
| Speed (S): 55.0 mi/h | Level of Service (LOS): D |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITH PROJECT CONDITIONS (YEAR 2022)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-6 I-5 Northbound
between Fourth Street and Cesar E Chavez Avenue
PM Peak Hour

| SPEED AND FLOW INPUTS | |
|--|-------------------------------|
| Flow Inputs | Speed Inputs |
| Volume (V): 9,101 veh/h | [a] Free Flow Speed: 55.0 mph |
| Peak Hour Factor (PHF): 0.940 | Lane Width: ft |
| % Trucks & Buses (P _T): 4.04 % | Right-shoulder |
| % RVs (P _R): 0.00 % | Lateral Clearance: ft |
| Grade Length: mi | Number of Ramps in 6 miles |
| Grade %: % | Centered on Segment: ramps |
| Terrain Type: Level | Other Inputs |
| Driver Type: Commuter/Weekday | Number of Lanes: 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
|---|---|
| Flow Adjustment Calculations | Speed Adjustment Calculations |
| Driver Population Factor (f _p): 1.00 | Lane Width (f _{lw}): mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): 1.5 | Lateral Clearance (f _{lc}): mi/h |
| for RVs (E _R): 1.2 | Total Ramp Density (TRD): ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | Free-Flow Speed: 75.4 - f _{lw} - f _{lc} |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) = 0.980 | - 3.22TRD^(0.84) = mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
|--|---------------------------------|
| Flow Rate (v _s): | Density (D): |
| $\frac{V}{PHF * N * f_{pw} * f_p} = 1.976$ pc/h/ln | $\frac{v_s}{S} = 36.4$ pc/mi/ln |
| Speed (S): 54.2 mi/h | Level of Service (LOS): E |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; E_T/E_R from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-7 US 101 Southbound

*between Fourth Street and First Street
AM Peak Hour*

| SPEED AND FLOW INPUTS | |
|--|----------------------------------|
| Flow Inputs | Speed Inputs |
| Volume (V): 3,404 veh/h | [a] Free Flow Speed: 55.0 mph |
| Peak Hour Factor (PHF): 0.940 | Lane Width: _____ ft |
| % Trucks & Buses (P _t): 4.04 % | Right-shoulder |
| % RVs (P _r): 0.00 % | Lateral Clearance: _____ ft |
| Grade Length: _____ mi | Number of Ramps in 6 miles |
| Grade %: _____ % | Centered on Segment: _____ ramps |
| Terrain Type: _____ Level | Other Inputs |
| Driver Type: Commuter/Weekday | Number of Lanes: 3.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
|---|--|
| Flow Adjustment Calculations | Speed Adjustment Calculations |
| Driver Population Factor (f _p): 1.00 | Lane Width (f _{lw}): _____ mi/h |
| Passenger Car Equivalents | Lateral Clearance (f _{lc}): _____ mi/h |
| for Trucks & Buses (E _t): 1.5 | Total Ramp Density (TRD): _____ ramps/mi |
| for RVs (E _r): 1.2 | Free-Flow Speed: |
| Heavy Vehicle Factor (f _{hw}): | 75.4 - f _{lw} - f _{lc} |
| 1 | - 3.22TRD*(0.84) = _____ mi/h |
| 1 + P/(E _t - 1) + P _r /(E _r - 1) | |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
|---|-------------------------|
| Flow Rate (v _p): | Density (D): |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | $\frac{v_p}{S}$ |
| = 1,232 pc/h/in | = 22.4 pc/mi/in |
| Speed (S): | Level of Service (LOS): |
| 55.0 mi/h | C |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010. Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S ; FFS, ψ ; from Exhibits 11-5 and 11-6; E_f/E_r from Exhibits 11-10 through 11-13; f_w from Exhibit 11-8; f_c from Exhibit 11-9; f_d from Page 11-18.

a) Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-7 US 101 Northbound

*between Fourth Street and First Street
AM Peak Hour*

| SPEED AND FLOW INPUTS | |
|---|------------------|
| Flow Inputs | |
| Volume (V): | 4,253 veh/h |
| Peak Hour Factor (PHF): | 0.940 |
| % Trucks & Buses (P _t): | 4.04 % |
| % RVs (P _r): | 0.00 % |
| Grade Length: | mi |
| Grade %: | % |
| Terrain Type: | Level |
| Driver Type: | Commuter/Weekday |
| Speed Inputs | |
| a) Free Flow Speed: | 55.0 mph |
| Lane Width: | ft |
| Right-shoulder Lateral Clearance: | ft |
| Number of Ramps in 6 miles | |
| Centered on Segment: | ramps |
| Other Inputs | |
| Number of Lanes: | 3.0 lanes |
| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
| Flow Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 |
| Passenger Car Equivalents for Trucks & Buses (E _t): | 1.5 |
| for RVs (E _r): | 1.2 |
| Heavy Vehicle Factor (f _{hw}): | |
| 1 + P _t (E _t - 1) + P _r (E _r - 1) | 0.980 |
| Speed Adjustment Calculations | |
| Lane Width (f _w): | mi/h |
| Lateral Clearance (f _{cl}): | mi/h |
| Total Ramp Density (TRD): | ramps/mi |
| Free-Flow Speed: | |
| 75.4 - f _w - f _{cl} | |
| - 3.22TRD*(0.84) | mi/h |
| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
| Flow Rate (v ₀): | |
| V | |
| PHF * N * f _{pw} * f _p | |
| Density (D): | pc/mi/in |
| v ₀ | |
| S | |
| Speed (S): | mi/h |
| Level of Service (LOS): | D |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010. Adjustment factors from HCM 2010 Chapter 11 as follows: LOS S, FFS, w, from Exhibits 11-5 and 11-6; E_v/E_t from Exhibits 11-10 through 11-13; f_w from Exhibit 11-8; f_c from Exhibit 11-9; f_p from Page 11-18.

[a] Free Flow Speed of 55 m/h was used for segments at Caltrans' request.

[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request.

FUTURE WITH PROJECT CONDITIONS (YEAR 2022)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-7 US 101 Southbound
between Fourth Street and First Street
PM Peak Hour

| SPEED AND FLOW INPUTS | |
|--|-------------------------------|
| Flow Inputs | Speed Inputs |
| Volume (V): 3,444 veh/h | [a] Free Flow Speed: 55.0 mph |
| Peak Hour Factor (PHF): 0.940 | Lane Width: ft |
| % Trucks & Buses (P _T): 4.04 % | Right-shoulder |
| % RVs (P _R): 0.00 % | Lateral Clearance: ft |
| Grade Length: mi | Number of Ramps in 6 miles |
| Grade %: % | Centered on Segment: ramps |
| Terrain Type: Level | Other Inputs |
| Driver Type: Commuter/Weekday | Number of Lanes: 3.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
|---|---|
| Flow Adjustment Calculations | Speed Adjustment Calculations |
| Driver Population Factor (f _p): 1.00 | Lane Width (f _{lw}): mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): 1.5 | Lateral Clearance (f _{lc}): mi/h |
| for RVs (E _R): 1.2 | Total Ramp Density (TRD): ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | Free-Flow Speed: 75.4 - f _{lw} - f _{lc} |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) = 0.980 | - 3.22TRD^(0.84) = mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
|--|---------------------------------|
| Flow Rate (v _s): | Density (D): |
| $\frac{V}{PHF * N * f_{hw} * f_p} = 1,246$ pc/h/ln | $\frac{v_p}{S} = 22.7$ pc/mi/ln |
| Speed (S): 55.0 mi/h | Level of Service (LOS): C |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITH PROJECT CONDITIONS (YEAR 2022)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-7 US 101 Northbound
between Fourth Street and First Street
PM Peak Hour

| SPEED AND FLOW INPUTS | |
|--|-------------------------------|
| Flow Inputs | Speed Inputs |
| Volume (V): 4,368 veh/h | [a] Free Flow Speed: 55.0 mph |
| Peak Hour Factor (PHF): 0.940 | Lane Width: ft |
| % Trucks & Buses (P _T): 4.04 % | Right-shoulder |
| % RVs (P _R): 0.00 % | Lateral Clearance: ft |
| Grade Length: mi | Number of Ramps in 6 miles |
| Grade %: % | Centered on Segment: ramps |
| Terrain Type: Level | Other Inputs |
| Driver Type: Commuter/Weekday | Number of Lanes: 3.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
|---|---|
| Flow Adjustment Calculations | Speed Adjustment Calculations |
| Driver Population Factor (f _p): 1.00 | Lane Width (f _{lw}): mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): 1.5 | Lateral Clearance (f _{lc}): mi/h |
| for RVs (E _R): 1.2 | Total Ramp Density (TRD): ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | Free-Flow Speed: 75.4 - f _{lw} - f _{lc} |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) = 0.980 | - 3.22TRD^(0.84) = mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
|--|---------------------------------|
| Flow Rate (v _s): | Density (D): |
| $\frac{V}{PHF * N * f_{hw} * f_p} = 1,581$ pc/h/ln | $\frac{v_p}{S} = 28.7$ pc/mi/ln |
| Speed (S): 55.0 mi/h | Level of Service (LOS): D |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; E_T/E_R from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2035)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-1 I-10 Westbound

between San Pedro Street/Central Avenue and Alameda Street
AM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 10,549 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|-----------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 2,290 | $\frac{v_s}{S}$ | = 46.7 |
| Speed (S): | 49.1 mi/h | Level of Service (LOS): | F |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2035)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-1 I-10 Eastbound

between San Pedro Street/Central Avenue and Alameda Street
AM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 7,170 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|-----------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 1,557 | $\frac{v_s}{S}$ | = 28.3 |
| Speed (S): | 55.0 mi/h | Level of Service (LOS): | D |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2035)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-1 I-10 Westbound

between San Pedro Street/Central Avenue and Alameda Street
PM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 11,277 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 2,448 | $\frac{v_s}{S}$ | = 54.8 |
| Speed (S): | 44.6 | Level of Service (LOS): | F |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2035)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-1 I-10 Eastbound

between San Pedro Street/Central Avenue and Alameda Street
PM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 9,844 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 2,137 | $\frac{v_s}{S}$ | = 40.9 |
| Speed (S): | 52.2 | Level of Service (LOS): | E |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2035)

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-2 I-10 Westbound

between Alameda Street and Santa Fe Avenue
AM Peak Hour

| SPEED AND FLOW INPUTS | |
|---|---|
| Flow Inputs
Volume (V): 18,093 veh/h
Peak Hour Factor (PHF): 0.940
% Trucks & Buses (P _T): 4.04 %
% RVs (P _R): 0.00 %
Grade Length: _____ mi
Grade %: _____ %
Terrain Type: Level
Driver Type: Commuter/Weekday | Speed Inputs
[a] Free Flow Speed: 55.0 mph
Lane Width: _____ ft
Right-shoulder Lateral Clearance: _____ ft
Number of Ramps in 6 miles: _____
Centered on Segment: _____
Other Inputs: _____
Number of Lanes: 5.0 lanes |
| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
| Flow Adjustment Calculations
Driver Population Factor (f _p): 1.00
Passenger Car Equivalents for Trucks & Buses (E _T): 1.5
for RVs (E _R): 1.2
Heavy Vehicle Factor (f _{hw}): _____
$1 + P_T(E_T - 1) + P_R(E_R - 1)$ = 0.980 | Speed Adjustment Calculations
Lane Width (f _{lw}): _____ mi/h
Lateral Clearance (f _{lc}): _____ mi/h
Total Ramp Density (TRD): _____ ramps/mi
Free-Flow Speed: _____
$75.4 - f_{lw} - f_{lc}$
$- 3.22TRD \wedge (0.84)$ = _____ mi/h |
| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
| Flow Rate (v _s): _____
$\frac{V}{PHF * N * f_{hw} * f_p}$ = 3,928 pc/h/ln | Density (D): _____
$\frac{v_s}{S}$ = -69.1 pc/mi/ln
Speed (S): -56.8 mi/h
Level of Service (LOS): A |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2035)

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-2 I-10 Eastbound

between Alameda Street and Santa Fe Avenue
AM Peak Hour

| SPEED AND FLOW INPUTS | |
|---|---|
| Flow Inputs
Volume (V): 13,031 veh/h
Peak Hour Factor (PHF): 0.940
% Trucks & Buses (P _T): 4.04 %
% RVs (P _R): 0.00 %
Grade Length: _____ mi
Grade %: _____ %
Terrain Type: Level
Driver Type: Commuter/Weekday | Speed Inputs
[a] Free Flow Speed: 55.0 mph
Lane Width: _____ ft
Right-shoulder Lateral Clearance: _____ ft
Number of Ramps in 6 miles: _____
Centered on Segment: _____
Other Inputs: _____
Number of Lanes: 5.0 lanes |
| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
| Flow Adjustment Calculations
Driver Population Factor (f _p): 1.00
Passenger Car Equivalents for Trucks & Buses (E _T): 1.5
for RVs (E _R): 1.2
Heavy Vehicle Factor (f _{hw}): _____
$1 + P_T(E_T - 1) + P_R(E_R - 1)$ = 0.980 | Speed Adjustment Calculations
Lane Width (f _{lw}): _____ mi/h
Lateral Clearance (f _{lc}): _____ mi/h
Total Ramp Density (TRD): _____ ramps/mi
Free-Flow Speed: _____
$75.4 - f_{lw} - f_{lc}$
$- 3.22TRD \wedge (0.84)$ = _____ mi/h |
| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
| Flow Rate (v _s): _____
$\frac{V}{PHF * N * f_{hw} * f_p}$ = 2,829 pc/h/ln | Density (D): _____
$\frac{v_s}{S}$ = 98.0 pc/mi/ln
Speed (S): 28.9 mi/h
Level of Service (LOS): F |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; E_T/E_R from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-2 I-10 Westbound

between Alameda Street and Santa Fe Avenue
PM Peak Hour

| SPEED AND FLOW INPUTS | |
|--|-------------------------------|
| Flow Inputs | Speed Inputs |
| Volume (V): 13,542 veh/h | [a] Free Flow Speed: 55.0 mph |
| Peak Hour Factor (PHF): 0.940 | Lane Width: ft |
| % Trucks & Buses (P _T): 4.04 % | Right-shoulder |
| % RVs (P _R): 0.00 % | Lateral Clearance: ft |
| Grade Length: mi | Number of Ramps in 6 miles |
| Grade %: % | Centered on Segment: ramps |
| Terrain Type: Level | Other Inputs |
| Driver Type: Commuter/Weekday | Number of Lanes: 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
|---|---|
| Flow Adjustment Calculations | Speed Adjustment Calculations |
| Driver Population Factor (f _p): 1.00 | Lane Width (f _{lw}): mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): 1.5 | Lateral Clearance (f _{lc}): mi/h |
| for RVs (E _R): 1.2 | Total Ramp Density (TRD): ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | Free-Flow Speed: 75.4 - f _{lw} - f _{lc} |
| 1 = 0.980 | - 3.22TRD^(0.84) = mi/h |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
|--|---------------------------|
| Flow Rate (v _s): | Density (D): |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ = 2,940 pc/h/ln | v_p = 128.3 pc/mi/ln |
| Speed (S): 22.9 mi/h | Level of Service (LOS): F |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-2 I-10 Eastbound

between Alameda Street and Santa Fe Avenue
PM Peak Hour

| SPEED AND FLOW INPUTS | |
|--|-------------------------------|
| Flow Inputs | Speed Inputs |
| Volume (V): 17,870 veh/h | [a] Free Flow Speed: 55.0 mph |
| Peak Hour Factor (PHF): 0.940 | Lane Width: ft |
| % Trucks & Buses (P _T): 4.04 % | Right-shoulder |
| % RVs (P _R): 0.00 % | Lateral Clearance: ft |
| Grade Length: mi | Number of Ramps in 6 miles |
| Grade %: % | Centered on Segment: ramps |
| Terrain Type: Level | Other Inputs |
| Driver Type: Commuter/Weekday | Number of Lanes: 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
|---|---|
| Flow Adjustment Calculations | Speed Adjustment Calculations |
| Driver Population Factor (f _p): 1.00 | Lane Width (f _{lw}): mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): 1.5 | Lateral Clearance (f _{lc}): mi/h |
| for RVs (E _R): 1.2 | Total Ramp Density (TRD): ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | Free-Flow Speed: 75.4 - f _{lw} - f _{lc} |
| 1 = 0.980 | - 3.22TRD^(0.84) = mi/h |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
|--|---------------------------|
| Flow Rate (v _s): | Density (D): |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ = 3,880 pc/h/ln | v_p = -74.9 pc/mi/ln |
| Speed (S): -51.8 mi/h | Level of Service (LOS): A |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2035)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-3 I-10 Westbound
between Santa Fe Avenue and US 101
AM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 11,709 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 2.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|--------------|--------------------------------|
| Flow Rate (v _s): | | Density (D): | v _s = -13.9 pc/mi/h |
| $\frac{V}{PHF * N * f_{pw} * f_p}$ | = 6.355 | pc/h/ln | |
| Speed (S): | -457.3 | mi/h | Level of Service (LOS): A |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2035)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-3 I-10 Eastbound
between Santa Fe Avenue and US 101
AM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 6,550 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 2.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|--------------|---------------------------------|
| Flow Rate (v _s): | | Density (D): | v _s = -168.9 pc/mi/h |
| $\frac{V}{PHF * N * f_{pw} * f_p}$ | = 3.555 | pc/h/ln | |
| Speed (S): | -21.0 | mi/h | Level of Service (LOS): A |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; E_T/E_R from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2035)

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-3 I-10 Westbound

between Santa Fe Avenue and US 101

PM Peak Hour

| SPEED AND FLOW INPUTS | | | | | | | | | | |
|---|------------------|-------|--|--------|----------|-------------------------|--|---|-------|----------|
| Flow Inputs | | | Speed Inputs | | | | | | | |
| Volume (V): | 12,275 | veh/h | [a] Free Flow Speed: | 55.0 | mph | | | | | |
| Peak Hour Factor (PHF): | 0.940 | | Lane Width: | | ft | | | | | |
| % Trucks & Buses (P _T): | 4.04 | % | Right-shoulder | | ft | | | | | |
| % RVs (P _R): | 0.00 | % | Lateral Clearance: | | ft | | | | | |
| Grade Length: | | mi | Number of Ramps in 6 miles | | | | | | | |
| Grade %: | | % | Centered on Segment: | | ramps | | | | | |
| Terrain Type: | Level | | Other Inputs | | | | | | | |
| Driver Type: | Commuter/Weekday | | Number of Lanes: | 2.0 | lanes | | | | | |
| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | | | | | | | | |
| Flow Adjustment Calculations | | | Speed Adjustment Calculations | | | | | | | |
| Driver Population Factor (f _p): | 1.00 | | Lane Width (f _{lw}): | | mi/h | | | | | |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | | Lateral Clearance (f _{lc}): | | mi/h | | | | | |
| for RVs (E _R): | 1.2 | | Total Ramp Density (TRD): | | ramps/mi | | | | | |
| Heavy Vehicle Factor (f _{hw}): | | | Free-Flow Speed: | | | | | | | |
| 1 | | | 75.4 - f _{lw} - f _{lc} | | | | | | | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | 0.980 | | - 3.22TRD^(0.84) | | mi/h | | | | | |
| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | | | | | | | | |
| Flow Rate (v _s): | | | Density (D): | | pc/h/ln | v _s | | = | -12.6 | pc/mi/ln |
| PHF * N * f _{hw} * f _p | 6,663 | | Speed (S): | -528.9 | mi/h | Level of Service (LOS): | | | A | |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{lc} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2035)

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-3 I-10 Eastbound

between Santa Fe Avenue and US 101

PM Peak Hour

| SPEED AND FLOW INPUTS | | | | | | | | | | |
|---|------------------|-------|--|--------|----------|-------------------------|--|---|-------|----------|
| Flow Inputs | | | Speed Inputs | | | | | | | |
| Volume (V): | 10,237 | veh/h | [a] Free Flow Speed: | 55.0 | mph | | | | | |
| Peak Hour Factor (PHF): | 0.940 | | Lane Width: | | ft | | | | | |
| % Trucks & Buses (P _T): | 4.04 | % | Right-shoulder | | ft | | | | | |
| % RVs (P _R): | 0.00 | % | Lateral Clearance: | | ft | | | | | |
| Grade Length: | | mi | Number of Ramps in 6 miles | | | | | | | |
| Grade %: | | % | Centered on Segment: | | ramps | | | | | |
| Terrain Type: | Level | | Other Inputs | | | | | | | |
| Driver Type: | Commuter/Weekday | | Number of Lanes: | 2.0 | lanes | | | | | |
| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | | | | | | | | |
| Flow Adjustment Calculations | | | Speed Adjustment Calculations | | | | | | | |
| Driver Population Factor (f _p): | 1.00 | | Lane Width (f _{lw}): | | mi/h | | | | | |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | | Lateral Clearance (f _{lc}): | | mi/h | | | | | |
| for RVs (E _R): | 1.2 | | Total Ramp Density (TRD): | | ramps/mi | | | | | |
| Heavy Vehicle Factor (f _{hw}): | | | Free-Flow Speed: | | | | | | | |
| 1 | | | 75.4 - f _{lw} - f _{lc} | | | | | | | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | 0.980 | | - 3.22TRD^(0.84) | | mi/h | | | | | |
| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | | | | | | | | |
| Flow Rate (v _s): | | | Density (D): | | pc/h/ln | v _s | | = | -18.9 | pc/mi/ln |
| PHF * N * f _{hw} * f _p | 5,556 | | Speed (S): | -293.3 | mi/h | Level of Service (LOS): | | | A | |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{lc} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2035)

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-4 SR 60 Westbound

between Lorena Street and Indiana Street
AM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 8,526 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | ft |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.2TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 1,851 | $\frac{v_s}{S}$ | = 33.7 |
| Speed (S): | 54.9 | Level of Service (LOS): | D |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.

Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p_T/E_T from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.

[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2035)

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-4 SR 60 Eastbound

between Lorena Street and Indiana Street
AM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 7,201 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | ft |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.2TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 1,563 | $\frac{v_s}{S}$ | = 28.4 |
| Speed (S): | 55.0 | Level of Service (LOS): | D |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.

Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p_T/E_T from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.

[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2035)

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-4 SR 60 Westbound

between Lorena Street and Indiana Street
PM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 9.835 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.27TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 2.135 | v_p | = 40.9 |
| Speed (S): | 52.2 | Level of Service (LOS): | E |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2035)

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-4 SR 60 Eastbound

between Lorena Street and Indiana Street
PM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 10.522 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.27TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 2.284 | v_p | = 46.4 |
| Speed (S): | 49.2 | Level of Service (LOS): | F |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2035)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-5 I-5 Southbound
between Indiana Street and SR-60
AM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 11,710 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|-----------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 2,542 | $\frac{v_s}{S}$ | = 61.4 |
| Speed (S): | 41.4 mi/h | Level of Service (LOS): | F |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2035)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-5 I-5 Northbound
between Indiana Street and SR-60
AM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 7,808 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|-----------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 1,695 | $\frac{v_s}{S}$ | = 30.8 |
| Speed (S): | 55.0 mi/h | Level of Service (LOS): | D |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; E_T/E_R from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2035)

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-5 I-5 Southbound

between Indiana Street and SR-60

PM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 7,609 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | 0.980 | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|-----------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 1,652 | $\frac{v_s}{S}$ | = 30.0 |
| Speed (S): | 55.0 mi/h | Level of Service (LOS): | D |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; P_T/E_T from Exhibits 11-10 through 11-13; f_{lc} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2035)

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-5 I-5 Northbound

between Indiana Street and SR-60

PM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 7,776 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | 0.980 | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|-----------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 1,688 | $\frac{v_s}{S}$ | = 30.7 |
| Speed (S): | 55.0 mi/h | Level of Service (LOS): | D |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; E_T/E_R from Exhibits 11-10 through 11-13; f_{lc} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2035)

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-6 I-5 Southbound

between Fourth Street and Cesar E Chavez Avenue
AM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 12,032 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _t): | 4.04 % | Right-shoulder | |
| % RVs (P _r): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _t): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _r): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _t (E _t - 1) + P _r (E _r - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 2,612 | $\frac{v_s}{S}$ | = 67.5 |
| Speed (S): | 38.7 | Level of Service (LOS): | F |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_t from Exhibits 11-10 through 11-13; f_{aw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_r from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2035)

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-6 I-5 Northbound

between Fourth Street and Cesar E Chavez Avenue
AM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 10,890 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _t): | 4.04 % | Right-shoulder | |
| % RVs (P _r): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _t): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _r): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _t (E _t - 1) + P _r (E _r - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 2,364 | $\frac{v_s}{S}$ | = 50.1 |
| Speed (S): | 47.1 | Level of Service (LOS): | F |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; E_t/E_r from Exhibits 11-10 through 11-13; f_{aw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_r from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-6 I-5 Southbound

between Fourth Street and Cesar E Chavez Avenue
PM Peak Hour

| SPEED AND FLOW INPUTS | |
|---|------------------|
| Flow Inputs | |
| Volume (V): | 9,501 veh/h |
| Peak Hour Factor (PHF): | 0.940 |
| % Trucks & Buses (P _t): | 4.04 % |
| % RVs (P _r): | 0.00 % |
| Grade Length: | mi |
| Grade %: | % |
| Terrain Type: | Level |
| Driver Type: | Commuter/Weekday |
| Speed Inputs | |
| a) Free Flow Speed: | 55.0 mph |
| Lane Width: | ft |
| Right-of-shoulder | |
| Lateral Clearance: | ft |
| Number of Ramps in 6 miles | |
| Centered on Segment: | ramps |
| Other Inputs: | |
| Number of Lanes: | 5.0 lanes |
| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
| Flow Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 |
| Passenger Car Equivalents for Trucks & Buses (E _t): | 1.5 |
| for RVs (E _r): | 1.2 |
| Heavy Vehicle Factor (f _{hw}): | |
| $1 + P_t(E_t - 1) + P_r(E_r - 1)$ | 0.980 |
| Speed Adjustment Calculations | |
| Lane Width (f _{lw}): | mi/h |
| Lateral Clearance (f _{lc}): | mi/h |
| Total Ramp Density (TRD): | ramps/mi |
| Free-Flow Speed: | |
| $75.4 - f_{lw} - f_{lc}$ | |
| $- 3.22TRD(0.84)$ | mi/h |
| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
| Flow Rate (v ₀): | |
| $PHF * N * f_{pw} * f_p$ | |
| V | |
| Density (D): | pc/h/ln |
| v_0 / S | |
| Speed (S): | mi/h |
| Level of Service (LOS): | E |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010. Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S ; FFS, ψ ; from Exhibits 11-5 and 11-6; E_f/E_r from Exhibits 11-10 through 11-13; f_w from Exhibit 11-8; f_c from Exhibit 11-9; f_b from Page 11-18.

a) Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

6668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-6 I-5 Northbound

between Fourth Street and Cesar E Chavez Avenue
PM Peak Hour

| SPEED AND FLOW INPUTS | |
|---|------------------|
| Flow Inputs | |
| Volume (V): | 12,432 veh/h |
| Peak Hour Factor (PHF): | 0.940 |
| % Trucks & Buses (P _t): | 4.04 % |
| % RVs (P _r): | 0.00 % |
| Grade Length: | mi |
| Grade %: | % |
| Terrain Type: | Level |
| Driver Type: | Commuter/Weekday |
| Speed Inputs | |
| a) Free Flow Speed: | 55.0 mph |
| Lane Width: | ft |
| Right-shoulder | |
| Lateral Clearance: | ft |
| Number of Ramps in 6 miles | |
| Centered on Segment: | ramps |
| Other Inputs | |
| Number of Lanes: | 5.0 lanes |
| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
| Flow Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 |
| Passenger Car Equivalents for Trucks & Buses (E _t): | 1.5 |
| for RVs (E _r): | 1.2 |
| Heavy Vehicle Factor (f _{hw}): | |
| $1 + P_t(E_t - 1) + P_r(E_r - 1)$ | 0.980 |
| Speed Adjustment Calculations | |
| Lane Width (f _w): | mi/h |
| Lateral Clearance (f _{cl}): | mi/h |
| Total Ramp Density (TRD): | ramps/mi |
| Free-Flow Speed: | |
| $75.4 - f_{w} - f_{cl}$ | |
| $- 3.22TRD(0.84)$ | mi/h |
| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
| Flow Rate (v ₀): | |
| $PHF * N * f_{pW} * f_p$ | |
| Density (D): | pc/h/ln |
| v_0 | pc/mi/ln |
| Speed (S): | mi/h |
| Level of Service (LOS): | F |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010. Adjustment factors from HCM 2010 Chapter 11 as follows: LOS 5, FFS, w , from Exhibits 11-5 and 11-6; E_v/E_r from Exhibits 11-10 through 11-13; f_{w} from Exhibit 11-8; f_c from Exhibit 11-9; f_p from Page 11-18.

[a] Free Flow Speed of 55 m/h was used for segments at Caltrans' request.

[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request.

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2035)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-7 US 101 Southbound
between Fourth Street and First Street
AM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 4,118 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 3.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.2TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|-----------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 1,490 | $\frac{v_s}{S}$ | = 27.1 |
| Speed (S): | 55.0 mi/h | Level of Service (LOS): | D |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2035)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-7 US 101 Northbound
between Fourth Street and First Street
AM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 5,103 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 3.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.2TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|-----------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 1,847 | $\frac{v_s}{S}$ | = 33.6 |
| Speed (S): | 54.9 mi/h | Level of Service (LOS): | D |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; E_T/E_R from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2035)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-7 US 101 Southbound
between Fourth Street and First Street
PM Peak Hour

| SPEED AND FLOW INPUTS | |
|--|-------------------------------|
| Flow Inputs | Speed Inputs |
| Volume (V): 4,214 veh/h | [a] Free Flow Speed: 55.0 mph |
| Peak Hour Factor (PHF): 0.940 | Lane Width: ft |
| % Trucks & Buses (P _T): 4.04 % | Right-shoulder |
| % RVs (P _R): 0.00 % | Lateral Clearance: ft |
| Grade Length: mi | Number of Ramps in 6 miles |
| Grade %: % | Centered on Segment: ramps |
| Terrain Type: Level | Other Inputs |
| Driver Type: Commuter/Weekday | Number of Lanes: 3.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
|---|---|
| Flow Adjustment Calculations | Speed Adjustment Calculations |
| Driver Population Factor (f _p): 1.00 | Lane Width (f _{lw}): mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): 1.5 | Lateral Clearance (f _{lc}): mi/h |
| for RVs (E _R): 1.2 | Total Ramp Density (TRD): ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | Free-Flow Speed: 75.4 - f _{lw} - f _{lc} |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) = 0.980 | - 3.22TRD^(0.84) = mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
|--|---------------------------------|
| Flow Rate (v _s): | Density (D): |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ = 1.525 pc/h/ln | $\frac{v_p}{S}$ = 27.7 pc/mi/ln |
| Speed (S): 55.0 mi/h | Level of Service (LOS): D |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2035)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-7 US 101 Northbound
between Fourth Street and First Street
PM Peak Hour

| SPEED AND FLOW INPUTS | |
|--|-------------------------------|
| Flow Inputs | Speed Inputs |
| Volume (V): 5,313 veh/h | [a] Free Flow Speed: 55.0 mph |
| Peak Hour Factor (PHF): 0.940 | Lane Width: ft |
| % Trucks & Buses (P _T): 4.04 % | Right-shoulder |
| % RVs (P _R): 0.00 % | Lateral Clearance: ft |
| Grade Length: mi | Number of Ramps in 6 miles |
| Grade %: % | Centered on Segment: ramps |
| Terrain Type: Level | Other Inputs |
| Driver Type: Commuter/Weekday | Number of Lanes: 3.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
|---|---|
| Flow Adjustment Calculations | Speed Adjustment Calculations |
| Driver Population Factor (f _p): 1.00 | Lane Width (f _{lw}): mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): 1.5 | Lateral Clearance (f _{lc}): mi/h |
| for RVs (E _R): 1.2 | Total Ramp Density (TRD): ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | Free-Flow Speed: 75.4 - f _{lw} - f _{lc} |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) = 0.980 | - 3.22TRD^(0.84) = mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
|--|---------------------------------|
| Flow Rate (v _s): | Density (D): |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ = 1.922 pc/h/ln | $\frac{v_p}{S}$ = 35.2 pc/mi/ln |
| Speed (S): 54.6 mi/h | Level of Service (LOS): E |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITH PROJECT CONDITIONS (YEAR 2035)

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-1 I-10 Westbound

between San Pedro Street/Central Avenue and Alameda Street
AM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 10,569 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _t): | 4.04 % | Right-shoulder | ft |
| % RVs (P _r): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _t): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _r): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _t (E _t - 1) + P _r (E _r - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 2,295 | $\frac{v_s}{S}$ | = 46.9 |
| Speed (S): | 49.0 | Level of Service (LOS): | F |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; P_t/E_t from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITH PROJECT CONDITIONS (YEAR 2035)

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-1 I-10 Eastbound

between San Pedro Street/Central Avenue and Alameda Street
AM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 7,183 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _t): | 4.04 % | Right-shoulder | ft |
| % RVs (P _r): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _t): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _r): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _t (E _t - 1) + P _r (E _r - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 1,559 | $\frac{v_s}{S}$ | = 28.3 |
| Speed (S): | 55.0 | Level of Service (LOS): | D |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; P_t/E_t from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-1 I-10 Westbound

between *San Pedro Street/Central Avenue and Alameda Street*
PM Peak Hour

| SPEED AND FLOW INPUTS | |
|--|-------------------------------|
| Flow Inputs | Speed Inputs |
| Volume (V): 11,294 veh/h | [a] Free Flow Speed: 55.0 mph |
| Peak Hour Factor (PHF): 0.940 | Lane Width: ft |
| % Trucks & Buses (P _T): 4.04 % | Right-shoulder |
| % RVs (P _R): 0.00 % | Lateral Clearance: ft |
| Grade Length: mi | Number of Ramps in 6 miles |
| Grade %: % | Centered on Segment: ramps |
| Terrain Type: Level | Other Inputs |
| Driver Type: Commuter/Weekday | Number of Lanes: 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
|---|---|
| Flow Adjustment Calculations | Speed Adjustment Calculations |
| Driver Population Factor (f _p): 1.00 | Lane Width (f _{lw}): mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): 1.5 | Lateral Clearance (f _{lc}): mi/h |
| for RVs (E _R): 1.2 | Total Ramp Density (TRD): ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | Free-Flow Speed: 75.4 - f _{lw} - f _{lc} |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) = 0.980 | - 3.22TRD^(0.84) = mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
|--|---------------------------------|
| Flow Rate (v _s): | Density (D): |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ = 2,452 pc/h/ln | $\frac{v_s}{S}$ = 55.1 pc/mi/ln |
| Speed (S): 44.5 mi/h | Level of Service (LOS): F |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-1 I-10 Eastbound

between *San Pedro Street/Central Avenue and Alameda Street*
PM Peak Hour

| SPEED AND FLOW INPUTS | |
|--|-------------------------------|
| Flow Inputs | Speed Inputs |
| Volume (V): 9,868 veh/h | [a] Free Flow Speed: 55.0 mph |
| Peak Hour Factor (PHF): 0.940 | Lane Width: ft |
| % Trucks & Buses (P _T): 4.04 % | Right-shoulder |
| % RVs (P _R): 0.00 % | Lateral Clearance: ft |
| Grade Length: mi | Number of Ramps in 6 miles |
| Grade %: % | Centered on Segment: ramps |
| Terrain Type: Level | Other Inputs |
| Driver Type: Commuter/Weekday | Number of Lanes: 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
|---|---|
| Flow Adjustment Calculations | Speed Adjustment Calculations |
| Driver Population Factor (f _p): 1.00 | Lane Width (f _{lw}): mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): 1.5 | Lateral Clearance (f _{lc}): mi/h |
| for RVs (E _R): 1.2 | Total Ramp Density (TRD): ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | Free-Flow Speed: 75.4 - f _{lw} - f _{lc} |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) = 0.980 | - 3.22TRD^(0.84) = mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
|--|---------------------------------|
| Flow Rate (v _s): | Density (D): |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ = 2,142 pc/h/ln | $\frac{v_s}{S}$ = 41.1 pc/mi/ln |
| Speed (S): 52.1 mi/h | Level of Service (LOS): E |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITH PROJECT CONDITIONS (YEAR 2035)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-2 I-10 Westbound

between Alameda Street and Santa Fe Avenue
AM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 18,099 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 3,929 | $\frac{v_s}{S}$ | = -69.0 |
| Speed (S): | -56.9 | Level of Service (LOS): | A |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; P_T/E_T from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITH PROJECT CONDITIONS (YEAR 2035)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-2 I-10 Eastbound

between Alameda Street and Santa Fe Avenue
AM Peak Hour

| SPEED AND FLOW INPUTS | | | |
|-------------------------------------|------------------|----------------------------|-----------|
| Flow Inputs | | Speed Inputs | |
| Volume (V): | 13,035 veh/h | [a] Free Flow Speed: | 55.0 mph |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft |
| % Trucks & Buses (P _T): | 4.04 % | Right-shoulder | |
| % RVs (P _R): | 0.00 % | Lateral Clearance: | ft |
| Grade Length: | mi | Number of Ramps in 6 miles | |
| Grade %: | % | Centered on Segment: | ramps |
| Terrain Type: | Level | Other Inputs | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | |
|---|-------|--|----------|
| Flow Adjustment Calculations | | Speed Adjustment Calculations | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): | 1.5 | Lateral Clearance (f _{lc}): | mi/h |
| for RVs (E _R): | 1.2 | Total Ramp Density (TRD): | ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | |
| 1 | 0.980 | 75.4 - f _{lw} - f _{lc} | |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) | | - 3.22TRD^(0.84) | mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | |
|---|---------|-------------------------|----------|
| Flow Rate (v _s): | | Density (D): | pc/mi/ln |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ | = 2,830 | $\frac{v_s}{S}$ | = 98.2 |
| Speed (S): | 28.8 | Level of Service (LOS): | F |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; P_T/E_T from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-2 I-10 Westbound

between Alameda Street and Santa Fe Avenue
PM Peak Hour

| SPEED AND FLOW INPUTS | |
|---|--|
| Flow Inputs
Volume (V): 13,547 veh/h
Peak Hour Factor (PHF): 0.940
% Trucks & Buses (P _T): 4.04 %
% RVs (P _R): 0.00 %
Grade Length: _____ mi
Grade %: _____ %
Terrain Type: Level
Driver Type: Commuter/Weekday | Speed Inputs
[a] Free Flow Speed: 55.0 mph
Lane Width: _____ ft
Right-shoulder Lateral Clearance: _____ ft
Number of Ramps in 6 miles: _____
Centered on Segment: _____ ramps
Other Inputs: _____
Number of Lanes: 5.0 lanes |
| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
| Flow Adjustment Calculations
Driver Population Factor (f _p): 1.00
Passenger Car Equivalents for Trucks & Buses (E _T): 1.5
for RVs (E _R): 1.2
Heavy Vehicle Factor (f _{hw}): _____
$1 + P_T(E_T - 1) + P_R(E_R - 1)$ = 0.980 | Speed Adjustment Calculations
Lane Width (f _{lw}): _____ mi/h
Lateral Clearance (f _{lc}): _____ mi/h
Total Ramp Density (TRD): _____ ramps/mi
Free-Flow Speed: _____
$75.4 - f_{lw} - f_{lc} - 3.22TRD \wedge (0.84)$ = _____ mi/h |
| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
| Flow Rate (v _s): _____
$\frac{V}{PHF * N * f_{hw} * f_p}$ = 2,941 pc/h/ln | Density (D): _____
$\frac{v_s}{S}$ = 128.7 pc/mi/ln
Level of Service (LOS): F |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-2 I-10 Eastbound

between Alameda Street and Santa Fe Avenue
PM Peak Hour

| SPEED AND FLOW INPUTS | |
|---|--|
| Flow Inputs
Volume (V): 17,876 veh/h
Peak Hour Factor (PHF): 0.940
% Trucks & Buses (P _T): 4.04 %
% RVs (P _R): 0.00 %
Grade Length: _____ mi
Grade %: _____ %
Terrain Type: Level
Driver Type: Commuter/Weekday | Speed Inputs
[a] Free Flow Speed: 55.0 mph
Lane Width: _____ ft
Right-shoulder Lateral Clearance: _____ ft
Number of Ramps in 6 miles: _____
Centered on Segment: _____ ramps
Other Inputs: _____
Number of Lanes: 5.0 lanes |
| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
| Flow Adjustment Calculations
Driver Population Factor (f _p): 1.00
Passenger Car Equivalents for Trucks & Buses (E _T): 1.5
for RVs (E _R): 1.2
Heavy Vehicle Factor (f _{hw}): _____
$1 + P_T(E_T - 1) + P_R(E_R - 1)$ = 0.980 | Speed Adjustment Calculations
Lane Width (f _{lw}): _____ mi/h
Lateral Clearance (f _{lc}): _____ mi/h
Total Ramp Density (TRD): _____ ramps/mi
Free-Flow Speed: _____
$75.4 - f_{lw} - f_{lc} - 3.22TRD \wedge (0.84)$ = _____ mi/h |
| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
| Flow Rate (v _s): _____
$\frac{V}{PHF * N * f_{hw} * f_p}$ = 3,881 pc/h/ln | Density (D): _____
$\frac{v_s}{S}$ = -74.7 pc/mi/ln
Level of Service (LOS): A |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITH PROJECT CONDITIONS (YEAR 2035)

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-3 I-10 Westbound

between Santa Fe Avenue and US 101

AM Peak Hour

| SPEED AND FLOW INPUTS | |
|---|--|
| Flow Inputs
Volume (V): 11,726 veh/h
Peak Hour Factor (PHF): 0.940
% Trucks & Buses (P _T): 4.04 %
% RVs (P _R): 0.00 %
Grade Length: 0.00 mi
Grade %: 0.00 %
Terrain Type: Level
Driver Type: Commuter/Weekday | Speed Inputs
[a] Free Flow Speed: 55.0 mph
Lane Width: 11.0 ft
Right-shoulder: 11.0 ft
Lateral Clearance: 11.0 ft
Number of Ramps in 6 miles: 0.00
Centered on Segment: 0.00
Other Inputs: 2.0 lanes
Number of Lanes: 2.0 |
| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
| Flow Adjustment Calculations
Driver Population Factor (f _p): 1.00
Passenger Car Equivalents for Trucks & Buses (E _T): 1.5
for RVs (E _R): 1.2
Heavy Vehicle Factor (f _{hw}): 0.980
$1 + P_T(E_T - 1) + P_R(E_R - 1)$ | Speed Adjustment Calculations
Lane Width (f _{lw}): 1.00
Lateral Clearance (f _{lc}): 1.00
Total Ramp Density (TRD): 1.5
Free-Flow Speed: 75.4 - f _{lw} - f _{lc}
$- 3.22TRD \wedge (0.84)$ = 55.0 mi/h |
| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
| Flow Rate (v _s):
$\frac{V}{PHF * N * f_{hw} * f_p}$ = 6,365 pc/h/ln | Density (D):
$\frac{v_s}{S}$ = -13.9 pc/mi/ln
Level of Service (LOS): A |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
 Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; P_T/E_T from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
 [a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITH PROJECT CONDITIONS (YEAR 2035)

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-3 I-10 Eastbound

between Santa Fe Avenue and US 101

AM Peak Hour

| SPEED AND FLOW INPUTS | |
|---|--|
| Flow Inputs
Volume (V): 6,563 veh/h
Peak Hour Factor (PHF): 0.940
% Trucks & Buses (P _T): 4.04 %
% RVs (P _R): 0.00 %
Grade Length: 0.00 mi
Grade %: 0.00 %
Terrain Type: Level
Driver Type: Commuter/Weekday | Speed Inputs
[a] Free Flow Speed: 55.0 mph
Lane Width: 11.0 ft
Right-shoulder: 11.0 ft
Lateral Clearance: 11.0 ft
Number of Ramps in 6 miles: 0.00
Centered on Segment: 0.00
Other Inputs: 2.0 lanes
Number of Lanes: 2.0 |
| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
| Flow Adjustment Calculations
Driver Population Factor (f _p): 1.00
Passenger Car Equivalents for Trucks & Buses (E _T): 1.5
for RVs (E _R): 1.2
Heavy Vehicle Factor (f _{hw}): 0.980
$1 + P_T(E_T - 1) + P_R(E_R - 1)$ | Speed Adjustment Calculations
Lane Width (f _{lw}): 1.00
Lateral Clearance (f _{lc}): 1.00
Total Ramp Density (TRD): 1.5
Free-Flow Speed: 75.4 - f _{lw} - f _{lc}
$- 3.22TRD \wedge (0.84)$ = 55.0 mi/h |
| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
| Flow Rate (v _s):
$\frac{V}{PHF * N * f_{hw} * f_p}$ = 3,562 pc/h/ln | Density (D):
$\frac{v_s}{S}$ = -164.5 pc/mi/ln
Level of Service (LOS): A |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
 Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; E_T/E_R from Exhibits 11-10 through 11-13; f_{hw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
 [a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-3 I-10 Westbound

between Santa Fe Avenue and US 101

PM Peak Hour

| SPEED AND FLOW INPUTS | |
|--|-------------------------------|
| Flow Inputs | Speed Inputs |
| Volume (V): 12,305 veh/h | [a] Free Flow Speed: 55.0 mph |
| Peak Hour Factor (PHF): 0.940 | Lane Width: ft |
| % Trucks & Buses (P _T): 4.04 % | Right-shoulder |
| % RVs (P _R): 0.00 % | Lateral Clearance: ft |
| Grade Length: mi | Number of Ramps in 6 miles |
| Grade %: % | Centered on Segment: ramps |
| Terrain Type: Level | Other Inputs |
| Driver Type: Commuter/Weekday | Number of Lanes: 2.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
|---|---|
| Flow Adjustment Calculations | Speed Adjustment Calculations |
| Driver Population Factor (f _p): 1.00 | Lane Width (f _{lw}): mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): 1.5 | Lateral Clearance (f _{lc}): mi/h |
| for RVs (E _R): 1.2 | Total Ramp Density (TRD): ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | Free-Flow Speed: 75.4 - f _{lw} - f _{lc} |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) = 0.980 | - 3.22TRD^(0.84) = mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
|--|---|
| Flow Rate (v _s): | Density (D): v _s = -12.5 pc/mi/h |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ = 6.679 | Speed (S): -532.7 mi/h |
| | Level of Service (LOS): A |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-3 I-10 Eastbound

between Santa Fe Avenue and US 101

PM Peak Hour

| SPEED AND FLOW INPUTS | |
|--|-------------------------------|
| Flow Inputs | Speed Inputs |
| Volume (V): 10,248 veh/h | [a] Free Flow Speed: 55.0 mph |
| Peak Hour Factor (PHF): 0.940 | Lane Width: ft |
| % Trucks & Buses (P _T): 4.04 % | Right-shoulder |
| % RVs (P _R): 0.00 % | Lateral Clearance: ft |
| Grade Length: mi | Number of Ramps in 6 miles |
| Grade %: % | Centered on Segment: ramps |
| Terrain Type: Level | Other Inputs |
| Driver Type: Commuter/Weekday | Number of Lanes: 2.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
|---|---|
| Flow Adjustment Calculations | Speed Adjustment Calculations |
| Driver Population Factor (f _p): 1.00 | Lane Width (f _{lw}): mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): 1.5 | Lateral Clearance (f _{lc}): mi/h |
| for RVs (E _R): 1.2 | Total Ramp Density (TRD): ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | Free-Flow Speed: 75.4 - f _{lw} - f _{lc} |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) = 0.980 | - 3.22TRD^(0.84) = mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
|--|---|
| Flow Rate (v _s): | Density (D): v _s = -18.9 pc/mi/h |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ = 5.562 | Speed (S): -294.4 mi/h |
| | Level of Service (LOS): A |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; E_T/E_R from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-4 SR 60 Westbound

between Lorena Street and Indiana Street
AM Peak Hour

| SPEED AND FLOW INPUTS | |
|--|-------------------------------|
| Flow Inputs | Speed Inputs |
| Volume (V): 8,532 veh/h | [a] Free Flow Speed: 55.0 mph |
| Peak Hour Factor (PHF): 0.940 | Lane Width: ft |
| % Trucks & Buses (P _T): 4.04 % | Right-shoulder |
| % RVs (P _R): 0.00 % | Lateral Clearance: ft |
| Grade Length: mi | Number of Ramps in 6 miles |
| Grade %: % | Centered on Segment: ramps |
| Terrain Type: Level | Other Inputs |
| Driver Type: Commuter/Weekday | Number of Lanes: 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
|---|--|
| Flow Adjustment Calculations | Speed Adjustment Calculations |
| Driver Population Factor (f _p): 1.00 | Lane Width (f _{lw}): mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): 1.5 | Lateral Clearance (f _{lc}): mi/h |
| for RVs (E _R): 1.2 | Total Ramp Density (TRD): ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | Free-Flow Speed: mi/h |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) = 0.980 | 75.4 - f _{lw} - f _{lc} = 3.22TRD^(0.84) = mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
|--|---------------------------------|
| Flow Rate (v _s): | Density (D): |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ = 1.852 pc/h/ln | $\frac{v_s}{S}$ = 33.7 pc/mi/ln |
| Speed (S): 54.9 mi/h | Level of Service (LOS): D |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p_T/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-4 SR 60 Eastbound

between Lorena Street and Indiana Street
AM Peak Hour

| SPEED AND FLOW INPUTS | |
|--|-------------------------------|
| Flow Inputs | Speed Inputs |
| Volume (V): 7,210 veh/h | [a] Free Flow Speed: 55.0 mph |
| Peak Hour Factor (PHF): 0.940 | Lane Width: ft |
| % Trucks & Buses (P _T): 4.04 % | Right-shoulder |
| % RVs (P _R): 0.00 % | Lateral Clearance: ft |
| Grade Length: mi | Number of Ramps in 6 miles |
| Grade %: % | Centered on Segment: ramps |
| Terrain Type: Level | Other Inputs |
| Driver Type: Commuter/Weekday | Number of Lanes: 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
|---|--|
| Flow Adjustment Calculations | Speed Adjustment Calculations |
| Driver Population Factor (f _p): 1.00 | Lane Width (f _{lw}): mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): 1.5 | Lateral Clearance (f _{lc}): mi/h |
| for RVs (E _R): 1.2 | Total Ramp Density (TRD): ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | Free-Flow Speed: mi/h |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) = 0.980 | 75.4 - f _{lw} - f _{lc} = 3.22TRD^(0.84) = mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
|--|---------------------------------|
| Flow Rate (v _s): | Density (D): |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ = 1.565 pc/h/ln | $\frac{v_s}{S}$ = 28.5 pc/mi/ln |
| Speed (S): 55.0 mi/h | Level of Service (LOS): D |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; E_T/E_R from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITH PROJECT CONDITIONS (YEAR 2035)

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-4 SR 60 Westbound

between Lorena Street and Indiana Street
PM Peak Hour

| SPEED AND FLOW INPUTS | |
|---|---|
| Flow Inputs
Volume (V): 9,846 veh/h
Peak Hour Factor (PHF): 0.940
% Trucks & Buses (P _T): 4.04 %
% RVs (P _R): 0.00 %
Grade Length: 0.00 mi
Grade %: 0.00 %
Terrain Type: Level
Driver Type: Commuter/Weekday | Speed Inputs
[a] Free Flow Speed: 55.0 mph
Lane Width: 11.5 ft
Right-shoulder: 11.5 ft
Lateral Clearance: 11.5 ft
Number of Ramps in 6 miles: 0.00
Centered on Segment: 0.00
Other Inputs: 0.00
Number of Lanes: 5.0 lanes |
| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
| Flow Adjustment Calculations
Driver Population Factor (f _p): 1.00
Passenger Car Equivalents for Trucks & Buses (E _T): 1.5
for RVs (E _R): 1.2
Heavy Vehicle Factor (f _{hw}): 0.980
$1 + P_T(E_T - 1) + P_R(E_R - 1)$ = 0.980 | Speed Adjustment Calculations
Lane Width (f _{lw}): 1.00
Lateral Clearance (f _{lc}): 1.00
Total Ramp Density (TRD): 1.5
Free-Flow Speed: 75.4 - f _{lw} - f _{lc} - 3.22TRD^(0.84) = 41.0
mi/h |
| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
| Flow Rate (v _s):
$\frac{V}{PHF * N * f_{hw} * f_p}$ = 2,138 pc/h/ln | Density (D): $\frac{v_s}{S}$ = 41.0 pc/mi/ln
Level of Service (LOS): E |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{lw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITH PROJECT CONDITIONS (YEAR 2035)

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-4 SR 60 Eastbound

between Lorena Street and Indiana Street
PM Peak Hour

| SPEED AND FLOW INPUTS | |
|---|---|
| Flow Inputs
Volume (V): 10,530 veh/h
Peak Hour Factor (PHF): 0.940
% Trucks & Buses (P _T): 4.04 %
% RVs (P _R): 0.00 %
Grade Length: 0.00 mi
Grade %: 0.00 %
Terrain Type: Level
Driver Type: Commuter/Weekday | Speed Inputs
[a] Free Flow Speed: 55.0 mph
Lane Width: 11.5 ft
Right-shoulder: 11.5 ft
Lateral Clearance: 11.5 ft
Number of Ramps in 6 miles: 0.00
Centered on Segment: 0.00
Other Inputs: 0.00
Number of Lanes: 5.0 lanes |
| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
| Flow Adjustment Calculations
Driver Population Factor (f _p): 1.00
Passenger Car Equivalents for Trucks & Buses (E _T): 1.5
for RVs (E _R): 1.2
Heavy Vehicle Factor (f _{hw}): 0.980
$1 + P_T(E_T - 1) + P_R(E_R - 1)$ = 0.980 | Speed Adjustment Calculations
Lane Width (f _{lw}): 1.00
Lateral Clearance (f _{lc}): 1.00
Total Ramp Density (TRD): 1.5
Free-Flow Speed: 75.4 - f _{lw} - f _{lc} - 3.22TRD^(0.84) = 46.5
mi/h |
| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
| Flow Rate (v _s):
$\frac{V}{PHF * N * f_{hw} * f_p}$ = 2,286 pc/h/ln | Density (D): $\frac{v_s}{S}$ = 46.5 pc/mi/ln
Level of Service (LOS): F |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{lw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-5 I-5 Southbound

between Indiana Street and SR-60

AM Peak Hour

| SPEED AND FLOW INPUTS | |
|---|--|
| Flow Inputs | Speed Inputs |
| Volume (V): 11,716 veh/h | [a] Free Flow Speed: 55.0 mph |
| Peak Hour Factor (PHF): 0.940 | Lane Width: ft |
| % Trucks & Buses (P _t): 4.04 % | Right-shoulder |
| % RVs (P _r): 0.00 % | Lateral Clearance: ft |
| Grade Length: mi | Number of Ramps in 6 miles |
| Grade %: | Centered on Segment: ramps |
| Terrain Type: Level | Other Inputs: |
| Driver Type: Commuter/Weekday | Number of Lanes: 5.0 lanes |
| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
| Flow Adjustment Calculations | Speed Adjustment Calculations |
| Driver Population Factor (f _d): 1.00 | Lane Width (f _{lw}): mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _t): 1.5 | Lateral Clearance (f _{lc}): mi/h |
| for RVs (E _r): 1.2 | Total Ramp Density (TRD): ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | Free-Flow Speed: |
| 1 = 0.980 | 75.4 - f _{lw} - f _{lc} |
| 1 + P _t (E _t - 1) + P _r (E _r - 1) | - 3.22TRD*(0.84) = mi/h |
| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
| Flow Rate (v ₀): V | Density (D): pc/mi/in |
| PHF * N * f _{hw} * f _p | v ₀ = 61.5 pc/mi/in |
| Speed (S): | S |
| | Level of Service (LOS): F |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010. Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S , FFS , w from Exhibits 11-5 and 11-6; E_v/E_r from Exhibits 11-10 through 11-13; f_{w} from Exhibit 11-8; f_{c} from Exhibit 11-9; f_b from Page 11-18.

a) Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-5 I-5 Northbound

between Indiana Street and SR-60

AM Peak Hour

| SPEED AND FLOW INPUTS | |
|---|---|
| Flow Inputs | Speed Inputs |
| Volume (V): 7,817 veh/h | [a] Free Flow Speed: 55.0 mph |
| Peak Hour Factor (PHF): 0.940 | Lane Width: ft |
| % Trucks & Buses (P _T): 4.04 % | Right-shoulder |
| % RVs (P _R): 0.00 % | Lateral Clearance: ft |
| Grade Length: mi | Number of Ramps in 6 miles |
| Grade: % | Centered on Segment: ramps |
| Terrain Type: Level | Other Inputs |
| Driver Type: Commuter/Weekday | Number of Lanes: 5.0 lanes |
| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
| Flow Adjustment Calculations | Speed Adjustment Calculations |
| Driver Population Factor (f _p): 1.00 | Lane Width (f _{lw}): mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): 1.5 | Lateral Clearance (f _{lc}): mi/h |
| for RVs (E _R): 1.2 | Total Ramp Density (TRD): ramps/mi |
| Heavy Vehicle Factor (f _w): | Free-Flow Speed: |
| $1 = 0.980$ | $75.4 - f_{w} - f_{lc}$ |
| $1 + P_T(E_T - 1) + P_R(E_R - 1)$ | $- 3.22TRD(0.84) =$ mi/h |
| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
| Flow Rate (v _s): V | Density (D): v _p = 30.9 pc/mi/in |
| $PHF * N * f_{w} * f_p$ | S |
| Speed (S): 55.0 mi/h | Level of Service (LOS): D |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010. Adjustment factors from HCM 2010 Chapter 11 as follows: LOS 5, FFS_w from Exhibits 11-5 and 11-6; E_v/E_r from Exhibits 11-10 through 11-13; $f_{w/o}$ from Exhibit 11-8; f_c from Exhibit 11-9; f_p from Page 11-18.

[a] Free Flow Speed of 55 m/h was used for segments at Caltrans' request.

[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request.

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-5 I-5 Southbound

between Indiana Street and SR-60

PM Peak Hour

| SPEED AND FLOW INPUTS | | | | | | | | | |
|---|------------------|--|-----------|-------------------------|---|------|----------|--|--|
| Flow Inputs | | Speed Inputs | | | | | | | |
| Volume (V): | 7,620 veh/h | [a] Free Flow Speed: | 55.0 mph | | | | | | |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft | | | | | | |
| % Trucks & Buses (P _t): | 4.04 % | Right-shoulder | | | | | | | |
| % RVs (P _r): | 0.00 % | Lateral Clearance: | ft | | | | | | |
| Grade Length: | mi | Number of Ramps in 6 miles | | | | | | | |
| Grade %: | % | Centered on Segment: | ramps | | | | | | |
| Terrain Type: | Level | Other Inputs | | | | | | | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes | | | | | | |
| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | | | | | | | |
| Flow Adjustment Calculations | | Speed Adjustment Calculations | | | | | | | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h | | | | | | |
| Passenger Car Equivalents for Trucks & Buses (E _t): | 1.5 | Lateral Clearance (f _{lc}): | mi/h | | | | | | |
| for RVs (E _r): | 1.2 | Total Ramp Density (TRD): | ramps/mi | | | | | | |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | | | | | | | |
| 1 | | 75.4 - f _{lw} - f _{lc} | | | | | | | |
| 1 + P _t (E _t - 1) + P _r (E _r - 1) | 0.980 | - 3.22TRD^(0.84) | mi/h | | | | | | |
| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | | | | | | | |
| Flow Rate (v _s): | | Density (D): | pc/h/ln | v _s | = | 30.1 | pc/mi/ln | | |
| PHF * N * f _{hw} * f _p | 1,654 | Speed (S): | mi/h | Level of Service (LOS): | D | | | | |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_t from Exhibits 11-10 through 11-13; f_{aw} from Exhibit 11-8; f_c from Exhibit 11-9; f_r from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-5 I-5 Northbound

between Indiana Street and SR-60

PM Peak Hour

| SPEED AND FLOW INPUTS | | | | | | | | | |
|---|------------------|--|-----------|-------------------------|---|------|----------|--|--|
| Flow Inputs | | Speed Inputs | | | | | | | |
| Volume (V): | 7,784 veh/h | [a] Free Flow Speed: | 55.0 mph | | | | | | |
| Peak Hour Factor (PHF): | 0.940 | Lane Width: | ft | | | | | | |
| % Trucks & Buses (P _t): | 4.04 % | Right-shoulder | | | | | | | |
| % RVs (P _r): | 0.00 % | Lateral Clearance: | ft | | | | | | |
| Grade Length: | mi | Number of Ramps in 6 miles | | | | | | | |
| Grade %: | % | Centered on Segment: | ramps | | | | | | |
| Terrain Type: | Level | Other Inputs | | | | | | | |
| Driver Type: | Commuter/Weekday | Number of Lanes: | 5.0 lanes | | | | | | |
| SPEED AND FLOW ADJUSTMENT CALCULATIONS | | | | | | | | | |
| Flow Adjustment Calculations | | Speed Adjustment Calculations | | | | | | | |
| Driver Population Factor (f _p): | 1.00 | Lane Width (f _{lw}): | mi/h | | | | | | |
| Passenger Car Equivalents for Trucks & Buses (E _t): | 1.5 | Lateral Clearance (f _{lc}): | mi/h | | | | | | |
| for RVs (E _r): | 1.2 | Total Ramp Density (TRD): | ramps/mi | | | | | | |
| Heavy Vehicle Factor (f _{hw}): | | Free-Flow Speed: | | | | | | | |
| 1 | | 75.4 - f _{lw} - f _{lc} | | | | | | | |
| 1 + P _t (E _t - 1) + P _r (E _r - 1) | 0.980 | - 3.22TRD^(0.84) | mi/h | | | | | | |
| LEVEL OF SERVICE AND PERFORMANCE MEASURES | | | | | | | | | |
| Flow Rate (v _s): | | Density (D): | pc/h/ln | v _s | = | 30.7 | pc/mi/ln | | |
| PHF * N * f _{hw} * f _p | 1,690 | Speed (S): | mi/h | Level of Service (LOS): | D | | | | |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; E_t/E_r from Exhibits 11-10 through 11-13; f_{aw} from Exhibit 11-8; f_c from Exhibit 11-9; f_r from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-6 I-5 Southbound

between Fourth Street and Cesar E Chavez Avenue
AM Peak Hour

| SPEED AND FLOW INPUTS | |
|--|-------------------------------|
| Flow Inputs | Speed Inputs |
| Volume (V): 12,043 veh/h | [a] Free Flow Speed: 55.0 mph |
| Peak Hour Factor (PHF): 0.940 | Lane Width: ft |
| % Trucks & Buses (P _T): 4.04 % | Right-shoulder |
| % RVs (P _R): 0.00 % | Lateral Clearance: ft |
| Grade Length: mi | Number of Ramps in 6 miles |
| Grade %: % | Centered on Segment: ramps |
| Terrain Type: Level | Other Inputs |
| Driver Type: Commuter/Weekday | Number of Lanes: 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
|---|---|
| Flow Adjustment Calculations | Speed Adjustment Calculations |
| Driver Population Factor (f _p): 1.00 | Lane Width (f _{lw}): mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): 1.5 | Lateral Clearance (f _{lc}): mi/h |
| for RVs (E _R): 1.2 | Total Ramp Density (TRD): ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | Free-Flow Speed: 75.4 - f _{lw} - f _{lc} |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) = 0.980 | - 3.22TRD^(0.84) = mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
|--|---------------------------------|
| Flow Rate (v _s): | Density (D): |
| $\frac{V}{PHF * N * f_{pw} * f_p} = 2.615$ pc/h/ln | $\frac{v_p}{S} = 67.7$ pc/mi/ln |
| Speed (S): 38.6 mi/h | Level of Service (LOS): F |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-6 I-5 Northbound

between Fourth Street and Cesar E Chavez Avenue
AM Peak Hour

| SPEED AND FLOW INPUTS | |
|--|-------------------------------|
| Flow Inputs | Speed Inputs |
| Volume (V): 10,900 veh/h | [a] Free Flow Speed: 55.0 mph |
| Peak Hour Factor (PHF): 0.940 | Lane Width: ft |
| % Trucks & Buses (P _T): 4.04 % | Right-shoulder |
| % RVs (P _R): 0.00 % | Lateral Clearance: ft |
| Grade Length: mi | Number of Ramps in 6 miles |
| Grade %: % | Centered on Segment: ramps |
| Terrain Type: Level | Other Inputs |
| Driver Type: Commuter/Weekday | Number of Lanes: 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
|---|---|
| Flow Adjustment Calculations | Speed Adjustment Calculations |
| Driver Population Factor (f _p): 1.00 | Lane Width (f _{lw}): mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): 1.5 | Lateral Clearance (f _{lc}): mi/h |
| for RVs (E _R): 1.2 | Total Ramp Density (TRD): ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | Free-Flow Speed: 75.4 - f _{lw} - f _{lc} |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) = 0.980 | - 3.22TRD^(0.84) = mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
|--|---------------------------------|
| Flow Rate (v _s): | Density (D): |
| $\frac{V}{PHF * N * f_{pw} * f_p} = 2.366$ pc/h/ln | $\frac{v_p}{S} = 50.2$ pc/mi/ln |
| Speed (S): 47.1 mi/h | Level of Service (LOS): F |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; E_T/E_R from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITH PROJECT CONDITIONS (YEAR 2035)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-6 I-5 Southbound

between Fourth Street and Cesar E Chavez Avenue
PM Peak Hour

| SPEED AND FLOW INPUTS | |
|--|-------------------------------|
| Flow Inputs | Speed Inputs |
| Volume (V): 9,520 veh/h | [a] Free Flow Speed: 55.0 mph |
| Peak Hour Factor (PHF): 0.940 | Lane Width: ft |
| % Trucks & Buses (P _T): 4.04 % | Right-shoulder |
| % RVs (P _R): 0.00 % | Lateral Clearance: ft |
| Grade Length: mi | Number of Ramps in 6 miles |
| Grade %: % | Centered on Segment: ramps |
| Terrain Type: Level | Other Inputs |
| Driver Type: Commuter/Weekday | Number of Lanes: 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
|---|---|
| Flow Adjustment Calculations | Speed Adjustment Calculations |
| Driver Population Factor (f _p): 1.00 | Lane Width (f _{lw}): mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): 1.5 | Lateral Clearance (f _{lc}): mi/h |
| for RVs (E _R): 1.2 | Total Ramp Density (TRD): ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | Free-Flow Speed: 75.4 - f _{lw} - f _{lc} |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) = 0.980 | - 3.22TRD^(0.84) = mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
|--|---------------------------|
| Flow Rate (v _s): | Density (D): |
| $\frac{V}{PHF * N * f_{hw} * f_p} = 2.067$ pc/h/ln | $v_s = 38.8$ pc/mi/ln |
| Speed (S): 53.2 mi/h | Level of Service (LOS): E |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

FUTURE WITH PROJECT CONDITIONS (YEAR 2035)

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-6 I-5 Northbound

between Fourth Street and Cesar E Chavez Avenue
PM Peak Hour

| SPEED AND FLOW INPUTS | |
|--|-------------------------------|
| Flow Inputs | Speed Inputs |
| Volume (V): 12,440 veh/h | [a] Free Flow Speed: 55.0 mph |
| Peak Hour Factor (PHF): 0.940 | Lane Width: ft |
| % Trucks & Buses (P _T): 4.04 % | Right-shoulder |
| % RVs (P _R): 0.00 % | Lateral Clearance: ft |
| Grade Length: mi | Number of Ramps in 6 miles |
| Grade %: % | Centered on Segment: ramps |
| Terrain Type: Level | Other Inputs |
| Driver Type: Commuter/Weekday | Number of Lanes: 5.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
|---|---|
| Flow Adjustment Calculations | Speed Adjustment Calculations |
| Driver Population Factor (f _p): 1.00 | Lane Width (f _{lw}): mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): 1.5 | Lateral Clearance (f _{lc}): mi/h |
| for RVs (E _R): 1.2 | Total Ramp Density (TRD): ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | Free-Flow Speed: 75.4 - f _{lw} - f _{lc} |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) = 0.980 | - 3.22TRD^(0.84) = mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
|--|---------------------------|
| Flow Rate (v _s): | Density (D): |
| $\frac{V}{PHF * N * f_{hw} * f_p} = 2.701$ pc/h/ln | $v_s = 77.3$ pc/mi/ln |
| Speed (S): 35.0 mi/h | Level of Service (LOS): F |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_p from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-7 US 101 Southbound
between Fourth Street and First Street
AM Peak Hour

| SPEED AND FLOW INPUTS | |
|--|-------------------------------|
| Flow Inputs | Speed Inputs |
| Volume (V): 4,124 veh/h | [a] Free Flow Speed: 55.0 mph |
| Peak Hour Factor (PHF): 0.940 | Lane Width: ft |
| % Trucks & Buses (P _T): 4.04 % | Right-shoulder |
| % RVs (P _R): 0.00 % | Lateral Clearance: ft |
| Grade Length: mi | Number of Ramps in 6 miles |
| Grade %: % | Centered on Segment: ramps |
| Terrain Type: Level | Other Inputs |
| Driver Type: Commuter/Weekday | Number of Lanes: 3.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
|---|---|
| Flow Adjustment Calculations | Speed Adjustment Calculations |
| Driver Population Factor (f _p): 1.00 | Lane Width (f _{lw}): mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): 1.5 | Lateral Clearance (f _{lc}): mi/h |
| for RVs (E _R): 1.2 | Total Ramp Density (TRD): ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | Free-Flow Speed: 75.4 - f _{lw} - f _{lc} |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) = 0.980 | - 3.22TRD^(0.84) = mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
|--|---------------------------------|
| Flow Rate (v _s): | Density (D): |
| $\frac{V}{PHF * N * f_{pw} * f_p} = 1.492$ pc/h/ln | $\frac{v_p}{S} = 27.1$ pc/mi/ln |
| Speed (S): 55.0 mi/h | Level of Service (LOS): D |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

668 S Alameda St Mixed-Use Project
Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-7 US 101 Northbound
between Fourth Street and First Street
AM Peak Hour

| SPEED AND FLOW INPUTS | |
|--|-------------------------------|
| Flow Inputs | Speed Inputs |
| Volume (V): 5,103 veh/h | [a] Free Flow Speed: 55.0 mph |
| Peak Hour Factor (PHF): 0.940 | Lane Width: ft |
| % Trucks & Buses (P _T): 4.04 % | Right-shoulder |
| % RVs (P _R): 0.00 % | Lateral Clearance: ft |
| Grade Length: mi | Number of Ramps in 6 miles |
| Grade %: % | Centered on Segment: ramps |
| Terrain Type: Level | Other Inputs |
| Driver Type: Commuter/Weekday | Number of Lanes: 3.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
|---|---|
| Flow Adjustment Calculations | Speed Adjustment Calculations |
| Driver Population Factor (f _p): 1.00 | Lane Width (f _{lw}): mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): 1.5 | Lateral Clearance (f _{lc}): mi/h |
| for RVs (E _R): 1.2 | Total Ramp Density (TRD): ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | Free-Flow Speed: 75.4 - f _{lw} - f _{lc} |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) = 0.980 | - 3.22TRD^(0.84) = mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
|--|---------------------------------|
| Flow Rate (v _s): | Density (D): |
| $\frac{V}{PHF * N * f_{pw} * f_p} = 1.847$ pc/h/ln | $\frac{v_p}{S} = 33.6$ pc/mi/ln |
| Speed (S): 54.9 mi/h | Level of Service (LOS): D |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-7 US 101 Southbound

between Fourth Street and First Street

PM Peak Hour

| SPEED AND FLOW INPUTS | |
|--|-------------------------------|
| Flow Inputs | Speed Inputs |
| Volume (V): 4,225 veh/h | [a] Free Flow Speed: 55.0 mph |
| Peak Hour Factor (PHF): 0.940 | Lane Width: ft |
| % Trucks & Buses (P _T): 4.04 % | Right-shoulder |
| % RVs (P _R): 0.00 % | Lateral Clearance: ft |
| Grade Length: mi | Number of Ramps in 6 miles |
| Grade %: % | Centered on Segment: ramps |
| Terrain Type: Level | Other Inputs |
| Driver Type: Commuter/Weekday | Number of Lanes: 3.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
|---|---|
| Flow Adjustment Calculations | Speed Adjustment Calculations |
| Driver Population Factor (f _p): 1.00 | Lane Width (f _{lw}): mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): 1.5 | Lateral Clearance (f _{lc}): mi/h |
| for RVs (E _R): 1.2 | Total Ramp Density (TRD): ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | Free-Flow Speed: 75.4 - f _{lw} - f _{lc} |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) = 0.980 | - 3.22TRD^(0.84) = mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
|--|---------------------------------|
| Flow Rate (v _s): | Density (D): |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ = 1,529 pc/h/ln | $\frac{v_s}{S}$ = 27.8 pc/mi/ln |
| Speed (S): 55.0 mi/h | Level of Service (LOS): D |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

668 S Alameda St Mixed-Use Project

Highway Capacity Manual 2010 - Basic Freeway Segments Worksheet

FS-7 US 101 Northbound

between Fourth Street and First Street

PM Peak Hour

| SPEED AND FLOW INPUTS | |
|--|-------------------------------|
| Flow Inputs | Speed Inputs |
| Volume (V): 5,313 veh/h | [a] Free Flow Speed: 55.0 mph |
| Peak Hour Factor (PHF): 0.940 | Lane Width: ft |
| % Trucks & Buses (P _T): 4.04 % | Right-shoulder |
| % RVs (P _R): 0.00 % | Lateral Clearance: ft |
| Grade Length: mi | Number of Ramps in 6 miles |
| Grade %: % | Centered on Segment: ramps |
| Terrain Type: Level | Other Inputs |
| Driver Type: Commuter/Weekday | Number of Lanes: 3.0 lanes |

| SPEED AND FLOW ADJUSTMENT CALCULATIONS | |
|---|---|
| Flow Adjustment Calculations | Speed Adjustment Calculations |
| Driver Population Factor (f _p): 1.00 | Lane Width (f _{lw}): mi/h |
| Passenger Car Equivalents for Trucks & Buses (E _T): 1.5 | Lateral Clearance (f _{lc}): mi/h |
| for RVs (E _R): 1.2 | Total Ramp Density (TRD): ramps/mi |
| Heavy Vehicle Factor (f _{hw}): | Free-Flow Speed: 75.4 - f _{lw} - f _{lc} |
| 1 + P _T (E _T - 1) + P _R (E _R - 1) = 0.980 | - 3.22TRD^(0.84) = mi/h |

| LEVEL OF SERVICE AND PERFORMANCE MEASURES | |
|--|---------------------------------|
| Flow Rate (v _s): | Density (D): |
| $\frac{V}{PHF * N * f_{hw} * f_p}$ = 1,922 pc/h/ln | $\frac{v_s}{S}$ = 35.2 pc/mi/ln |
| Speed (S): 54.6 mi/h | Level of Service (LOS): E |

Notes: Methodology from 2010 Highway Capacity Manual, Transportation Research Board, 2010.
Adjustment factors from HCM 2010 Chapter 11 as follows: LOS, S, FFS, w from Exhibits 11-5 and 11-6; p/E_T from Exhibits 11-10 through 11-13; f_{pw} from Exhibit 11-8; f_{lc} from Exhibit 11-9; f_R from Page 11-18.
[a] Free Flow Speed of 55 mi/h was used for segments at Caltrans' request

HCM 2010 TWSC

13: I-10 WB Ramps & 8th St

12/21/2016

| Intersection | | | | | | | | | | | |
|--|--------|--------|--------|-------|-------|------|--|--|--|--|--|
| Int Delay, s/veh | | 37.8 | | | | | | | | | |
| | | | | | | | | | | | |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR | | | | | |
| Vol veh/h | 18 | 189 | 396 | 19 | 201 | 375 | | | | | |
| Conflicting Peds. #/hr | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Sign Control | Free | Free | Free | Free | Stop | Stop | | | | | |
| RT Channelized | - | None | - | None | - | None | | | | | |
| Storage Length | - | - | - | - | 160 | 0 | | | | | |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - | | | | | |
| Grade, % | 0 | - | - | 0 | 0 | - | | | | | |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | | | | | |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | | | | | |
| Mvmt Flow | 20 | 205 | 430 | 21 | 218 | 408 | | | | | |
| | | | | | | | | | | | |
| Major/Minor | Major1 | Major2 | Minor1 | | | | | | | | |
| Conflicting Flow All | 0 | 225 | 0 | 1004 | 122 | | | | | | |
| Stage 1 | - | - | - | 122 | - | | | | | | |
| Stage 2 | - | - | - | 882 | - | | | | | | |
| Critical Hwy | - | 4.12 | - | 6.42 | 6.22 | | | | | | |
| Critical Hwy Stg 1 | - | - | - | 5.42 | - | | | | | | |
| Critical Hwy Stg 2 | - | - | - | 5.42 | - | | | | | | |
| Follow-up Hwy | - | 2.218 | - | 3.518 | 3.318 | | | | | | |
| Pot Cap-1 Maneuver | - | 1344 | - | 268 | 929 | | | | | | |
| Stage 1 | - | - | - | 903 | - | | | | | | |
| Stage 2 | - | - | - | 405 | - | | | | | | |
| Platoon blocked, % | - | - | - | - | - | | | | | | |
| Mov Cap-1 Maneuver | - | 1344 | - | ~ 181 | 929 | | | | | | |
| Mov Cap-2 Maneuver | - | - | - | ~ 181 | - | | | | | | |
| Stage 1 | - | - | - | 903 | - | | | | | | |
| Stage 2 | - | - | - | 274 | - | | | | | | |
| | | | | | | | | | | | |
| Approach | EB | WB | NB | | | | | | | | |
| HCM Control Delay, s | 0 | 8.5 | 72.4 | | | | | | | | |
| HCM LOS | | | F | | | | | | | | |
| | | | | | | | | | | | |
| Minor Lane/Major Mvmt | NBLnt | NBLn2 | EBT | EBR | WBL | WBT | | | | | |
| Capacity (veh/h) | 181 | 929 | - | - | 1344 | - | | | | | |
| HCM Lane V/C Ratio | 1.207 | 0.439 | - | - | 0.32 | - | | | | | |
| HCM Control Delay (s) | 185.4 | 11.9 | - | - | 8.9 | 0 | | | | | |
| HCM Lane LOS | F | B | - | - | A | A | | | | | |
| HCM 95th %ile Q(veh) | 11.7 | 2.3 | - | - | 1.4 | - | | | | | |
| | | | | | | | | | | | |
| Notes | | | | | | | | | | | |
| -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon | | | | | | | | | | | |

HCM 2010 TWSC

11: I-5 SB On-Ramp/US 101 SB Off-Ramp & 7th Street

12/21/2016

| Intersection | | | | | | | | | | | |
|-----------------------|--------------------------|------|--------|------|------|----------|-------|------|------|------|----------------|
| Init Delay, s/veh | | 6.8 | | | | | | | | | |
| Movement | | | | | | | | | | | |
| | Vol, veh/h | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL SBT SBR |
| | Conflicting Peds, #/hr | 0 | 309 | 138 | 0 | 2072 | 0 | 0 | 0 | 0 | 21 0 15 |
| | Sign Control | Free | Free | Free | Free | Free | Free | Free | Free | Free | Stop Stop Stop |
| | RT Channelized | - | - | None | - | - | None | - | - | None | - None - |
| | Storage Length | - | - | - | - | - | - | - | - | - | 35 - |
| | Veh in Median Storage, # | - | 0 | - | - | - | 0 | - | 0 | - | - 0 - |
| | Grade, % | - | 0 | - | - | - | 0 | - | 0 | - | - 0 - |
| | Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 92 92 |
| | Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 2 2 |
| | Mvmt Flow | 0 | 336 | 150 | 0 | 2252 | 0 | 0 | 0 | 0 | 23 0 16 |
| Major/Minor | | | | | | | | | | | |
| Major1 | | | Major2 | | | Minor2 | | | | | |
| Conflicting Flow All | | | 2252 | 0 | 0 | 486 | 0 | 0 | 2420 | 2738 | 1121 |
| Stage 1 | | | - | - | - | - | - | - | 2252 | 2252 | |
| Stage 2 | | | - | - | - | - | - | - | - | 168 | 486 |
| Critical Hdwy | | | 4.14 | - | - | 4.14 | - | - | 6.84 | 6.54 | 6.9 |
| Critical Hdwy Stg 1 | | | - | - | - | - | - | - | 5.84 | 5.54 | |
| Critical Hdwy Stg 2 | | | - | - | - | - | - | - | 5.84 | 5.54 | |
| Follow-up Hdwy | | | 2.22 | - | - | 2.22 | - | - | 3.52 | 4.02 | 3.3 |
| Pot Cap-1 Maneuver | | | 225 | - | - | 1073 | - | - | 27 | 20 | 19 |
| Stage 1 | | | - | - | - | - | - | - | 66 | 77 | |
| Stage 2 | | | - | - | - | - | - | - | 844 | 549 | |
| Platoon blocked, % | | | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | | | 225 | - | - | 1073 | - | - | 27 | 0 | 19 |
| Mov Cap-2 Maneuver | | | - | - | - | - | - | - | 27 | 0 | |
| Stage 1 | | | - | - | - | - | - | - | 66 | 0 | |
| Stage 2 | | | - | - | - | - | - | - | 844 | 0 | |
| Approach | | | | | | | | | | | |
| EB | | WB | | SB | | | | | | | |
| HCM Control Delay, s | | 0 | | 106 | | | | | | | |
| HCM LOS | | F | | F | | | | | | | |
| Minor Lane/Major Mvmt | | | | | | | | | | | |
| EBL | EBT | EBR | WBL | WBT | WBR | SBL | SBLn2 | | | | |
| 225 | - | - | 1073 | - | - | 27 | 199 | | | | |
| Capacity (veh/h) | - | - | - | - | - | 0.845 | 0.825 | | | | |
| HCM Lane V/C Ratio | 0 | - | 0 | - | - | \$ 331.4 | 74.6 | | | | |
| HCM Control Delay (s) | A | - | A | - | F | F | F | | | | |
| HCM Lane LOS | 0 | - | 0 | - | - | 2.7 | 6 | | | | |
| HCM 95th %ile Q(veh) | | | | | | | | | | | |

4/24/2017

21: I-10 EB Ramps & Alameda St

| Lane Group | EBL | EBR | NBL | NBT | SBL | SBR |
|-------------------------|------|------|------|------|------|------|
| Lane Group Flow (vph) | 299 | 571 | 400 | 1142 | 1 | 876 |
| v/c Ratio | 0.77 | 0.62 | 0.62 | 0.47 | 0.01 | 0.74 |
| Control Delay | 48.6 | 15.0 | 23.6 | 7.2 | 24.0 | 32.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 48.6 | 15.0 | 23.6 | 7.2 | 24.0 | 32.6 |
| Queue Length 50th (ft) | 153 | 182 | 136 | 153 | 0 | 237 |
| Queue Length 95th (ft) | #315 | 253 | 195 | 151 | 4 | #361 |
| Internal Link Dist (ft) | | | | 1190 | | 1580 |
| Turn Bay Length (ft) | 255 | | 530 | | 45 | 330 |
| Base Capacity (vph) | 391 | 916 | 800 | 2450 | 94 | 1189 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.76 | 0.62 | 0.50 | 0.47 | 0.01 | 0.74 |

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 2010 TWSC

12/21/2016

15: Private Dwy/I-10 EB Ramps & Porter St

| Intersection | 174 | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Ini Delay, S/vch | | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Vol, veh/h | 132 | 99 | 1 | 0 | 21 | 379 | 0 | 0 | 0 | 593 | 0 | 150 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | 150 | - | 25 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | - | 0 |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 143 | 108 | 1 | 0 | 23 | 412 | 0 | 0 | 0 | 645 | 0 | 163 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 435 | 0 | 0 | 109 | 0 | 0 | 624 | 830 | 108 | 624 | 625 | 229 |
| Stage 1 | - | - | - | - | - | - | 395 | 395 | - | 229 | 229 | - |
| Stage 2 | - | - | - | - | - | - | 229 | 435 | - | 395 | 396 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Sig 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Sig 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1125 | - | - | 1481 | - | - | 398 | 306 | 946 | ~398 | 401 | 810 |
| Stage 1 | - | - | - | - | - | - | 630 | 605 | - | 774 | 715 | - |
| Stage 2 | - | - | - | - | - | - | 774 | 580 | - | ~630 | 604 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 1125 | - | - | 1481 | - | - | 285 | 265 | 946 | ~357 | 347 | 810 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 285 | 265 | - | ~357 | 347 | - |
| Stage 1 | - | - | - | - | - | - | 545 | 523 | - | 670 | 715 | - |
| Stage 2 | - | - | - | - | - | - | 618 | 580 | - | ~545 | 522 | - |

| Approach | EB | WB | NB | SB |
|----------------------|-----|----|----|----------|
| HCM Control Delay, s | 4.9 | 0 | 0 | \$ 320.5 |
| HCM LOS | | | A | F |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 | SBLn3 |
|-----------------------|-------|-------|-----|-----|------|-----|-----|----------|-------|-------|
| Capacity (veh/h) | - | 1125 | - | - | 1481 | - | - | 357 | - | 810 |
| HCM Lane V/C Ratio | - | 0.128 | - | - | - | - | - | 1.806 | - | 0.201 |
| HCM Control Delay (s) | 0 | 8.7 | 0 | - | 0 | - | - | \$ 398.9 | 0 | 10.6 |
| HCM Lane LOS | A | A | A | - | A | - | - | F | A | B |
| HCM 95th %ile Q(veh) | - | 0.4 | - | - | 0 | - | - | 41.7 | - | 0.7 |

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s *: Computation Not Defined **: All major volume in platoon

HCM 2010 TWSC

11: I-5 SB On-Ramp/US 101 SB Off-Ramp & 7th Street













12/22/2016

| Intersection | 1.5 | | | | | | | | | |
|--------------------------|--------|------|--------|------|--------|-------|-------|------|----------------|----------------|
| Int Delay, s/veh | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL SBT SBR |
| Vol, veh/h | 0 | 1006 | 138 | 0 | 703 | 0 | 0 | 0 | 0 | 50 0 75 |
| Conflicting Peds. #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 0 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Free | Free | Free | Stop Stop Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - - None |
| Storage Length | - | - | - | - | - | - | - | - | - | 35 - 0 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - 0 - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - 0 - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 92 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 2 2 |
| Mvmt Flow | 0 | 1093 | 150 | 0 | 764 | 0 | 0 | 0 | 0 | 54 0 82 |
| Major/Minor | Major1 | | Major2 | | Minor2 | | | | | |
| Conflicting Flow All | 764 | | 0 | | 1243 | | 0 | | 1311 2007 382 | |
| Stage 1 | - | | - | | - | | - | | 764 764 - | |
| Stage 2 | - | | - | | - | | - | | 547 1243 - | |
| Critical Hdwy | 4.14 | | - | | 4.14 | | - | | 6.84 6.54 6.94 | |
| Critical Hdwy Slg 1 | - | | - | | - | | - | | 5.84 5.54 - | |
| Critical Hdwy Slg 2 | - | | - | | - | | - | | 5.84 5.54 - | |
| Follow-up Hdwy | 2.22 | | - | | 2.22 | | - | | 3.52 4.02 3.32 | |
| Pot Cap-1 Maneuver | 845 | | - | | 556 | | - | | 150 59 616 | |
| Stage 1 | - | | - | | - | | - | | 420 411 - | |
| Stage 2 | - | | - | | - | | - | | 544 245 - | |
| Platoon blocked, % | - | | - | | - | | - | | - | |
| Mov Cap-1 Maneuver | 845 | | - | | 556 | | - | | 150 0 616 | |
| Mov Cap-2 Maneuver | - | | - | | - | | - | | 150 0 - | |
| Stage 1 | - | | - | | - | | - | | 420 0 - | |
| Stage 2 | - | | - | | - | | - | | 544 0 - | |
| Approach | EB | | | WB | | | SB | | | |
| HCM Control Delay, s | 0 | | | 0 | | | 238 | | | |
| HCM LOS | | | | | | | C | | | |
| Minor Lane/Minor Mvmt | EBL | EBT | EBR | WBL | WBT | WBR | SBL | SBT | SBR | |
| Capacity (veh/h) | 845 | - | - | 556 | - | 150 | 616 | | | |
| HCM Lane V/C Ratio | - | - | - | - | - | 0.362 | 0.132 | | | |
| HCM Control Delay (s) | 0 | - | - | 0 | - | 42 | 11.7 | | | |
| HCM Lane LOS | A | - | - | A | - | E | B | | | |
| HCM 95th %tile Q(veh) | 0 | - | - | 0 | - | 1.5 | 0.5 | | | |

HCM Signalized Intersection Capacity Analysis

21: I-10 EB Ramps & Alameda St

4/24/2017

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations |  |  |  |  |  |  |  |  |  |  |  |  |
| Volume (vph) | 275 | 0 | 525 | 0 | 0 | 0 | 368 | 1042 | 8 | 1 | 806 | 424 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.0 | | 4.0 | | | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 |
| Flt | 1.00 | 0.85 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1770 | 1583 | | 1770 | 1583 | 1770 | 3535 | 1770 | 3539 | 1583 | 1583 | 1583 |
| Flt Permitted | 0.95 | 1.00 | | 0.15 | 1.00 | 1.00 | 0.15 | 1.00 | 0.15 | 1.00 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1770 | 1583 | | 274 | 3535 | 282 | 3535 | 282 | 3539 | 1583 | 1583 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 299 | 0 | 571 | 0 | 0 | 0 | 400 | 1133 | 9 | 1 | 876 | 461 |
| RTOR Reduction (vph) | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 151 |
| Lane Group Flow (vph) | 299 | 0 | 564 | 0 | 0 | 0 | 400 | 1142 | 0 | 1 | 876 | 310 |
| Turn Type | Prot | | pm+ov | | | | D+P+P | NA | | Perm | NA | pm+ov |
| Protected Phases | 1 | | 8 | | | | 8 | 3 | | 2 | | 1 |
| Permitted Phases | | | 1 | | | | 2 | 2 | | 2 | | 2 |
| Actuated Green, G (s) | 19.6 | | 47.7 | | | | 58.4 | 58.4 | | 30.3 | | 49.9 |
| Effective Green, g (s) | 19.6 | | 47.7 | | | | 58.4 | 58.4 | | 30.3 | | 49.9 |
| Actuated g/C Ratio | 0.22 | | 0.53 | | | | 0.65 | 0.65 | | 0.34 | | 0.55 |
| Clearance Time (s) | 4.0 | | 4.0 | | | | 4.0 | 4.0 | | 4.0 | | 4.0 |
| Vehicle Extension (s) | 3.0 | | 3.0 | | | | 3.0 | 3.0 | | 3.0 | | 3.0 |
| Lane Grp Cap (vph) | 385 | | 909 | | | | 644 | 2450 | | 94 | | 1191 |
| v/s Ratio Prot | c0.17 | | c0.19 | | | | 0.19 | 0.15 | | c0.25 | | 0.07 |
| v/s Ratio Perm | | | 0.16 | | | | 0.21 | 0.18 | | 0.00 | | 0.12 |
| v/c Ratio | 0.78 | | 0.62 | | | | 0.62 | 0.47 | | 0.01 | | 0.33 |
| Uniform Delay, d1 | 33.1 | | 14.8 | | | | 19.4 | 8.0 | | 19.9 | | 26.3 |
| Progression Factor | 1.00 | | 1.00 | | | | 1.00 | 1.00 | | 1.00 | | 1.00 |
| Incremental Delay, d2 | 9.5 | | 1.3 | | | | 1.9 | 0.6 | | 0.2 | | 4.1 |
| Delay (s) | 42.6 | | 16.1 | | | | 21.3 | 8.6 | | 20.1 | | 30.4 |
| Level of Service | D | | B | | | | C | A | | C | | C |
| Approach Delay (s) | 25.2 | | C | | 0.0 | | A | | 11.9 | | 23.7 | |
| Approach LOS | | | | | | | | | | | C | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | 19.2 | | HCM 2000 Level of Service | | B | | | | | |
| HCM 2000 Volume to Capacity ratio | | | 0.75 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 90.0 | | Sum of lost time (s) | | 16.0 | | | | | |
| Intersection Capacity Utilization | | | 67.9% | | ICU Level of Service | | C | | | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| Critical Lane Group | | | | | | | | | | | | |

HCM 2010 TWSC

15: Private Dwy/I-10 EB Ramps & Porter St

12/22/2016

| Intersection | | 15.3 | | | | | | | | | | | | | |
|--------------------------|--|--------|-------|------|-------|--------|------|-------|-------|--------|-------|-------|-------|--------|--|
| Init Delay, s/veh | | | | | | | | | | | | | | | |
| Movement | | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | | |
| Vol, veh/h | | 166 | 129 | 1 | 2 | 23 | 572 | 2 | 0 | 2 | 196 | 2 | 70 | | |
| Conflicting Peds, #/hr | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Sign Control | | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop | | |
| RT Channelized | | - | - | None | - | - | None | - | - | None | - | - | None | | |
| Storage Length | | - | - | - | - | - | - | - | - | - | 150 | - | 25 | | |
| Veh in Median Storage, # | | - | 0 | - | - | 0 | - | - | 0 | - | - | - | 0 | | |
| Grade, % | | - | 0 | - | - | 0 | - | - | 0 | - | - | - | 0 | | |
| Peak Hour Factor | | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | | |
| Heavy Vehicles, % | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | |
| Mvmt Flow | | 180 | 140 | 1 | 2 | 25 | 622 | 2 | 0 | 2 | 213 | 2 | 76 | | |
| Major/Minor | | Major1 | | | | Major2 | | | | Minor1 | | | | Minor2 | |
| Conflicting Flow All | | 647 | 0 | 0 | 141 | 0 | 0 | 843 | 1153 | 141 | 843 | 842 | 336 | | |
| Stage 1 | | - | - | - | - | - | - | 502 | 502 | - | 340 | 340 | - | | |
| Stage 2 | | - | - | - | - | - | - | 341 | 651 | - | 503 | 502 | - | | |
| Critical Hwy | | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | | |
| Critical Hwy Stg 1 | | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - | | |
| Critical Hwy Stg 2 | | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - | | |
| Follow-up Hwy | | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | | |
| Pot Cap-1 Maneuver | | 939 | - | - | 1442 | - | - | 284 | 197 | 907 | 284 | 301 | 706 | | |
| Stage 1 | | - | - | - | - | - | - | 552 | 542 | - | 675 | 639 | - | | |
| Stage 2 | | - | - | - | - | - | - | 674 | 465 | - | 551 | 542 | - | | |
| Platoon blocked, % | | - | - | - | - | - | - | - | - | - | - | - | - | | |
| Mov Cap-1 Maneuver | | 939 | - | - | 1442 | - | - | 211 | 156 | 907 | 238 | 238 | 706 | | |
| Mov Cap-2 Maneuver | | - | - | - | - | - | - | 211 | 156 | - | 238 | 238 | - | | |
| Stage 1 | | - | - | - | - | - | - | 437 | 429 | - | 535 | 638 | - | | |
| Stage 2 | | - | - | - | - | - | - | 598 | 464 | - | 435 | 429 | - | | |
| Approach | | EB | | WB | | NB | | SB | | | | | | | |
| HCM Control Delay, s | | 5.5 | | 0 | | 15.7 | | 60.1 | | | | | | | |
| HCM LOS | | | | | | C | | F | | | | | | | |
| Minor Lane/Major Mvmt | | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 | SBLn3 | | | | |
| Capacity (veh/h) | | 342 | 939 | - | - | 1442 | - | - | 238 | 238 | 706 | | | | |
| HCM Lane V/C Ratio | | 0.013 | 0.192 | - | - | 0.002 | - | - | 0.895 | 0.009 | 0.108 | | | | |
| HCM Control Delay (s) | | 15.7 | 9.7 | 0 | - | 7.5 | 0 | - | 78.1 | 20.3 | 10.7 | | | | |
| HCM Lane LOS | | C | A | A | - | A | A | - | F | C | B | | | | |
| HCM 95th %ile Q(veh) | | 0 | 0.7 | - | - | 0 | - | - | 7.5 | 0 | 0.4 | | | | |

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s *: Computation Not Defined **: All major volume in platoon

HCM 2010 TWSC

13: I-10 WB Ramps & 8th St

12/22/2016

| Intersection | | 81.1 | | | | | | | | | |
|--------------------------|--|--------------------------------|-------|--------|------|--------|-------|----------------------------|--|--|--|
| Init Delay, s/veh | | | | | | | | | | | |
| Movement | | EBT | EBR | WBL | WBT | NBL | NBR | | | | |
| Vol, veh/h | | 16 | 199 | 397 | 29 | 269 | 418 | | | | |
| Conflicting Peds, #/hr | | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| Sign Control | | Free | Free | Free | Free | Stop | Stop | | | | |
| RT Channelized | | - | None | - | None | - | None | | | | |
| Storage Length | | - | - | - | - | 160 | 0 | | | | |
| Veh in Median Storage, # | | 0 | - | - | 0 | 0 | - | | | | |
| Grade, % | | 0 | - | - | 0 | 0 | - | | | | |
| Peak Hour Factor | | 92 | 92 | 92 | 92 | 92 | 92 | | | | |
| Heavy Vehicles, % | | 2 | 2 | 2 | 2 | 2 | 2 | | | | |
| Mvmt Flow | | 17 | 216 | 432 | 32 | 292 | 454 | | | | |
| Major/Minor | | Major1 | | Major2 | | Minor1 | | | | | |
| Conflicting Flow All | | 0 | 0 | 234 | 0 | 1021 | 126 | | | | |
| Stage 1 | | - | - | - | - | 126 | - | | | | |
| Stage 2 | | - | - | - | - | 895 | - | | | | |
| Critical Hdwy | | - | - | 4.12 | - | 6.42 | 6.22 | | | | |
| Critical Hdwy Slg 1 | | - | - | - | - | 5.42 | - | | | | |
| Critical Hdwy Slg 2 | | - | - | - | - | 5.42 | - | | | | |
| Follow-up Hdwy | | - | - | 2.218 | - | 3.518 | 3.318 | | | | |
| Pot Cap-1 Maneuver | | - | - | 1333 | - | ~262 | 924 | | | | |
| Stage 1 | | - | - | - | - | 900 | - | | | | |
| Stage 2 | | - | - | - | - | 399 | - | | | | |
| Platoon blocked, % | | - | - | - | - | - | - | | | | |
| Mov Cap-1 Maneuver | | - | - | 1333 | - | ~176 | 924 | | | | |
| Mov Cap-2 Maneuver | | - | - | - | - | ~176 | - | | | | |
| Stage 1 | | - | - | - | - | 900 | - | | | | |
| Stage 2 | | - | - | - | - | ~267 | - | | | | |
| Approach | | EB | | WB | | NB | | | | | |
| HCM Control Delay, s | | 0 | | 8.4 | | 151.6 | | | | | |
| HCM LOS | | | | | | F | | | | | |
| Minor Lane/Major Mvmt | | NBLn1 | NBLn2 | EBT | EBR | WBL | WBT | | | | |
| Capacity (veh/h) | | 176 | 924 | - | - | 1333 | - | | | | |
| HCM Lane V/C Ratio | | 1.661 | 0.492 | - | - | 0.324 | - | | | | |
| HCM Control Delay (s) | | \$ 367.7 | 12.6 | - | - | 9 | 0 | | | | |
| HCM Lane LOS | | F | B | - | - | A | A | | | | |
| HCM 95th %tile Q(veh) | | 20 | 2.8 | - | - | 1.4 | - | | | | |
| Notes | | | | | | | | | | | |
| Volume exceeds capacity | | \$: Delay exceeds 300s | | | | | | *: Computation Not Defined | | | |
| Volume | | *: All major volume in platoon | | | | | | | | | |

HCM Signalized Intersection Capacity Analysis

21: I-10 EB Ramps & Alameda St

4/24/2017

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | 69 | 0 | 223 | 0 | 0 | 0 | 418 | 1011 | 0 | 0 | 1172 | 462 |
| Volume (vph) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Total Lost time (s) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 0.85 | 1.00 |
| Lane Util. Factor | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.85 | 1.00 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.85 | 1.00 |
| Satd. Flow (prot) | 1770 | 1583 | 1583 | 1770 | 1583 | 1583 | 1770 | 1583 | 1583 | 1770 | 1583 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.85 | 1.00 |
| Satd. Flow (perm) | 1770 | 1583 | 1583 | 1770 | 1583 | 1583 | 1770 | 1583 | 1583 | 1770 | 1583 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 75 | 0 | 242 | 0 | 0 | 0 | 454 | 1099 | 0 | 0 | 1274 | 502 |
| RTOR Reduction (vph) | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 145 |
| Lane Group Flow (vph) | 75 | 0 | 234 | 0 | 0 | 0 | 454 | 1099 | 0 | 0 | 1274 | 357 |
| Turn Type | Prot | pm+ov | pm+ov | NA | NA | NA | NA | NA | NA | NA | pm+ov | NA |
| Protected Phases | 1 | 8 | 8 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 1 |
| Permitted Phases | 9.4 | 32.6 | 32.6 | 58.6 | 58.6 | 58.6 | 35.4 | 35.4 | 35.4 | 35.4 | 44.8 | 44.8 |
| Actuated Green, G (s) | 9.4 | 32.6 | 32.6 | 58.6 | 58.6 | 58.6 | 35.4 | 35.4 | 35.4 | 35.4 | 44.8 | 44.8 |
| Effective Green, g (s) | 0.12 | 0.41 | 0.41 | 0.73 | 0.73 | 0.73 | 0.44 | 0.44 | 0.44 | 0.44 | 0.56 | 0.56 |
| Actuated g/C Ratio | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Clearance Time (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Vehicle Extension (s) | 207 | 724 | 724 | 606 | 2769 | 606 | 1566 | 965 | 1566 | 965 | 1566 | 965 |
| Lane Grp Cap (vph) | 0.04 | 0.09 | 0.09 | c0.22 | 0.12 | c0.36 | c0.36 | c0.04 | c0.36 | c0.04 | c0.36 | c0.04 |
| v/s Ratio Prot | 0.36 | 0.32 | 0.32 | 0.75 | 0.40 | 0.75 | 0.40 | 0.75 | 0.40 | 0.75 | 0.40 | 0.75 |
| v/s Ratio Perm | 32.5 | 16.2 | 16.2 | 19.2 | 4.0 | 19.2 | 4.0 | 19.4 | 9.8 | 19.4 | 9.8 | 9.8 |
| Uniform Delay, d1 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Progression Delay, d2 | 1.1 | 0.3 | 0.3 | 5.1 | 0.4 | 5.1 | 0.4 | 4.7 | 0.2 | 4.7 | 0.2 | 0.2 |
| Incremental Delay, d | 33.6 | 16.4 | 16.4 | 24.2 | 4.5 | 24.2 | 4.5 | 24.2 | 10.0 | 24.2 | 10.0 | 10.0 |
| Level of Service | C | B | B | C | A | C | A | C | C | C | B | B |
| Approach Delay (s) | 20.5 | C | C | 0.0 | A | 10.2 | B | 20.2 | C | 20.2 | C | C |
| Approach LOS | C | C | C | A | A | B | B | C | C | C | C | C |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2000 Control Delay | 16.0 | | | | | | | | | | | |
| HCM 2000 Volume to Capacity ratio | 0.78 | | | | | | | | | | | |
| Actuated Cycle Length (s) | 80.0 | | | | | | | | | | | |
| Intersection Capacity Utilization | 69.4% | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |
| c Critical Lane Group | 15 | | | | | | | | | | | |

Queues

21: I-10 EB Ramps & Alameda St

4/24/2017

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|------|------|------|------|------|------|
| Lane Group Flow (vph) | 75 | 242 | 454 | 1099 | 1274 | 502 |
| v/c Ratio | 0.36 | 0.33 | 0.75 | 0.40 | 0.81 | 0.46 |
| Control Delay | 37.7 | 13.1 | 26.8 | 3.3 | 27.6 | 5.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 37.7 | 13.1 | 26.8 | 3.3 | 27.6 | 5.1 |
| Queue Length 50th (ft) | 35 | 69 | 148 | 71 | 282 | 33 |
| Queue Length 95th (ft) | 77 | 97 | 215 | 76 | 490 | 119 |
| Internal Link Dist (ft) | 255 | 530 | 1190 | 1580 | 330 | 330 |
| Turn Bay Length (ft) | 207 | 785 | 886 | 2770 | 1566 | 1093 |
| Base Capacity (vph) | 0 | 0 | 0 | 0 | 0 | 0 |
| Sanction Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.36 | 0.31 | 0.51 | 0.40 | 0.81 | 0.46 |
| Intersection Summary | | | | | | |
| # 95th percentile volume exceeds capacity, queue may be longer. | | | | | | |
| Queue shown is maximum after two cycles. | | | | | | |

HCM 2010 TWSC

13: I-10 WB Ramps & 8th St

2/27/2017

| Intersection | | | | | | | | | | | | |
|--------------------------|------|--------|------|--------------------|------|-------|-------|-------------------------|--|--------------------------------|--|--|
| Int Delay, s/veh | | 43.7 | | | | | | | | | | |
| Movement | | | | | | | | | | | | |
| Vol veh/h | 18 | 194 | 396 | 19 | 212 | 375 | | | | | | |
| Conflicting Peds. #/hr | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | |
| Sign Control | Free | Free | Free | Free | Stop | Stop | | | | | | |
| RT Channelized | - | None | - | None | - | None | | | | | | |
| Storage Length | - | - | - | - | 160 | 0 | | | | | | |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - | | | | | | |
| Grade, % | 0 | - | - | 0 | 0 | - | | | | | | |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | | | | | | |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | | | | | | |
| Mvmt Flow | 20 | 211 | 430 | 21 | 230 | 408 | | | | | | |
| Major/Minor | | | | | | | | | | | | |
| Major1 | | Major2 | | Minor1 | | | | | | | | |
| Conflicting Flow All | | 0 | 0 | 230 | 0 | 1007 | 125 | | | | | |
| Stage 1 | | - | - | - | - | 125 | - | | | | | |
| Stage 2 | | - | - | - | - | 882 | - | | | | | |
| Critical Hwy | | - | - | 4.12 | - | 6.42 | 6.22 | | | | | |
| Critical Hwy Stg 1 | | - | - | - | - | 5.42 | - | | | | | |
| Critical Hwy Stg 2 | | - | - | - | - | 5.42 | - | | | | | |
| Follow-up Hwy | | - | - | 2.218 | - | 3.518 | 3.318 | | | | | |
| Pot Cap-1 Maneuver | | - | - | 1338 | - | 267 | 926 | | | | | |
| Stage 1 | | - | - | - | - | 901 | - | | | | | |
| Stage 2 | | - | - | - | - | 405 | - | | | | | |
| Platoon blocked, % | | - | - | - | - | - | - | | | | | |
| Mov Cap-1 Maneuver | | - | - | 1338 | - | ~ 180 | 926 | | | | | |
| Mov Cap-2 Maneuver | | - | - | - | - | ~ 180 | - | | | | | |
| Stage 1 | | - | - | - | - | 901 | - | | | | | |
| Stage 2 | | - | - | - | - | 273 | - | | | | | |
| Approach | | | | | | | | | | | | |
| EB | | WB | | NB | | | | | | | | |
| HCM Control Delay, s | | 0 | 8.6 | 84.3 | | | | | | | | |
| HCM LOS | | | | F | | | | | | | | |
| Minor Lane/Major Mvmt | | | | | | | | | | | | |
| NBLn1 | | NBLn2 | | EBT | | EBR | | WBL | | WBT | | |
| Capacity (veh/h) | | 180 | 926 | - | - | 1338 | - | | | | | |
| HCM Lane V/C Ratio | | 1.28 | 0.44 | - | - | 0.322 | - | | | | | |
| HCM Control Delay (s) | | 212.5 | 11.9 | - | - | 9 | 0 | | | | | |
| HCM Lane LOS | | F | B | - | - | A | A | | | | | |
| HCM 95th %ile Q(veh) | | 13 | 2.3 | - | - | 1.4 | - | | | | | |
| Notes | | | | | | | | | | | | |
| Volume exceeds capacity | | \$ | | Delay exceeds 300s | | +: | | Computation Not Defined | | *: All major volume in platoon | | |

Notes
 --: Volume exceeds capacity \$: Delay exceeds 300s *: Computation Not Defined *: All major volume in platoon

HCM 2010 TWSC

11: I-5 SB On-Ramp/US 101 SB Off-Ramp & 7th Street

2/27/2017

| Intersection | | | | | | | | | | | | |
|--------------------------|--------|------|------|--------|-------|------|----------|-------|------|------|------|------|
| Int Delay, s/veh | | 7.3 | | | | | | | | | | |
| | | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Vol, veh/h | 0 | 318 | 147 | 0 | 2079 | 0 | 0 | 0 | 0 | 21 | 0 | 15 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | None | - |
| Storage Length | - | - | - | - | - | - | - | - | - | 35 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 346 | 160 | 0 | 2260 | 0 | 0 | 0 | 0 | 23 | 0 | 17 |
| | | | | | | | | | | | | |
| Major/Minor | Major1 | | | Major2 | | | Minor2 | | | | | |
| Conflicting Flow All | 2260 | 0 | 0 | 505 | 0 | 0 | 2433 | | | 2765 | 113 | |
| Stage 1 | - | - | - | - | - | - | 2260 | | | 2260 | | |
| Stage 2 | - | - | - | - | - | - | 173 | | | 505 | | |
| Critical Hdwy | 4.14 | - | - | 4.14 | - | - | 6.84 | | | 6.9 | | |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 5.84 | | | 5.54 | | |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 5.84 | | | 5.54 | | |
| Follow-up Hdwy | 2.22 | - | - | 2.22 | - | - | 3.52 | | | 4.02 | | |
| Pot Cap-1 Maneuver | 223 | - | - | 1056 | - | - | 26 | | | 19 | | |
| Stage 1 | - | - | - | - | - | - | 65 | | | 76 | | |
| Stage 2 | - | - | - | - | - | - | 840 | | | 539 | | |
| Platoon blocked, % | - | - | - | - | - | - | 26 | | | 0 | | |
| Mov Cap-1 Maneuver | 223 | - | - | 1056 | - | - | 26 | | | 0 | | |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 65 | | | 0 | | |
| Stage 1 | - | - | - | - | - | - | 840 | | | 0 | | |
| Stage 2 | - | - | - | - | - | - | 840 | | | 0 | | |
| | | | | | | | | | | | | |
| Approach | EB | WB | | | SB | | | | | | | |
| HCM Control Delay, s | 0 | 0 | | | 112.7 | | | | | | | |
| HCM LOS | | | | F | | | | | | | | |
| | | | | | | | | | | | | |
| Minor Lane/Major Mvmt | EBL | EBT | EBR | WBL | WBT | WBR | SBL | SBT | SBR | | | |
| Capacity (veh/h) | 223 | - | - | 1056 | - | - | 26 | 198 | | | | |
| HCM Lane V/C Ratio | - | - | - | - | - | - | 0.878 | 0.856 | | | | |
| HCM Control Delay (s) | 0 | - | - | 0 | - | - | \$ 351.5 | 80.6 | | | | |
| HCM Lane LOS | A | - | - | A | - | - | F | F | | | | |
| HCM 95th %ile Q(veh) | 0 | - | 0 | - | 0 | - | 2.7 | 6.4 | | | | |

Queues

21: I-10 EB Ramps & Alameda St

4/24/2017

| Lane Group | EBL | EBR | NBL | NBT | SBL | SBT | SBR |
|-------------------------|------|------|------|------|------|------|------|
| Lane Group Flow (vph) | 302 | 571 | 400 | 1147 | 1 | 886 | 461 |
| v/c Ratio | 0.77 | 0.62 | 0.63 | 0.47 | 0.01 | 0.75 | 0.43 |
| Control Delay | 48.4 | 15.0 | 24.2 | 7.3 | 24.0 | 33.1 | 4.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 48.4 | 15.0 | 24.2 | 7.3 | 24.0 | 33.1 | 4.4 |
| Queue Length 50th (ft) | 154 | 182 | 140 | 156 | 0 | 241 | 27 |
| Queue Length 95th (ft) | #320 | 253 | 198 | 151 | 4 | #367 | 98 |
| Internal Link Dist (ft) | | | | 1190 | | 1580 | |
| Turn Bay Length (ft) | 255 | | 530 | | 45 | | 330 |
| Base Capacity (vph) | 394 | 918 | 795 | 2441 | 92 | 1184 | 1075 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.77 | 0.62 | 0.50 | 0.47 | 0.01 | 0.75 | 0.43 |

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 2010 TWSC

15: Private Dwy/I-10 EB Ramps & Porter St

2/27/2017

| Intersection | 184 | | | | | | | | | | | |
|--------------------------|--------|-------|------|--------|------|------|--------|--------|-------|--------|-------|-------|
| Int Delay, S/vch | | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Vol, veh/h | 139 | 99 | 1 | 0 | 21 | 379 | 0 | 0 | 0 | 593 | 0 | 153 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | 150 | - | 25 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | - | 0 |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 151 | 108 | 1 | 0 | 23 | 412 | 0 | 0 | 0 | 645 | 0 | 166 |
| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
| Conflicting Flow All | 435 | 0 | 0 | 109 | 0 | 0 | 639 | 845 | 108 | 639 | 640 | 229 |
| Stage 1 | - | - | - | - | - | - | 410 | 410 | - | 229 | 229 | - |
| Stage 2 | - | - | - | - | - | - | 229 | 435 | - | 410 | 411 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Sig 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Sig 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1125 | - | - | 1481 | - | - | 389 | 300 | 946 | ~389 | 393 | 810 |
| Stage 1 | - | - | - | - | - | - | 619 | 595 | - | 774 | 715 | - |
| Stage 2 | - | - | - | - | - | - | 774 | 580 | - | ~619 | 595 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 1125 | - | - | 1481 | - | - | 275 | 257 | 946 | ~346 | 337 | 810 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 275 | 257 | - | ~346 | 337 | - |
| Stage 1 | - | - | - | - | - | - | 530 | 510 | - | 663 | 715 | - |
| Stage 2 | - | - | - | - | - | - | 615 | 580 | - | ~530 | 510 | - |
| Approach | EB | | | WB | | | NB | | | SB | | |
| HCM Control Delay, s | 5.1 | | | 0 | | | 0 | | | \$ 340 | | |
| HCM LOS | | | | | | | A | | | F | | |
| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 | SBLn3 | | |
| Capacity (veh/h) | - | 1125 | - | - | 1481 | - | - | 346 | - | 810 | | |
| HCM Lane V/C Ratio | - | 0.134 | - | - | - | - | - | 1.863 | - | 0.205 | | |
| HCM Control Delay (s) | 0 | 8.7 | 0 | - | 0 | - | - | \$ 425 | 0 | 10.6 | | |
| HCM Lane LOS | A | A | A | - | A | - | - | F | A | B | | |
| HCM 95th %ile Q(veh) | - | 0.5 | - | - | 0 | - | - | 42.9 | - | 0.8 | | |

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s *: Computation Not Defined **: All major volume in platoon

HCM 2010 TWSC

11: I-5 SB On-Ramp/US 101 SB Off-Ramp & 7th Street

2/27/2017

| Intersection | 1.6 | | | | | | | | | | | |
|--------------------------|--------|------|------|--------|------|------|----------------|-------|------|------|------|------|
| Int Delay, s/veh | | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Vol, veh/h | 0 | 1013 | 145 | 0 | 718 | 0 | 0 | 0 | 0 | 50 | 0 | 86 |
| Conflicting Peds. #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | 35 | - | 0 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 1101 | 158 | 0 | 780 | 0 | 0 | 0 | 0 | 54 | 0 | 93 |
| Major/Minor | Major1 | | | Major2 | | | Minor2 | | | | | |
| Conflicting Flow All | 780 | 0 | 0 | 1259 | 0 | 0 | 1331 2039 390 | | | | | |
| Stage 1 | - | - | - | - | - | - | 780 780 | | | | | |
| Stage 2 | - | - | - | - | - | - | 551 1259 | | | | | |
| Critical Hdwy | 4.14 | - | - | 4.14 | - | - | 6.84 6.54 6.94 | | | | | |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 5.84 5.54 | | | | | |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 5.84 5.54 | | | | | |
| Follow-up Hdwy | 2.22 | - | - | 2.22 | - | - | 3.52 4.02 3.32 | | | | | |
| Pot Cap-1 Maneuver | 833 | - | - | 548 | - | - | 146 56 609 | | | | | |
| Stage 1 | - | - | - | - | - | - | 412 404 | | | | | |
| Stage 2 | - | - | - | - | - | - | 541 240 | | | | | |
| Platoon blocked, % | - | - | - | - | - | - | - | | | | | |
| Mov Cap-1 Maneuver | 833 | - | - | 548 | - | - | 146 0 609 | | | | | |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 146 0 | | | | | |
| Stage 1 | - | - | - | - | - | - | 412 0 | | | | | |
| Stage 2 | - | - | - | - | - | - | 541 0 | | | | | |
| Approach | EB | | | WB | | | SB | | | | | |
| HCM Control Delay, s | 0 | | | 0 | | | 23.6 | | | | | |
| HCM LOS | | | | | | | C | | | | | |
| Minor Lane/Minor Mvmt | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 | | | | |
| Capacity (veh/h) | 833 | - | - | 548 | - | - | 146 | 609 | | | | |
| HCM Lane V/C Ratio | - | - | - | - | - | - | 0.372 | 0.153 | | | | |
| HCM Control Delay (s) | 0 | - | 0 | - | - | - | 43.6 | 12 | | | | |
| HCM Lane LOS | A | - | A | - | A | - | E | B | | | | |
| HCM 95th %tile Q(veh) | 0 | - | 0 | - | 0 | - | 1.6 | 0.5 | | | | |

HCM Signalized Intersection Capacity Analysis

21: I-10 EB Ramps & Alameda St

4/24/2017

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | | | | |
|-----------------------------------|-------|-------|-------|-------|-------|------|------|------|---------------------------|------|-------|-------|------|--|--|--|
| Lane Configurations | ↖ | | ↗ | | | | ↖ | ↗ | ↖ | ↗ | ↖ | ↗ | | | | |
| Volume (vph) | 278 | 0 | 525 | 0 | 0 | 0 | 368 | 1047 | 8 | 1 | 815 | 424 | | | | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | | | | |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | | | |
| Flt | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.85 | | | | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | | | | |
| Satd. Flow (prot) | 1770 | 1583 | 1583 | 1770 | 1770 | 1770 | 3535 | 1770 | 3539 | 1770 | 3539 | 1583 | | | | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.14 | 1.00 | 1.00 | 0.15 | 1.00 | 1.00 | | | | |
| Satd. Flow (perm) | 1770 | 1583 | 1583 | 261 | 3535 | 276 | 3539 | 1583 | 1583 | 276 | 3539 | 1583 | | | | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | |
| Adj. Flow (vph) | 302 | 0 | 571 | 0 | 0 | 0 | 400 | 1138 | 9 | 1 | 886 | 461 | | | | |
| RTOR Reduction (vph) | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| Lane Group Flow (vph) | 302 | 0 | 564 | 0 | 0 | 0 | 400 | 1147 | 0 | 1 | 886 | 312 | | | | |
| Turn Type | Prot | pm+ov | pm+ov | D.P+P | NA | NA | Perm | NA | Perm | NA | pm+ov | pm+ov | | | | |
| Protected Phases | 1 | 8 | 1 | 8 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | | | |
| Permitted Phases | 19.9 | 47.9 | 47.9 | 58.1 | 58.1 | 58.1 | 30.1 | 30.1 | 50.0 | 30.1 | 30.1 | 50.0 | | | | |
| Actuated Green, G (s) | 19.9 | 47.9 | 47.9 | 58.1 | 58.1 | 58.1 | 30.1 | 30.1 | 50.0 | 30.1 | 30.1 | 50.0 | | | | |
| Effective Green, g (s) | 19.9 | 47.9 | 47.9 | 58.1 | 58.1 | 58.1 | 30.1 | 30.1 | 50.0 | 30.1 | 30.1 | 50.0 | | | | |
| Actuated g/C Ratio | 0.22 | 0.53 | 0.53 | 0.65 | 0.65 | 0.65 | 0.33 | 0.33 | 0.56 | 0.33 | 0.33 | 0.56 | | | | |
| Clearance Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | | | |
| Lane Grp Cap (vph) | 391 | 912 | 912 | 637 | 2439 | 92 | 1183 | 949 | 949 | 92 | 1183 | 949 | | | | |
| v/s Ratio Prot | c0.17 | c0.19 | c0.19 | 0.20 | 0.15 | 0.20 | 0.15 | 0.20 | 0.15 | 0.20 | 0.15 | 0.20 | | | | |
| v/s Ratio Perm | | 0.16 | 0.16 | 0.21 | 0.18 | 0.21 | 0.18 | 0.00 | 0.12 | 0.00 | 0.12 | 0.12 | | | | |
| v/c Ratio | 0.77 | 0.62 | 0.62 | 0.63 | 0.47 | 0.63 | 0.47 | 0.01 | 0.75 | 0.33 | 0.01 | 0.75 | | | | |
| Uniform Delay, d1 | 32.9 | 14.7 | 14.7 | 19.8 | 8.1 | 19.8 | 8.1 | 20.0 | 26.6 | 10.9 | 20.0 | 26.6 | | | | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | |
| Incremental Delay, d2 | 9.1 | 1.3 | 1.3 | 1.9 | 0.7 | 1.9 | 0.7 | 0.2 | 4.4 | 0.2 | 4.4 | 0.2 | | | | |
| Delay (s) | 42.1 | 15.9 | 15.9 | 21.7 | 8.8 | 21.7 | 8.8 | 20.2 | 31.0 | 11.1 | 20.2 | 31.0 | | | | |
| Level of Service | D | B | B | C | A | C | A | C | C | C | C | C | | | | |
| Approach Delay (s) | 25.0 | | | | 0.0 | | | | 12.1 | | | | 24.2 | | | |
| Approach LOS | C | | | | A | | | | B | | | | C | | | |
| Intersection Summary | | | | | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | | | 19.4 | | | | HCM 2000 Level of Service | | | | B | | | |
| HCM 2000 Volume to Capacity ratio | | | | | 0.76 | | | | | | | | | | | |
| Actuated Cycle Length (s) | | | | | 90.0 | | | | Sum of lost time (s) | | | | 16.0 | | | |
| Intersection Capacity Utilization | | | | | 68.3% | | | | ICU Level of Service | | | | C | | | |
| Analysis Period (min) | | | | | 15 | | | | | | | | | | | |
| Critical Lane Group | | | | | | | | | | | | | | | | |

HCM 2010 TWSC

15: Private Dwy/I-10 EB Ramps & Porter St

2/27/2017

| Intersection | | 16.4 | | | | | | | | | | | | | | | |
|--------------------------|--|--------|-------|------|-------|--------|------|-------|-------|--------|-------|-------|-------|--------|--|--|--|
| Int Delay, s/veh | | | | | | | | | | | | | | | | | |
| Movement | | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | | | | |
| Vol, veh/h | | 172 | 129 | 1 | 2 | 23 | 572 | 2 | 0 | 2 | 196 | 2 | 76 | | | | |
| Conflicting Peds, #/hr | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| Sign Control | | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop | | | | |
| RT Channelized | | - | - | None | - | - | None | - | - | None | - | - | None | | | | |
| Storage Length | | - | - | - | - | - | - | - | - | - | 150 | - | 25 | | | | |
| Veh in Median Storage, # | | - | 0 | - | - | 0 | - | - | 0 | - | - | - | 0 | | | | |
| Grade, % | | - | 0 | - | - | 0 | - | - | 0 | - | - | - | 0 | | | | |
| Peak Hour Factor | | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | | | | |
| Heavy Vehicles, % | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | | | |
| Mvmt Flow | | 187 | 140 | 1 | 2 | 25 | 622 | 2 | 0 | 2 | 213 | 2 | 83 | | | | |
| Major/Minor | | Major1 | | | | Major2 | | | | Minor1 | | | | Minor2 | | | |
| Conflicting Flow All | | 647 | 0 | 0 | 141 | 0 | 0 | 856 | 1166 | 141 | 856 | 855 | 336 | | | | |
| Stage 1 | | - | - | - | - | - | - | 515 | 515 | - | 340 | 340 | - | | | | |
| Stage 2 | | - | - | - | - | - | - | 341 | 651 | - | 516 | 515 | - | | | | |
| Critical Hwy | | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | | | | |
| Critical Hwy Stg 1 | | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - | | | | |
| Critical Hwy Stg 2 | | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - | | | | |
| Follow-up Hwy | | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | | | | |
| Pot Cap-1 Maneuver | | 939 | - | - | 1442 | - | - | 218 | 194 | 907 | 218 | 296 | 706 | | | | |
| Stage 1 | | - | - | - | - | - | - | 543 | 535 | - | 675 | 639 | - | | | | |
| Stage 2 | | - | - | - | - | - | - | 674 | 465 | - | 542 | 535 | - | | | | |
| Platoon blocked, % | | - | - | - | - | - | - | - | - | - | - | - | - | | | | |
| Mov Cap-1 Maneuver | | 939 | - | - | 1442 | - | - | 203 | 152 | 907 | 231 | 232 | 706 | | | | |
| Mov Cap-2 Maneuver | | - | - | - | - | - | - | 203 | 152 | - | 231 | 232 | - | | | | |
| Stage 1 | | - | - | - | - | - | - | 426 | 419 | - | 529 | 638 | - | | | | |
| Stage 2 | | - | - | - | - | - | - | 592 | 464 | - | 424 | 419 | - | | | | |
| Approach | | EB | | | | WB | | | | NB | | | | SB | | | |
| HCM Control Delay, s | | 5.6 | | | | 0 | | | | 16 | | | | 64.2 | | | |
| HCM LOS | | | | | | | | | | C | | | | F | | | |
| Minor Lane/Major Mvmt | | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 | SBLn3 | | | | | | |
| Capacity (veh/h) | | 332 | 939 | - | - | 1442 | - | - | 231 | 232 | 706 | | | | | | |
| HCM Lane V/C Ratio | | 0.013 | 0.199 | - | - | 0.002 | - | - | 0.922 | 0.009 | 0.117 | | | | | | |
| HCM Control Delay (s) | | 16 | 9.8 | 0 | - | 7.5 | 0 | - | 85.4 | 20.7 | 10.8 | | | | | | |
| HCM Lane LOS | | C | A | A | - | A | A | - | F | C | B | | | | | | |
| HCM 95th %ile Q(veh) | | 0 | 0.7 | - | - | 0 | - | - | 7.9 | 0 | 0.4 | | | | | | |

Notes
 --: Volume exceeds capacity \$: Delay exceeds 300s *: Computation Not Defined **: All major volume in platoon

HCM 2010 TWSC

13: I-10 WB Ramps & 8th St

2/27/2017

| Intersection | | | | | | | | | | | |
|--------------------------|--|------------------------|-------|--------|------|--------|-------|--------------------------------|--|--|--|
| Int Delay, s/veh | | 99 | | | | | | | | | |
| Movement | | EBT | EBR | WBL | WBT | NBL | NBR | | | | |
| Vol, veh/h | | 16 | 203 | 397 | 29 | 291 | 418 | | | | |
| Conflicting Peds, #/hr | | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| Sign Control | | Free | Free | Free | Free | Stop | Stop | | | | |
| RT Channelized | | - | None | - | None | - | None | | | | |
| Storage Length | | - | - | - | - | 160 | 0 | | | | |
| Veh in Median Storage, # | | 0 | - | - | 0 | 0 | - | | | | |
| Grade, % | | 0 | - | - | 0 | 0 | - | | | | |
| Peak Hour Factor | | 92 | 92 | 92 | 92 | 92 | 92 | | | | |
| Heavy Vehicles, % | | 2 | 2 | 2 | 2 | 2 | 2 | | | | |
| Mvmt Flow | | 17 | 221 | 432 | 32 | 316 | 454 | | | | |
| Major/Minor | | Major1 | | Major2 | | Minor1 | | | | | |
| Conflicting Flow All | | 0 | 0 | 238 | 0 | 1023 | 128 | | | | |
| Stage 1 | | - | - | - | - | 128 | - | | | | |
| Stage 2 | | - | - | - | - | 895 | - | | | | |
| Critical Hdwy | | - | - | 4.12 | - | 6.42 | 6.22 | | | | |
| Critical Hdwy Slg 1 | | - | - | - | - | 5.42 | - | | | | |
| Critical Hdwy Slg 2 | | - | - | - | - | 5.42 | - | | | | |
| Follow-up Hdwy | | - | - | 2.218 | - | 3.518 | 3.318 | | | | |
| Pot Cap-1 Maneuver | | - | - | 1329 | - | ~261 | 922 | | | | |
| Stage 1 | | - | - | - | - | 898 | - | | | | |
| Stage 2 | | - | - | - | - | 399 | - | | | | |
| Platoon blocked, % | | - | - | - | - | - | - | | | | |
| Mov Cap-1 Maneuver | | - | - | 1329 | - | ~175 | 922 | | | | |
| Mov Cap-2 Maneuver | | - | - | - | - | ~175 | - | | | | |
| Stage 1 | | - | - | - | - | 898 | - | | | | |
| Stage 2 | | - | - | - | - | ~267 | - | | | | |
| Approach | | EB | | WB | | NB | | | | | |
| HCM Control Delay, s | | 0 | | 8.4 | | 184 | | | | | |
| HCM LOS | | | | | | F | | | | | |
| Minor Lane/Major Mvmt | | NBLn1 | NBLn2 | EBT | EBR | WBL | WBT | | | | |
| Capacity (veh/h) | | 175 | 922 | - | - | 1329 | - | | | | |
| HCM Lane V/C Ratio | | 1.807 | 0.493 | - | - | 0.325 | - | | | | |
| HCM Control Delay (s) | | \$ 430.3 | 12.6 | - | - | 9 | 0 | | | | |
| HCM Lane LOS | | F | B | - | - | A | A | | | | |
| HCM 95th %tile Q(veh) | | 22.9 | 2.8 | - | - | 1.4 | - | | | | |
| Notes | | | | | | | | | | | |
| Volume exceeds capacity | | \$: Delay exceeds 300s | | | | | | *: Computation Not Defined | | | |
| | | | | | | | | *: All major volume in platoon | | | |

HCM Signalized Intersection Capacity Analysis

21: I-10 EB Ramps & Alameda St

4/24/2017

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|
| Lane Configurations | 75 | 0 | 223 | 0 | 0 | 0 | 418 | 1022 | 0 | 0 | 1179 | 462 |
| Volume (vph) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Total Lost time (s) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 |
| Lane Util. Factor | 0.95 | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.85 | 1.00 |
| Flt Protected | 1770 | 1583 | 1770 | 1583 | 1770 | 1583 | 1770 | 1583 | 1770 | 1583 | 1770 | 1583 |
| Satd. Flow (prot) | 0.95 | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.85 | 1.00 |
| Satd. Flow (perm) | 1770 | 1583 | 1770 | 1583 | 1770 | 1583 | 1770 | 1583 | 1770 | 1583 | 1770 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 82 | 0 | 242 | 0 | 0 | 0 | 454 | 1111 | 0 | 0 | 1282 | 502 |
| RTOR Reduction (vph) | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 145 |
| Queue Length 50th (ft) | 82 | 0 | 234 | 0 | 0 | 0 | 454 | 1111 | 0 | 0 | 1282 | 357 |
| Queue Length 95th (ft) | 82 | 0 | 234 | 0 | 0 | 0 | 454 | 1111 | 0 | 0 | 1282 | 357 |
| Turn Type | Prot | pm+ov | pm+ov | pm+ov | pm+ov | pm+ov | Prot | pm+ov | pm+ov | pm+ov | pm+ov | pm+ov |
| Protected Phases | 1 | 8 | 8 | 8 | 8 | 8 | 1 | 8 | 8 | 8 | 8 | 8 |
| Permitted Phases | 1 | 8 | 8 | 8 | 8 | 8 | 1 | 8 | 8 | 8 | 8 | 8 |
| Actuated Green, G (s) | 9.8 | 33.0 | 33.0 | 33.0 | 33.0 | 33.0 | 9.8 | 33.0 | 33.0 | 33.0 | 33.0 | 33.0 |
| Effective Green, g (s) | 9.8 | 33.0 | 33.0 | 33.0 | 33.0 | 33.0 | 9.8 | 33.0 | 33.0 | 33.0 | 33.0 | 33.0 |
| Actuated g/C Ratio | 0.12 | 0.41 | 0.41 | 0.41 | 0.41 | 0.41 | 0.12 | 0.41 | 0.41 | 0.41 | 0.41 | 0.41 |
| Clearance Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 216 | 732 | 732 | 732 | 732 | 732 | 216 | 732 | 732 | 732 | 732 | 732 |
| v/s Ratio Prot | 0.05 | 0.09 | 0.09 | 0.09 | 0.09 | 0.09 | 0.05 | 0.09 | 0.09 | 0.09 | 0.09 | 0.09 |
| v/s Ratio Perm | 0.38 | 0.32 | 0.32 | 0.32 | 0.32 | 0.32 | 0.38 | 0.32 | 0.32 | 0.32 | 0.32 | 0.32 |
| Uniform Delay, d1 | 32.3 | 15.9 | 15.9 | 15.9 | 15.9 | 15.9 | 32.3 | 15.9 | 15.9 | 15.9 | 15.9 | 15.9 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 1.1 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 1.1 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| Delay (s) | 33.4 | 16.2 | 16.2 | 16.2 | 16.2 | 16.2 | 33.4 | 16.2 | 16.2 | 16.2 | 16.2 | 16.2 |
| Level of Service | C | B | B | B | B | B | C | B | B | B | B | B |
| Approach Delay (s) | 20.5 | C | C | 0.0 | A | A | 20.5 | C | C | 0.0 | A | A |
| Approach LOS | C | C | C | A | A | A | C | C | C | A | A | A |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2000 Control Delay | 16.4 | | | | | | | | | | | |
| HCM 2000 Volume to Capacity ratio | 0.79 | | | | | | | | | | | |
| Actuated Cycle Length (s) | 80.0 | | | | | | | | | | | |
| Intersection Capacity Utilization | 69.9% | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |
| c Critical Lane Group | 15 | | | | | | | | | | | |

Queues

21: I-10 EB Ramps & Alameda St

4/24/2017

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|------|------|------|------|------|------|
| Lane Group Flow (vph) | 82 | 242 | 454 | 1111 | 1282 | 502 |
| v/c Ratio | 0.38 | 0.33 | 0.75 | 0.40 | 0.83 | 0.46 |
| Control Delay | 37.7 | 12.9 | 26.9 | 3.5 | 28.6 | 5.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 37.7 | 12.9 | 26.9 | 3.5 | 28.6 | 5.1 |
| Queue Length 50th (ft) | 83 | 68 | 149 | 74 | 287 | 33 |
| Queue Length 95th (ft) | 83 | 68 | 149 | 74 | 287 | 33 |
| Internal Link Dist (ft) | 255 | 530 | 1190 | 1580 | 330 | 330 |
| Turn Bay Length (ft) | 255 | 530 | 1190 | 1580 | 330 | 330 |
| Base Capacity (vph) | 217 | 787 | 886 | 2749 | 1546 | 1093 |
| Sanction Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.38 | 0.31 | 0.51 | 0.40 | 0.83 | 0.46 |
| Intersection Summary | | | | | | |
| # 95th percentile volume exceeds capacity, queue may be longer. | | | | | | |
| Queue shown is maximum after two cycles. | | | | | | |

HCM 2010 TWSC

13: I-10 WB Ramps & 8th St

6/12/2017

| Intersection | | | | | | | | | | | |
|---|---------|-------|-------|--------|-------|-------|-----------|--|--|--|--|
| Int Delay, s/veh 730.1 | | | | | | | | | | | |
| | | | | | | | | | | | |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR | | | | | |
| Vol, veh/h | 19 | 244 | 574 | 39 | 495 | 679 | | | | | |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Sign Control | Free | Free | Free | Free | Stop | Stop | | | | | |
| RT Channelized | - | None | - | None | - | None | | | | | |
| Storage Length | - | - | - | - | 160 | 0 | | | | | |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - | | | | | |
| Grade, % | 0 | - | - | 0 | 0 | - | | | | | |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | | | | | |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | | | | | |
| Mvmt Flow | 21 | 265 | 624 | 42 | 538 | 738 | | | | | |
| | | | | | | | | | | | |
| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | | |
| Conflicting Flow All | 0 | 0 | 286 | 0 | 1443 | 153 | | | | | |
| Stage 1 | - | - | - | - | 153 | - | | | | | |
| Stage 2 | - | - | - | - | 1290 | - | | | | | |
| Critical Hwy | - | - | 4.12 | - | 6.42 | 6.22 | | | | | |
| Critical Hwy Stg 1 | - | - | - | - | 5.42 | - | | | | | |
| Critical Hwy Stg 2 | - | - | - | - | 5.42 | - | | | | | |
| Follow-up Hwy | - | - | 2.218 | - | 3.518 | 3.318 | | | | | |
| Pot Cap-1 Maneuver | - | - | 1276 | - | ~ 146 | 893 | | | | | |
| Stage 1 | - | - | - | - | 875 | - | | | | | |
| Stage 2 | - | - | - | - | ~ 258 | - | | | | | |
| Platoon blocked, % | - | - | - | - | - | - | | | | | |
| Mov Cap-1 Maneuver | - | - | 1276 | - | ~ 73 | 893 | | | | | |
| Mov Cap-2 Maneuver | - | - | - | - | ~ 73 | - | | | | | |
| Stage 1 | - | - | - | - | 875 | - | | | | | |
| Stage 2 | - | - | - | - | ~ 129 | - | | | | | |
| | | | | | | | | | | | |
| Approach | EB | | | WB | | | NB | | | | |
| HCM Control Delay, s | 0 | | | 9.8 | | | \$ 1269.7 | | | | |
| HCM LOS | | | | | | | F | | | | |
| | | | | | | | | | | | |
| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL | WBT | | | | | |
| Capacity (veh/h) | 73 | 893 | - | - | 1276 | - | | | | | |
| HCM Lane V/C Ratio | 7.37 | 0.826 | - | - | 0.489 | - | | | | | |
| HCM Control Delay (s) | \$ 2971 | 25 | - | - | 10.5 | 0 | | | | | |
| HCM Lane LOS | F | D | - | - | B | A | | | | | |
| HCM 95th %ile Q(veh) | 61.4 | 9.6 | - | - | 2.8 | - | | | | | |
| | | | | | | | | | | | |
| Notes | | | | | | | | | | | |
| -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined **: All major volume in platoon | | | | | | | | | | | |

HCM 2010 TWSC

11: I-5 SB On-Ramp/US 101 SB Off-Ramp & 7th Street

6/12/2017

| Intersection | | | | | | | | | | | |
|---|--------|------|------|--------|------|------|-----------|-----------|------|------|---------|
| Init Delay, s/veh | | | | | | | | | | | |
| 95.4 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT |
| Vol. veh/h | 0 | 599 | 357 | 0 | 2711 | 0 | 0 | 0 | 0 | 22 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | 35 | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 651 | 388 | 0 | 2947 | 0 | 0 | 0 | 0 | 24 | 0 |
| | | | | | | | | | | | |
| Major/Minor | Major1 | | | Major2 | | | Minor2 | | | | |
| Conflicting Flow All | 2947 | 0 | 0 | 1039 | 0 | 0 | | | | 3273 | 3986 |
| Stage 1 | - | - | - | - | - | - | | | | 2947 | 2947 |
| Stage 2 | - | - | - | - | - | - | | | | 326 | 1039 |
| Critical Hdwy | 4.14 | - | - | 4.14 | - | - | | | | 6.84 | 6.54 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | | | | 5.84 | 5.54 |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | | | | 5.84 | 5.54 |
| Follow-up Hdwy | 2.22 | - | - | 2.22 | - | - | | | | 3.52 | 4.02 |
| Pot Cap-1 Maneuver | 119 | - | - | 665 | - | - | | | | - 7 | 3 - 116 |
| Stage 1 | - | - | - | - | - | - | | | | 26 | 33 |
| Stage 2 | - | - | - | - | - | - | | | | 704 | 306 |
| Platoon blocked, % | - | - | - | - | - | - | | | | - 7 | 0 - 116 |
| Mov Cap-1 Maneuver | 119 | - | - | 665 | - | - | | | | - 7 | 0 - |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | | | | 26 | 0 |
| Stage 1 | - | - | - | - | - | - | | | | 704 | 0 |
| Stage 2 | - | - | - | - | - | - | | | | - | - |
| | | | | | | | | | | | |
| Approach | EB | | | WB | | | SB | | | | |
| HCM Control Delay, s | 0 | | | 0 | | | \$ 1089.1 | | | | |
| HCM LOS | | | | | | | F | | | | |
| | | | | | | | | | | | |
| Minor Lane/Major Mvmt | EBL | EBT | EBR | WBL | WBT | WBR | SBn1 | SBn2 | | | |
| Capacity (veh/h) | 119 | - | - | 665 | - | - | 7 | 116 | | | |
| HCM Lane V/C Ratio | - | - | - | - | - | - | 3.416 | 3.092 | | | |
| HCM Control Delay (s) | 0 | - | - | 0 | - | - | \$ 2105 | \$ 1021.4 | | | |
| HCM Lane LOS | A | - | - | A | - | - | F | F | | | |
| HCM 95th %tile Q(veh) | 0 | - | - | 0 | - | - | 4.2 | 34.3 | | | |
| | | | | | | | | | | | |
| Notes | | | | | | | | | | | |
| -: Volume exceeds capacity \$: Delay exceeds 300s *: Computation Not Defined **: All major volume in platoon | | | | | | | | | | | |

Queues

21: I-10 EB Ramps & Alameda St

6/12/2017

| Lane Group | EBL | EBR | NBL | NBT | SBL | SBT | SBR |
|-------------------------|------|------|------|------|------|------|------|
| Lane Group Flow (vph) | 385 | 605 | 425 | 1312 | 1 | 1046 | 548 |
| v/c Ratio | 0.77 | 0.61 | 0.70 | 0.59 | 0.01 | 1.04 | 0.50 |
| Control Delay | 43.6 | 12.8 | 28.1 | 10.9 | 25.0 | 72.8 | 6.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 43.6 | 12.8 | 28.1 | 10.9 | 25.0 | 72.8 | 6.5 |
| Queue Length 50th (ft) | 195 | 173 | 188 | 221 | 0 | ~361 | 55 |
| Queue Length 95th (ft) | #422 | 269 | 212 | 194 | 4 | #485 | 167 |
| Internal Link Dist (ft) | | | 1190 | | | 1580 | |
| Turn Bay Length (ft) | 255 | | 530 | | 45 | | 330 |
| Base Capacity (vph) | 502 | 996 | 790 | 2217 | 82 | 1006 | 1092 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.77 | 0.61 | 0.54 | 0.59 | 0.01 | 1.04 | 0.50 |

Intersection Summary

- Volume exceeds capacity, queue is theoretically infinite.
- Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
- Queue shown is maximum after two cycles.

HCM 2010 TWSC

15: Private Dwy/I-10 EB Ramps & Porter St

6/12/2017

| Intersection | 1497.5 | | | | | | | | | |
|--------------------------|--------|------|------|------|------|------|------|------|------|----------------|
| Int Delay, S/vch | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL SBT SBR |
| Vol, veh/h | 375 | 105 | 0 | 0 | 22 | 433 | 0 | 0 | 0 | 900 0 306 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 0 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop Stop Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - None - |
| Storage Length | - | - | - | - | - | - | - | - | - | 150 - 25 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - 0 - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - 0 - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 92 92 |
| Heavy Vehicles % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 2 2 |
| Mvmt Flow | 408 | 114 | 0 | 0 | 24 | 471 | 0 | 0 | 0 | 978 0 333 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 495 | 0 | 0 | 114 | 0 | 0 | 1188 | 1424 | 114 | 1188 | 1188 | 259 |
| Stage 1 | - | - | - | - | - | - | 929 | 929 | - | 259 | 259 | - |
| Stage 2 | - | - | - | - | - | - | 259 | 495 | - | 929 | 929 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Sig 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Sig 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1069 | - | - | 1475 | - | - | 165 | 136 | 939 | 165 | 188 | 780 |
| Stage 1 | - | - | - | - | - | - | 321 | 346 | - | ~746 | 694 | - |
| Stage 2 | - | - | - | - | - | - | 746 | 546 | - | ~321 | 346 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 1069 | - | - | 1475 | - | - | 65 | 81 | 939 | ~112 | 111 | 780 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 65 | 81 | - | ~112 | 111 | - |
| Stage 1 | - | - | - | - | - | - | 190 | 205 | - | ~442 | 694 | - |
| Stage 2 | - | - | - | - | - | - | 428 | 546 | - | ~190 | 205 | - |

| Approach | EB | WB | NB | SB |
|----------------------|-----|----|----|-----------|
| HCM Control Delay, s | 8.1 | 0 | 0 | \$ 2655.2 |
| HCM LOS | | | A | F |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 | SBLn3 |
|-----------------------|-------|-------|-----|-----|------|-----|-----|-----------|-------|-------|
| Capacity (veh/h) | - | 1069 | - | - | 1475 | - | - | 112 | - | 780 |
| HCM Lane V/C Ratio | - | 0.381 | - | - | - | - | - | 8.734 | - | 0.426 |
| HCM Control Delay (s) | 0 | 10.4 | 0 | - | 0 | - | - | \$ 3553.6 | 0 | 13 |
| HCM Lane LOS | A | B | A | - | A | - | - | F | A | B |
| HCM 95th %ile Q(veh) | - | 1.8 | - | - | 0 | - | - | 111.6 | - | 2.1 |

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s *: Computation Not Defined *: All major volume in platoon

HCM 2010 TWSC

11: I-5 SB On-Ramp/US 101 SB Off-Ramp & 7th Street

6/12/2017








| Intersection | 8.2 | | | | | | | | | |
|--------------------------|------------|------|------|--------|------|------|--------|-------|-------|----------------|
| Int Delay, s/veh | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL SBT SBR |
| Vol, veh/h | 0 | 1770 | 648 | 0 | 1135 | 0 | 0 | 0 | 0 | 53 0 221 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 0 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Free | Free | Free | Slop Slop Slop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - - None |
| Storage Length | - | - | - | - | - | - | - | - | - | - 35 - 0 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - 0 - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - 0 - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 92 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 2 2 |
| Mvmt Flow | 0 | 1924 | 704 | 0 | 1234 | 0 | 0 | 0 | 0 | 58 0 240 |
| Major/Minor | Major1 | | | Major2 | | | Minor2 | | | |
| Conflicting Flow All | 1234 | 0 | 0 | 2628 | 0 | 0 | 2196 | 3862 | 617 | |
| Stage 1 | - | - | - | - | - | - | 1234 | 1234 | - | |
| Stage 2 | - | - | - | - | - | - | 962 | 2628 | - | |
| Critical Hdwy | 4.14 | - | - | 4.14 | - | - | 6.84 | 6.54 | 6.94 | |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 5.84 | 5.54 | - | |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 5.84 | 5.54 | - | |
| Follow-up Hdwy | 2.22 | - | - | 2.22 | - | - | 3.52 | 4.02 | 3.32 | |
| Pot Cap-1 Maneuver | 560 | - | - | 160 | - | - | -38 | 4 | 433 | |
| Stage 1 | - | - | - | - | - | - | 238 | 247 | - | |
| Stage 2 | - | - | - | - | - | - | 331 | 49 | - | |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | |
| Mov Cap-1 Maneuver | 560 | - | - | 160 | - | - | -38 | 0 | 433 | |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | -38 | 0 | - | |
| Stage 1 | - | - | - | - | - | - | 238 | 0 | - | |
| Stage 2 | - | - | - | - | - | - | 331 | 0 | - | |
| Approach | EB | | | WB | | | SB | | | |
| HCM Control Delay, s | 0 | | | 0 | | | 114.5 | | | |
| HCM LOS | | | | | | | F | | | |
| Minor Lane | Major Mvmt | EBL | EBT | EBR | WBL | WBT | WBR | SBL | SBT | SBR |
| Capacity (veh/h) | 560 | - | - | - | 160 | - | - | 38 | 433 | |
| HCM Lane V/C Ratio | - | - | - | - | - | - | - | 1.516 | 0.555 | |
| HCM Control Delay (s) | 0 | - | - | 0 | - | - | - | 495.3 | 23.2 | |
| HCM Lane LOS | A | - | - | A | - | - | - | F | C | |
| HCM 95th %ile Q(veh) | 0 | - | - | 0 | - | - | - | 6 | 3.3 | |

Notes: \$: Delay exceeds 300s *: Computation Not Defined **: All major volume in platoon

HCM Signalized Intersection Capacity Analysis

21: I-10 EB Ramps & Alameda St

6/12/2017

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|---|-------|---|---------------------------|------|------|---|---|------|---|---|---|
| Lane Configurations |  | |  | | | |  |  | |  |  |  |
| Volume (vph) | 354 | 0 | 557 | 0 | 0 | 0 | 391 | 1199 | 8 | 1 | 962 | 504 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.0 | | 4.0 | | | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | | 1.00 | | | | 1.00 | 0.95 | | 1.00 | 0.95 | 1.00 |
| Frt | 1.00 | | 0.85 | | | | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | | 1.00 | | | | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1770 | | 1583 | | | | 1770 | 3536 | | 1770 | 3539 | 1583 |
| Flt Permitted | 0.95 | | 1.00 | | | | 0.16 | 1.00 | | 0.16 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1770 | | 1583 | | | | 291 | 3536 | | 291 | 3539 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 385 | 0 | 605 | 0 | 0 | 0 | 425 | 1303 | 9 | 1 | 1046 | 548 |
| RTOR Reduction (vph) | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 136 |
| Lane Group Flow (vph) | 385 | 0 | 600 | 0 | 0 | 0 | 425 | 1312 | 0 | 1 | 1046 | 412 |
| Turn Type | Prot | pm+ov | pm+ov | D.P+P | NA | NA | D.P+P | NA | Perm | NA | pm+ov | Perm |
| Protected Phases | 1 | 8 | 1 | 8 | 3 | 2 | 1 | 2 | 2 | 2 | 1 | 2 |
| Permitted Phases | 1 | | | | | | 2 | 2 | | 2 | | |
| Actuated Green, G (s) | 25.6 | | 52.4 | | | | 52.4 | 52.4 | | 25.6 | 25.6 | 51.2 |
| Effective Green, g (s) | 25.6 | | 52.4 | | | | 52.4 | 52.4 | | 25.6 | 25.6 | 51.2 |
| Actuated g/C Ratio | 0.28 | | 0.58 | | | | 0.58 | 0.58 | | 0.28 | 0.28 | 0.57 |
| Clearance Time (s) | 4.0 | | 4.0 | | | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | | 3.0 | | | | 3.0 | 3.0 | | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 503 | | 992 | | | | 609 | 2215 | | 82 | 1006 | 970 |
| v/s Ratio Prot | c0.22 | | 0.18 | | | | c0.21 | 0.18 | | c0.30 | 0.12 | 0.14 |
| v/s Ratio Perm | 0.20 | | 0.20 | | | | 0.20 | 0.19 | | 0.00 | 0.14 | 0.14 |
| v/c Ratio | 0.77 | | 0.60 | | | | 0.70 | 0.59 | | 0.01 | 1.04 | 0.42 |
| Uniform Delay, d1 | 29.5 | | 12.1 | | | | 24.5 | 12.0 | | 23.1 | 32.2 | 11.0 |
| Progression Factor | 1.00 | | 1.00 | | | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 6.8 | | 1.0 | | | | 3.5 | 1.2 | | 0.3 | 39.2 | 0.3 |
| Delay (s) | 36.3 | | 13.2 | | | | 28.0 | 13.2 | | 23.4 | 71.4 | 11.3 |
| Level of Service | D | | B | | | | C | B | | C | E | B |
| Approach Delay (s) | 22.2 | | | | 0.0 | | | 16.8 | | | 50.8 | |
| Approach LOS | C | | | | A | | | B | | | D | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2000 Control Delay | 30.6 | | | HCM 2000 Level of Service | | | C | | | | | |
| HCM 2000 Volume to Capacity ratio | 0.88 | | | | | | | | | | | |
| Actuated Cycle Length (s) | 90.0 | | | Sum of lost time (s) | | | 16.0 | | | | | |
| Intersection Capacity Utilization | 77.9% | | | ICU Level of Service | | | D | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |
| Critical Lane Group | | | | | | | | | | | | |

HCM 2010 TWSC

15: Private Dwy/I-10 EB Ramps & Porter St

6/12/2017

| Intersection | | 1329.3 | | | | | | | | | | | | | | | |
|----------------------------|--|------------------------|-------|------|-------|-------|------|-----------|----------------------------|-------|-------|-------|-------|--|--|--------------------------------|--|
| Init Delay, s/veh | | 1329.3 | | | | | | | | | | | | | | | |
| Movement | | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | | | | |
| Vol, veh/h | | 754 | 137 | 0 | 2 | 24 | 699 | 2 | 0 | 2 | 442 | 2 | 141 | | | | |
| Conflicting Peds, #/hr | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| Sign Control | | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop | | | | |
| RT Channelized | | - | - | None | - | - | None | - | - | None | - | - | None | | | | |
| Storage Length | | - | - | - | - | - | - | - | - | - | 150 | - | 25 | | | | |
| Veh in Median Storage, # | | - | 0 | - | - | 0 | - | - | 0 | - | - | - | 0 | | | | |
| Grade, % | | - | 0 | - | - | 0 | - | - | 0 | - | - | - | 0 | | | | |
| Peak Hour Factor | | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | | | | |
| Heavy Vehicles, % | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | | | |
| Mvmt Flow | | 820 | 149 | 0 | 2 | 26 | 760 | 2 | 0 | 2 | 480 | 2 | 153 | | | | |
| Major/Minor | | Major1 | | | | | | | Minor1 | | | | | | | Minor2 | |
| Conflicting Flow All | | 786 | 0 | 0 | 149 | 0 | 0 | 2199 | 2578 | 149 | 2199 | 2198 | 406 | | | | |
| Stage 1 | | - | - | - | - | - | - | - | 1788 | 1788 | - | 410 | 410 | | | | |
| Stage 2 | | - | - | - | - | - | - | 411 | 790 | - | 1789 | 1788 | - | | | | |
| Critical Hwy | | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | | | | |
| Critical Hwy Stg 1 | | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - | | | | |
| Critical Hwy Stg 2 | | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - | | | | |
| Follow-up Hwy | | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | | | | |
| Pot Cap-1 Maneuver | | 833 | - | - | 1432 | - | - | 32 | 26 | 898 | -32 | 45 | 645 | | | | |
| Stage 1 | | - | - | - | - | - | - | 104 | 133 | - | 619 | 595 | - | | | | |
| Stage 2 | | - | - | - | - | - | - | 618 | 402 | - | -103 | 133 | - | | | | |
| Platoon blocked, % | | - | - | - | - | - | - | - | - | - | - | - | - | | | | |
| Mov Cap-1 Maneuver | | 833 | - | - | 1432 | - | - | 23 | 26 | 898 | -32 | 45 | 645 | | | | |
| Mov Cap-2 Maneuver | | - | - | - | - | - | - | 23 | 26 | - | -32 | 45 | - | | | | |
| Stage 1 | | - | - | - | - | - | - | 104 | 133 | - | 619 | 593 | - | | | | |
| Stage 2 | | - | - | - | - | - | - | 468 | 401 | - | -103 | 133 | - | | | | |
| Approach | | EB | | | | | | | WB | | | | | | | SB | |
| HCM Control Delay, s | | 42 | | | | | | | 0 | | | | | | | 93.4 | |
| HCM LOS | | F | | | | | | | F | | | | | | | \$ 4946 | |
| | | | | | | | | | | | | | | | | F | |
| Minor Lane/Major Mvmt | | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 | SBLn3 | | | | | | |
| Capacity (veh/h) | | 45 | 833 | - | - | 1432 | - | - | 32 | 45 | 645 | | | | | | |
| HCM Lane V/C Ratio | | 0.097 | 0.984 | - | - | 0.002 | - | - | -15.014 | 0.048 | 0.238 | | | | | | |
| HCM Control Delay (s) | | 93.4 | 49.6 | 0 | 0 | 7.5 | 0 | \$ 6541.9 | 89 | 12.3 | | | | | | | |
| HCM Lane LOS | | F | E | A | - | A | A | - | F | F | B | | | | | | |
| HCM 95th %ile Q(veh) | | 0.3 | 16.7 | - | - | 0 | - | - | 59.1 | 0.1 | 0.9 | | | | | | |
| Notes | | | | | | | | | | | | | | | | | |
| -: Volume exceeds capacity | | \$: Delay exceeds 300s | | | | | | | *: Computation Not Defined | | | | | | | *: All major volume in platoon | |

HCM 2010 TWSC
13: I-10 WB Ramps & 8th St

6/12/2017

| Intersection | | 1570.8 | | | | | | | | | | | | | |
|----------------------------|--|------------------------|-------|-------|------|--------|------|--|--------------------------------|--|--|--|--|--|--|
| Init Delay, s/veh | | 1570.8 | | | | | | | | | | | | | |
| Movement | | EBT | EBR | WBL | WBT | NBL | NBR | | | | | | | | |
| Vol. veh/h | | 17 | 366 | 744 | 84 | 373 | 707 | | | | | | | | |
| Conflicting Peds, #/hr | | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | | |
| Sign Control | | Free | Free | Free | Free | Stop | Stop | | | | | | | | |
| RT Channelized | | - | None | - | None | - | None | | | | | | | | |
| Storage Length | | - | - | - | - | 160 | 0 | | | | | | | | |
| Veh in Median Storage, # | | 0 | - | - | 0 | 0 | - | | | | | | | | |
| Grade, % | | 0 | - | - | 0 | 0 | - | | | | | | | | |
| Peak Hour Factor | | 92 | 92 | 92 | 92 | 92 | 92 | | | | | | | | |
| Heavy Vehicles, % | | 2 | 2 | 2 | 2 | 2 | 2 | | | | | | | | |
| Mvmt Flow | | 18 | 398 | 809 | 91 | 405 | 768 | | | | | | | | |
| Major/Minor | | Major1 | | | | | | | Major2 | | | | | | |
| Conflicting Flow All | | 0 | 0 | 416 | 0 | Minor1 | | | | | | | | | |
| Stage 1 | | - | - | - | - | 1926 | 217 | | | | | | | | |
| Stage 2 | | - | - | - | - | 217 | - | | | | | | | | |
| Critical Hdwy | | - | - | 4.12 | - | 1709 | - | | | | | | | | |
| Critical Hdwy Stg 1 | | - | - | - | - | 6.42 | 6.22 | | | | | | | | |
| Critical Hdwy Stg 2 | | - | - | - | - | 5.42 | - | | | | | | | | |
| Follow-up Hdwy | | - | - | 2.218 | - | 5.42 | - | | | | | | | | |
| Pot Cap-1 Maneuver | | - | - | 1143 | - | 3518 | 3318 | | | | | | | | |
| Stage 1 | | - | - | - | - | ~ 73 | 823 | | | | | | | | |
| Stage 2 | | - | - | - | - | 819 | - | | | | | | | | |
| Platoon blocked, % | | - | - | - | - | ~ 161 | - | | | | | | | | |
| Mov Cap-1 Maneuver | | - | - | 1143 | - | ~ 19 | 823 | | | | | | | | |
| Mov Cap-2 Maneuver | | - | - | - | - | ~ 19 | - | | | | | | | | |
| Stage 1 | | - | - | - | - | 819 | - | | | | | | | | |
| Stage 2 | | - | - | - | - | ~ 41 | - | | | | | | | | |
| Approach | | EB | | | | | | | WB | | | | | | |
| HCM Control Delay, s | | 0 | | | | | | | 13.8 | | | | | | |
| HCM LOS | | F | | | | | | | \$ 3321.5 | | | | | | |
| | | | | | | | | | F | | | | | | |
| Minor Lane/Major Mvmt | | NBLn1 | NBLn2 | EBT | EBR | WBL | WBT | | | | | | | | |
| Capacity (veh/h) | | 19 | 823 | - | - | 1143 | - | | | | | | | | |
| HCM Lane V/C Ratio | | 21.339 | 0.934 | - | - | 0.708 | - | | | | | | | | |
| HCM Control Delay (s) | | \$ 9541.5 | 39.9 | - | - | 15.4 | 0 | | | | | | | | |
| HCM Lane LOS | | F | E | - | - | C | A | | | | | | | | |
| HCM 95th %tile Q(veh) | | 51.3 | 13.9 | - | - | 6.3 | - | | | | | | | | |
| Notes | | | | | | | | | | | | | | | |
| -: Volume exceeds capacity | | \$: Delay exceeds 300s | | | | | | | +: Computation Not Defined | | | | | | |
| | | | | | | | | | *: All major volume in platoon | | | | | | |

HCM Signalized Intersection Capacity Analysis

4/24/2017





21: I-10 EB Ramps & Alameda St

| Intersection Performance Metrics - Q3 2023 | | | | | | | | | | | | | | | |
|--|-------|-------|-------|------|------|------|---------------------------|------|------|-------|-------|-------|------------------|---|------|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | Directional Flow | | |
| | ← | → | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ← | → | |
| Lane Configurations | ↔ | | ↔ | | | | ↔ | ↔ | | ↔ | | ↔ | ↔ | ↔ | |
| Volume (vph) | 193 | 0 | 237 | 0 | 0 | 0 | 444 | 1212 | 0 | 0 | 1379 | 523 | ↔ | ↔ | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | ↔ | ↔ | |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | | | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | ↔ | ↔ | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | | | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 1.00 | ↔ | ↔ | |
| Frt | 1.00 | 0.85 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 0.85 | 1.00 | 0.85 | ↔ | ↔ | |
| Flt Protected | 0.95 | 1.00 | 1.00 | | | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | ↔ | ↔ | |
| Sat. Flow (prot) | 1770 | 1583 | 1583 | | | | 1770 | 3539 | 3539 | 1583 | 3539 | 1583 | ↔ | ↔ | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | | | 0.09 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | ↔ | ↔ | |
| Sat. Flow (perm) | 1770 | 1583 | 1583 | | | | 172 | 3539 | 3539 | 1583 | 3539 | 1583 | ↔ | ↔ | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | ↔ | ↔ | |
| Adj. Flow (vph) | 210 | 0 | 258 | 0 | 0 | 0 | 483 | 1317 | 0 | 0 | 1499 | 568 | ↔ | ↔ | |
| RTOR Reduction (vph) | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ↔ | ↔ | |
| Lane Group Flow (vph) | 210 | 0 | 252 | 0 | 0 | 0 | 483 | 1317 | 0 | 0 | 1499 | 477 | ↔ | ↔ | |
| Lane Type | Prot | pm-ov | pm-ov | | | | DP-P | NA | Perm | NA | pm-ov | pm-ov | ↔ | ↔ | |
| Protected Phases | 1 | 8 | 3 | | | | 1 | 3 | 2 | 1 | 2 | 2 | ↔ | ↔ | |
| Permitted Phases | | 1 | | | | | 2 | 2 | 2 | 2 | 2 | 2 | ↔ | ↔ | |
| Actuated Green, G (s) | 16.2 | 44.7 | 44.7 | | | | 71.8 | 71.8 | 71.8 | 43.3 | 43.3 | 59.5 | ↔ | ↔ | |
| Effective Green, g (s) | 16.2 | 44.7 | 44.7 | | | | 71.8 | 71.8 | 71.8 | 43.3 | 43.3 | 59.5 | ↔ | ↔ | |
| Actuated g/C Ratio | 0.16 | 0.45 | 0.45 | | | | 0.72 | 0.72 | 0.72 | 0.43 | 0.43 | 0.60 | ↔ | ↔ | |
| Clearance Time (s) | 4.0 | 4.0 | 4.0 | | | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | ↔ | ↔ | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | | | | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | ↔ | ↔ | |
| Lane Grp Cap (vph) | 286 | 770 | 770 | | | | 578 | 2882 | 2882 | 1532 | 1005 | 1005 | ↔ | ↔ | |
| v/s Ratio Prot | c0.12 | 0.09 | 0.09 | | | | c0.24 | 0.14 | 0.14 | c0.42 | 0.42 | 0.22 | ↔ | ↔ | |
| v/s Ratio Perm | | 0.07 | 0.07 | | | | 0.36 | 0.23 | 0.23 | | | | ↔ | ↔ | |
| v/c Ratio | 0.73 | 0.33 | 0.33 | | | | 0.84 | 0.49 | 0.49 | 0.98 | 0.47 | 0.47 | ↔ | ↔ | |
| Uniform Delay, d1 | 39.9 | 17.9 | 17.9 | | | | 30.1 | 6.1 | 6.1 | 27.9 | 11.4 | 11.4 | ↔ | ↔ | |
| Progression Factor | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | ↔ | ↔ | |
| Incremental Delay, d2 | 9.4 | 0.2 | 0.2 | | | | 10.1 | 0.6 | 0.6 | 18.4 | 0.4 | 0.4 | ↔ | ↔ | |
| Delay (s) | 49.2 | 18.2 | 18.2 | | | | 40.2 | 6.8 | 6.8 | 46.3 | 11.8 | 11.8 | ↔ | ↔ | |
| Level of Service | D | | B | | | | D | A | A | D | D | B | ↔ | ↔ | |
| Approach Delay (s) | 32.1 | | | | | | 0.0 | 15.8 | 15.8 | 36.8 | | | ↔ | ↔ | |
| Approach LOS | C | | | | | | A | B | B | D | | | ↔ | ↔ | |
| Intersection Summary | | | | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | 27.6 | | | | HCM 2000 Level of Service | | | | | | | | C |
| HCM 2000 Volume to Capacity ratio | | | 0.93 | | | | | | | | | | | | |
| Actuated Cycle Length (s) | | | 100.0 | | | | Sum of lost time (s) | | | | | | | | 16.0 |
| Intersection Capacity Utilization | | | 83.4% | | | | ICU Level of Service | | | | | | | | E |
| Analysis Period (min) | | | 15 | | | | | | | | | | | | |
| Critical Lane Group | | | | | | | | | | | | | | | |

Queues

4/24/2017

21: I-10 EB Ramps & Alameda St

| | |  |  |  |  | | |
|-------------------------|---|---|---|---|---|------|--|
| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR | |
| Lane Group Flow (vph) | 210 | 258 | 483 | 1317 | 1499 | 568 | |
| v/c Ratio | 0.73 | 0.33 | 0.84 | 0.49 | 0.98 | 0.52 | |
| Control Delay | 57.6 | 15.6 | 40.3 | 5.3 | 48.1 | 8.5 | |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Delay | 57.6 | 15.6 | 40.3 | 5.3 | 48.1 | 8.5 | |
| Queue Length 50th (ft) | 125 | 86 | 232 | 157 | ~555 | 103 | |
| Queue Length 95th (ft) | #283 | 139 | 320 | 134 | #691 | 226 | |
| Internal Link Dist (ft) | | | | 1190 | 1580 | | |
| Turn Bay Length (ft) | 255 | | 530 | | | 330 | |
| Base Capacity (vph) | 286 | 773 | 711 | 2484 | 1532 | 1086 | |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | |
| Reduced v/c Ratio | 0.73 | 0.33 | 0.68 | 0.49 | 0.98 | 0.52 | |
| Intersection Summary | | | | | | | |
| - | Volume exceeds capacity, queue is theoretically infinite. | | | | | | |
| - | Queue shown is maximum after two cycles. | | | | | | |
| # | 95th percentile volume exceeds capacity, queue may be longer. | | | | | | |
| - | Queue shown is maximum after two cycles. | | | | | | |

HCM 2010 TWSC

13: I-10 WB Ramps & 8th St

6/12/2017

| Intersection | | | | | | | | | | |
|--|------|-------|---------|------|------|-----------|------|------|-------|--|
| Int Delay, s/veh | | 770.3 | | | | | | | | |
| Movement | | | | | | | | | | |
| Vol veh/h | 19 | 249 | EBT | EBR | WBL | WBT | NBL | NBR | | |
| Conflicting Peds. #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 506 | 679 | | |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | | |
| RT Channelized | - | None | - | None | - | None | - | None | | |
| Storage Length | - | - | - | - | - | - | 160 | 0 | | |
| Veh in Median Storage, # | 0 | - | - | - | - | 0 | 0 | - | | |
| Grade, % | 0 | - | - | - | - | 0 | 0 | - | | |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | | |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | |
| Mvmt Flow | 21 | 271 | 624 | 42 | | | 550 | 738 | | |
| Major/Minor | | | | | | | | | | |
| Major1 | | | Major2 | | | Minor1 | | | | |
| Conflicting Flow All | | | 291 | | | 1446 | | | 156 | |
| Stage 1 | | | - | | | - | | | 156 | |
| Stage 2 | | | - | | | 1290 | | | - | |
| Critical Hwy | | | 4.12 | | | 6.42 | | | 6.22 | |
| Critical Hwy Stg 1 | | | - | | | 5.42 | | | - | |
| Critical Hwy Stg 2 | | | - | | | 5.42 | | | - | |
| Follow-up Hwy | | | 2.218 | | | 3.518 | | | 3.318 | |
| Pot Cap-1 Maneuver | | | 1271 | | | ~ 145 | | | 890 | |
| Stage 1 | | | - | | | 872 | | | - | |
| Stage 2 | | | - | | | ~ 258 | | | - | |
| Platoon blocked, % | | | - | | | - | | | - | |
| Mov Cap-1 Maneuver | | | 1271 | | | ~ 72 | | | 890 | |
| Mov Cap-2 Maneuver | | | - | | | ~ 72 | | | - | |
| Stage 1 | | | - | | | 872 | | | - | |
| Stage 2 | | | - | | | ~ 128 | | | - | |
| Approach | | | | | | | | | | |
| EB | | | WB | | | NB | | | | |
| HCM Control Delay, s | | | 0 | | | \$ 1337.8 | | | | |
| HCM LOS | | | | | | F | | | | |
| Minor Lane/Major Mvmt | | | | | | | | | | |
| NBLn1 | | | NBLn2 | | | EBT | | | EBR | |
| Capacity (veh/h) | | | 72 | | | 890 | | | - | |
| HCM Lane V/C Ratio | | | 7.639 | | | 0.829 | | | - | |
| HCM Control Delay (s) | | | \$ 3099 | | | 25.3 | | | - | |
| HCM Lane LOS | | | F | | | D | | | - | |
| HCM 95th %ile Q(veh) | | | 63 | | | 9.7 | | | - | |
| Notes | | | | | | | | | | |
| -: Volume exceeds capacity \$: Delay exceeds 300s *: Computation Not Defined **: All major volume in platoon | | | | | | | | | | |

HCM 2010 TWSC

11: I-5 SB On-Ramp/US 101 SB Off-Ramp & 7th Street

6/12/2017

| Intersection | | | | | | | | | | | | |
|---|--------|------|------|--------|-----------|------|----------------|---------|------|------|------|------|
| Int Delay, s/veh | | 98.7 | | | | | | | | | | |
| Movement | | | | | | | | | | | | |
| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Vol, veh/h | 0 | 608 | 366 | 0 | 2718 | 0 | 0 | 0 | 0 | 22 | 0 | 338 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop |
| RT Channelized | - | None | - | - | None | - | - | None | - | - | None | - |
| Storage Length | - | - | - | - | - | - | - | - | - | 35 | - | None |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 661 | 398 | 0 | 2954 | 0 | 0 | 0 | 0 | 24 | 0 | 366 |
| Major/Minor | | | | | | | | | | | | |
| | Major1 | | | Major2 | | | Minor2 | | | | | |
| Conflicting Flow All | 2954 | 0 | 0 | 1059 | 0 | 0 | 3284 4013 1477 | | | | | |
| Stage 1 | - | - | - | - | - | - | 2954 2954 | | | | | |
| Stage 2 | - | - | - | - | - | - | 330 1059 | | | | | |
| Critical Hdwy | 4.14 | - | - | 4.14 | - | - | 6.84 6.54 6.94 | | | | | |
| Critical Hdwy Sig 1 | - | - | - | - | - | - | 5.84 5.54 | | | | | |
| Critical Hdwy Sig 2 | - | - | - | - | - | - | 5.84 5.54 | | | | | |
| Follow-up Hdwy | 2.22 | - | - | 2.22 | - | - | 3.52 4.02 3.32 | | | | | |
| Pot Cap-1 Maneuver | 118 | - | - | 653 | - | - | ~ 7 3 ~ 115 | | | | | |
| Stage 1 | - | - | - | - | - | - | 26 33 | | | | | |
| Stage 2 | - | - | - | - | - | - | 701 299 | | | | | |
| Platoon blocked, % | - | - | - | - | - | - | ~ 7 0 ~ 115 | | | | | |
| Mov Cap-1 Maneuver | 118 | - | - | 653 | - | - | ~ 7 0 | | | | | |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 26 0 | | | | | |
| Stage 1 | - | - | - | - | - | - | 701 0 | | | | | |
| Stage 2 | - | - | - | - | - | - | | | | | | |
| Approach | | | | | | | | | | | | |
| | EB | WB | | | SB | | | | | | | |
| HCM Control Delay, s | 0 | 0 | | | \$ 1119.7 | | | | | | | |
| HCM LOS | | | | | F | | | | | | | |
| Minor Lane/Major Mvmt | | | | | | | | | | | | |
| | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 | | | | |
| Capacity (veh/h) | 118 | - | - | 653 | - | - | 7 | 115 | | | | |
| HCM Lane V/C Ratio | - | - | - | - | - | - | 3.416 | 3.166 | | | | |
| HCM Control Delay (s) | 0 | - | - | 0 | - | - | \$ 2105.1 | \$ 1055 | | | | |
| HCM Lane LOS | A | - | - | A | - | - | F | F | | | | |
| HCM 95th %ile Q(veh) | 0 | - | - | 0 | - | - | 4.2 | 35 | | | | |
| Notes | | | | | | | | | | | | |
| \$: Volume exceeds capacity \$: Delay exceeds 300s *: Computation Not Defined **: All major volume in platoon | | | | | | | | | | | | |

Queues

21: I-10 EB Ramps & Alameda St

6/12/2017

| Lane Group | EBL | EBR | NBL | NBT | SBL | SBT | SBR |
|-------------------------|------|------|------|------|------|------|------|
| Lane Group Flow (vph) | 388 | 605 | 425 | 1318 | 1 | 1055 | 548 |
| v/c Ratio | 0.76 | 0.60 | 0.69 | 0.60 | 0.01 | 1.07 | 0.50 |
| Control Delay | 44.0 | 12.8 | 27.9 | 11.0 | 24.0 | 80.9 | 6.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 44.0 | 12.8 | 27.9 | 11.0 | 24.0 | 80.9 | 6.6 |
| Queue Length 50th (ft) | 202 | 179 | 152 | 211 | 0 | ~354 | 55 |
| Queue Length 95th (ft) | #438 | 280 | 208 | 186 | 4 | #479 | 166 |
| Internal Link Dist (ft) | | | | 1190 | | 1580 | |
| Turn Bay Length (ft) | 255 | | 530 | | 45 | | 330 |
| Base Capacity (vph) | 509 | 1002 | 790 | 2204 | 82 | 989 | 1091 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.76 | 0.60 | 0.54 | 0.60 | 0.01 | 1.07 | 0.50 |

Intersection Summary

- Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

HCM 2010 TWSC

15: Private Dwy/I-10 EB Ramps & Porter St

6/12/2017

| Intersection | 1535.9 | | | | | | | | | |
|--------------------------|--------|------|------|------|------|------|------|------|------|----------------|
| Int Delay, s/vch | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL SBT SBR |
| Vol, veh/h | 382 | 105 | 1 | 0 | 22 | 433 | 0 | 0 | 0 | 900 0 309 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 0 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop Stop Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - None - |
| Storage Length | - | - | - | - | - | - | - | - | - | 150 - 25 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - 0 - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - 0 - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 92 92 |
| Heavy Vehicles % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 2 2 |
| Mvmt Flow | 415 | 114 | 1 | 0 | 24 | 471 | 0 | 0 | 0 | 978 0 336 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 495 | 0 | 0 | 115 | 0 | 0 | 1204 | 1440 | 115 | 1204 | 1205 | 259 |
| Stage 1 | - | - | - | - | - | - | 945 | 945 | - | 259 | 259 | - |
| Stage 2 | - | - | - | - | - | - | 259 | 495 | - | 945 | 946 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Sig 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Sig 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1069 | - | - | 1474 | - | - | 161 | 133 | 937 | ~161 | 184 | 780 |
| Stage 1 | - | - | - | - | - | - | 314 | 340 | - | ~746 | 694 | - |
| Stage 2 | - | - | - | - | - | - | 746 | 546 | - | ~314 | 340 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 1069 | - | - | 1474 | - | - | 62 | 78 | 937 | ~109 | 108 | 780 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 62 | 78 | - | ~109 | 108 | - |
| Stage 1 | - | - | - | - | - | - | 184 | 199 | - | ~436 | 694 | - |
| Stage 2 | - | - | - | - | - | - | 425 | 546 | - | ~184 | 199 | - |

| Approach | EB | WB | NB | SB |
|----------------------|-----|----|----|-----------|
| HCM Control Delay, s | 8.2 | 0 | 0 | \$ 2730.5 |
| HCM LOS | | | A | F |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 | SBLn3 |
|-----------------------|-------|-------|-----|-----|------|-----|-----|-----------|-------|-------|
| Capacity (veh/h) | - | 1069 | - | - | 1474 | - | - | 109 | - | 780 |
| HCM Lane V/C Ratio | - | 0.388 | - | - | - | - | - | 8.975 | - | 0.431 |
| HCM Control Delay (s) | 0 | 10.5 | 0 | - | 0 | - | - | \$ 3663.5 | 0 | 13.1 |
| HCM Lane LOS | A | B | A | - | A | - | - | F | A | B |
| HCM 95th %ile Q(veh) | - | 1.9 | - | - | 0 | - | - | 111.9 | - | 2.2 |

Notes

-: Volume exceeds capacity \$: Delay exceeds 300s *: Computation Not Defined *: All major volume in platoon

HCM 2010 TWSC

11: I-5 SB On-Ramp/US 101 SB Off-Ramp & 7th Street

6/12/2017

| Intersection | 8.6 | | | | | | | | | |
|--|------------|------|--------|------|--------|------|---------|-------|--------|------|
| Int Delay, s/veh | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBT |
| Vol, veh/h | 0 | 1777 | 655 | 0 | 1150 | 0 | 0 | 0 | 0 | 53 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Free | Free | Free | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - |
| Storage Length | - | - | - | - | - | - | - | - | - | 35 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | 0 |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 1932 | 712 | 0 | 1250 | 0 | 0 | 0 | 0 | 58 |
| Major/Minor | Major1 | | Major2 | | Minor2 | | Minor2 | | Minor2 | |
| Conflicting Flow All | 1250 | 0 | 0 | 2643 | 0 | 0 | 2216 | 3893 | 625 | |
| Stage 1 | - | - | - | - | - | - | 1250 | 1250 | - | |
| Stage 2 | - | - | - | - | - | - | 966 | 2643 | - | |
| Critical Hdwy | 4.14 | - | - | 4.14 | - | - | 6.84 | 6.54 | 6.94 | |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 5.84 | 5.54 | - | |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 5.84 | 5.54 | - | |
| Follow-up Hdwy | 2.22 | - | - | 2.22 | - | - | 3.52 | 4.02 | 3.32 | |
| Pot Cap-1 Maneuver | 553 | - | - | 157 | - | - | -37 | 3 | 428 | |
| Stage 1 | - | - | - | - | - | - | 233 | 243 | - | |
| Stage 2 | - | - | - | - | - | - | 330 | 48 | - | |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | |
| Mov Cap-1 Maneuver | 553 | - | - | 157 | - | - | -37 | 0 | 428 | |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | -37 | 0 | - | |
| Stage 1 | - | - | - | - | - | - | 233 | 0 | - | |
| Stage 2 | - | - | - | - | - | - | 330 | 0 | - | |
| Approach | EB | | WB | | SB | | SB | | SB | |
| HCM Control Delay, s | 0 | | 0 | | 116.4 | | 116.4 | | F | |
| HCM LOS | | | | | | | | | | |
| Minor Lane | Major Mvmt | EBL | EBT | EBR | WBL | WBT | WBR | SBL | SBT | SBR |
| Capacity (veh/h) | 553 | - | - | 157 | - | - | 37 | 428 | - | - |
| HCM Lane V/C Ratio | - | - | - | - | - | - | 1.557 | 0.589 | - | - |
| HCM Control Delay (s) | 0 | - | - | 0 | - | - | \$517.2 | 24.8 | - | - |
| HCM Lane LOS | A | - | - | A | - | - | F | C | - | - |
| HCM 95th %ile Q(veh) | 0 | - | - | 0 | - | - | 6.1 | 3.7 | - | - |
| Notes | | | | | | | | | | |
| -: Volume exceeds capacity \$: Delay exceeds 300s *: Computation Not Defined *: All major volume in platoon | | | | | | | | | | |

HCM Signalized Intersection Capacity Analysis

21: I-10 EB Ramps & Alameda St

6/12/2017

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|-------|-------|-------|------|------|-------|------|------|-------|-------|-------|
| Lane Configurations | 357 | 0 | 557 | 0 | 0 | 0 | 391 | 1204 | 8 | 1 | 971 | 504 |
| Volume (vph) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.85 | 1.00 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1770 | 1583 | 1583 | 1770 | 3536 | 1770 | 3536 | 1770 | 3539 | 1583 | 1583 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.16 | 1.00 | 1.00 | 0.16 | 1.00 | 1.00 | 0.16 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1770 | 1583 | 1583 | 296 | 3536 | 296 | 3536 | 296 | 3539 | 1583 | 1583 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 388 | 0 | 605 | 0 | 0 | 0 | 425 | 1309 | 9 | 1 | 1055 | 548 |
| RTOR Reduction (vph) | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 137 |
| Lane Group Flow (vph) | 388 | 0 | 600 | 0 | 0 | 0 | 425 | 1318 | 0 | 1 | 1055 | 411 |
| Turn Type | Prot | pm+ov | pm+ov | D.P+P | NA | NA | NA | NA | NA | NA | pm+ov | pm+ov |
| Protected Phases | 1 | 8 | 1 | 8 | 3 | 2 | 1 | 2 | 2 | 2 | 1 | 2 |
| Permitted Phases | 25.9 | 52.8 | 52.8 | 52.1 | 52.1 | 52.1 | 25.2 | 25.2 | 51.1 | 25.2 | 51.1 | 51.1 |
| Effective Green, G (s) | 25.9 | 52.8 | 52.8 | 52.1 | 52.1 | 52.1 | 25.2 | 25.2 | 51.1 | 25.2 | 51.1 | 51.1 |
| Effective Green, g (s) | 0.29 | 0.59 | 0.59 | 0.58 | 0.58 | 0.58 | 0.28 | 0.28 | 0.57 | 0.28 | 0.57 | 0.57 |
| Actuated g/C Ratio | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Clearance Time (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Vehicle Extension (s) | 509 | 999 | 999 | 611 | 2204 | 611 | 999 | 999 | 969 | 611 | 2204 | 969 |
| Lane Grp Cap (vph) | c0.22 | 0.18 | 0.18 | c0.21 | 0.18 | 0.18 | c0.30 | 0.12 | 0.12 | c0.30 | 0.12 | 0.12 |
| v/s Ratio Prot | 0.76 | 0.60 | 0.60 | 0.70 | 0.60 | 0.60 | 0.01 | 1.07 | 0.42 | 0.01 | 1.07 | 0.42 |
| v/s Ratio Perm | 29.2 | 11.9 | 11.9 | 24.4 | 12.2 | 12.2 | 23.4 | 32.4 | 11.1 | 23.4 | 32.4 | 11.1 |
| Uniform Delay, d1 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Progression Factor | 6.7 | 1.0 | 1.0 | 3.4 | 1.2 | 1.2 | 0.3 | 47.8 | 0.3 | 47.8 | 0.3 | 47.8 |
| Incremental Delay, d2 | 35.9 | 12.9 | 12.9 | 27.8 | 13.4 | 13.4 | 23.7 | 80.2 | 11.4 | 23.7 | 80.2 | 11.4 |
| Delay (s) | D | B | B | C | B | B | C | F | B | C | F | B |
| Level of Service | 21.9 | C | C | 0.0 | A | A | 16.9 | 56.6 | E | 16.9 | 56.6 | E |
| Approach Delay (s) | | | | | | | | | | | | |
| Approach LOS | | | | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2000 Control Delay | 32.7 | | | | | | | | | | | |
| HCM 2000 Volume to Capacity ratio | 0.88 | | | | | | | | | | | |
| Actuated Cycle Length (s) | 90.0 | | | | | | | | | | | |
| Sum of lost time (s) | 16.0 | | | | | | | | | | | |
| Intersection Capacity Utilization | 78.3% | | | | | | | | | | | |
| ICU Level of Service | D | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |
| Critical Lane Group | | | | | | | | | | | | |

| Intersection | | | | | | | | | | | | | |
|--------------------------|--|--|-------|------|--------|-------|------|--------|--------|-------|-----------|------|------|
| Int Delay, s/veh | | 1367.2 | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Movement | | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Vol, veh/h | | 760 | 137 | 1 | 2 | 24 | 699 | 2 | 0 | 2 | 442 | 2 | 147 |
| Conflicting Peds, #/hr | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | | - | - | - | - | - | - | - | - | - | 150 | - | 25 |
| Veh in Median Storage, # | | - | 0 | - | - | 0 | - | - | 0 | - | - | - | 0 |
| Grade, % | | - | 0 | - | - | 0 | - | - | 0 | - | - | - | 0 |
| Peak Hour Factor | | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | | 826 | 149 | 1 | 2 | 26 | 760 | 2 | 0 | 2 | 480 | 2 | 160 |
| | | | | | | | | | | | | | |
| Major/Minor | | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
| Conflicting Flow All | | 786 | 0 | 0 | 150 | 0 | 0 | 2213 | 2592 | 149 | 2213 | 2212 | 406 |
| Stage 1 | | - | - | - | - | - | - | 1802 | 1802 | - | 410 | 410 | - |
| Stage 2 | | - | - | - | - | - | - | 411 | 790 | - | 1803 | 1802 | - |
| Critical Hdwy | | 412 | - | - | 412 | - | - | 712 | 652 | 622 | 712 | 652 | 622 |
| Critical Hdwy Sig 1 | | - | - | - | - | - | - | 612 | 552 | - | 612 | 552 | - |
| Critical Hdwy Sig 2 | | - | - | - | - | - | - | 612 | 552 | - | 612 | 552 | - |
| Follow-up Hdwy | | 2218 | - | - | 2218 | - | - | 3518 | 4018 | 3318 | 3518 | 4018 | 3318 |
| Pot Cap-1 Maneuver | | 833 | - | - | 1431 | - | - | 31 | 25 | 898 | -31 | 44 | 645 |
| Stage 1 | | - | - | - | - | - | - | 102 | 131 | - | 619 | 593 | - |
| Stage 2 | | - | - | - | - | - | - | 618 | 402 | - | -102 | 131 | - |
| Platoon blocked, % | | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | | 833 | - | - | 1431 | - | - | 22 | 25 | 898 | -31 | 44 | 645 |
| Mov Cap-2 Maneuver | | - | - | - | - | - | - | 22 | 25 | - | -31 | 44 | - |
| Stage 1 | | - | - | - | - | - | - | 102 | 131 | - | 619 | 593 | - |
| Stage 2 | | - | - | - | - | - | - | 462 | 401 | - | -102 | 131 | - |
| | | | | | | | | | | | | | |
| Approach | | EB | | | WB | | | NB | | | SB | | |
| HCM Control Delay, s | | 43.5 | | | 0 | | | 97.9 | | | \$ 5064.3 | | |
| HCM LOS | | | | | | | | F | | | F | | |
| | | | | | | | | | | | | | |
| Minor Lane/Major Mvmt | | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 | SBLn3 | | |
| Capacity (veh/h) | | 43 | 833 | - | - | 1431 | - | - | 31 | 44 | 645 | | |
| HCM Lane V/C Ratio | | 0.101 | 0.992 | - | - | 0.002 | - | - | 15.498 | 0.049 | 0.248 | | |
| HCM Control Delay (s) | | 97.9 | 51.4 | 0 | - | 7.5 | 0 | - | 6.167 | 91 | 12.4 | | |
| HCM Lane LOS | | F | F | A | - | A | A | - | F | F | B | | |
| HCM 95th %ile Q(veh) | | 0.3 | 17.2 | - | - | 0 | - | - | 59.2 | 0.2 | 1 | | |
| | | | | | | | | | | | | | |
| Notes | | | | | | | | | | | | | |
| Volume exceeds capacity | | \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon | | | | | | | | | | | |

-: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

| Intersection | | | | | | | | | |
|--|------------|-------------|-------|--------|-------|-----------|-------|-----|--|
| Int Delay, s/veh 1840.3 | | | | | | | | | |
| | | | | | | | | | |
| Movement | | EBT | EBR | WBL | WBT | NBL | NBR | | |
| Vol. veh/h | 17 | 370 | 744 | 84 | | 395 | 707 | | |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | | 0 | 0 | | |
| RT Control | Free | Free | Free | Free | | Stop | Stop | | |
| RT Channelized | - | None | - | None | | - | None | | |
| Storage Length | - | - | - | - | | 160 | 0 | | |
| Veh in Median Storage, # | 0 | - | 0 | 0 | | 0 | - | | |
| Grade, % | 0 | - | 0 | 0 | | 0 | - | | |
| Peak Hour Factor | 92 | 92 | 92 | 92 | | 92 | 92 | | |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | | 2 | 2 | | |
| Mvmt Flow | 18 | 402 | 809 | 91 | | 429 | 768 | | |
| | | | | | | | | | |
| Major/Minor | | Major1 | | Major2 | | Minor1 | | | |
| Conflicting Flow All | 0 | 0 | 421 | 0 | | 1929 | 220 | | |
| Stage 1 | - | - | - | - | | 220 | - | | |
| Stage 2 | - | - | - | - | | 1709 | - | | |
| Critical Hdwy | - | - | 4.12 | - | | 6.42 | 6.22 | | |
| Critical Hdwy Sig 1 | - | - | - | - | | 5.42 | - | | |
| Critical Hdwy Sig 2 | - | - | - | - | | 5.42 | - | | |
| Follow-up Hdwy | - | - | 2.218 | - | | 3.518 | 3.318 | | |
| Pot Cap-1 Maneuver | - | - | 1138 | - | | ~ 73 | 820 | | |
| Stage 1 | - | - | - | - | | 817 | - | | |
| Stage 2 | - | - | - | - | | ~ 161 | - | | |
| Platoon blocked, % | - | - | - | - | | - | - | | |
| Mov Cap-1 Maneuver | - | - | 1138 | - | | ~ 18 | 820 | | |
| Mov Cap-2 Maneuver | - | - | - | - | | ~ 18 | - | | |
| Stage 1 | - | - | - | - | | 817 | - | | |
| Stage 2 | - | - | - | - | | ~ 40 | - | | |
| | | | | | | | | | |
| Approach | | EB | | WB | | NB | | | |
| HCM Control Delay, s | 0 | | 13.9 | | | \$ 3858.9 | | | |
| HCM LOS | | | | | | F | | | |
| | | | | | | | | | |
| Minor Lane/Major Mvmt | | NBLn1/NBLn2 | | EBR | | WBL | | WBT | |
| Capacity (veh/h) | 18 | 820 | - | - | 1138 | - | | | |
| HCM Lane V/C Ratio | 23.853 | 0.937 | - | - | 0.711 | - | | | |
| HCM Control Delay (s) | \$ 10693.4 | 40.5 | - | - | 15.5 | 0 | | | |
| HCM Lane LOS | F | E | - | - | C | A | | | |
| HCM 95th Vile Q(veh) | 54.4 | 14.1 | - | - | 6.4 | - | | | |
| | | | | | | | | | |
| Notes | | | | | | | | | |
| \$: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined **: All major volume in platoon | | | | | | | | | |

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined

HCM Signalized Intersection Capacity Analysis

4/24/2017

4/24/2017

21: I-10 EB Ramps & Alameda St

Queues

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|---|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | 199 | 0 | 237 | 0 | 0 | 0 | 444 | 1223 | 0 | 0 | 1386 | 523 |
| Volume (vph) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Total Lost time (s) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 |
| Lane Util. Factor | 0.95 | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.85 |
| Flt | 1770 | 1583 | 1770 | 1583 | 1770 | 1583 | 1770 | 1583 | 1770 | 1583 | 1770 | 1583 |
| Satd. Flow (prot) | 0.95 | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 |
| Flt Permitted | 1770 | 1583 | 1770 | 1583 | 1770 | 1583 | 1770 | 1583 | 1770 | 1583 | 1770 | 1583 |
| Satd. Flow (perm) | 0.95 | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 216 | 0 | 258 | 0 | 0 | 0 | 483 | 1329 | 0 | 0 | 1507 | 588 |
| RTOR Reduction (vph) | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Queue Length 50th (ft) | 216 | 0 | 252 | 0 | 0 | 0 | 483 | 1329 | 0 | 0 | 1507 | 477 |
| Queue Length 95th (ft) | 216 | 0 | 252 | 0 | 0 | 0 | 483 | 1329 | 0 | 0 | 1507 | 477 |
| Internal Link Dist (ft) | 295 | 778 | 295 | 778 | 295 | 778 | 295 | 778 | 295 | 778 | 295 | 778 |
| Turn Bay Length (ft) | 295 | 778 | 295 | 778 | 295 | 778 | 295 | 778 | 295 | 778 | 295 | 778 |
| Base Capacity (vph) | 295 | 778 | 295 | 778 | 295 | 778 | 295 | 778 | 295 | 778 | 295 | 778 |
| Spallback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.73 | 0.33 | 0.33 | 0.68 | 0.50 | 1.00 | 0.50 | 1.00 | 0.50 | 1.00 | 0.50 | 1.00 |
| Intersection Summary | Volume exceeds capacity, queue is theoretically infinite. | | | | | | | | | | | |
| - | Queue shown is maximum after two cycles. | | | | | | | | | | | |
| # | 95th percentile volume exceeds capacity, queue may be longer. | | | | | | | | | | | |
| - | Queue shown is maximum after two cycles. | | | | | | | | | | | |

HCM Signalized Intersection Capacity Analysis

4/24/2017

4/24/2017

21: I-10 EB Ramps & Alameda St

Queues

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|---|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | 199 | 0 | 237 | 0 | 0 | 0 | 444 | 1223 | 0 | 0 | 1386 | 523 |
| Volume (vph) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Total Lost time (s) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 |
| Lane Util. Factor | 0.95 | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.85 |
| Flt | 1770 | 1583 | 1770 | 1583 | 1770 | 1583 | 1770 | 1583 | 1770 | 1583 | 1770 | 1583 |
| Satd. Flow (prot) | 0.95 | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 |
| Flt Permitted | 1770 | 1583 | 1770 | 1583 | 1770 | 1583 | 1770 | 1583 | 1770 | 1583 | 1770 | 1583 |
| Satd. Flow (perm) | 0.95 | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 | 0.95 | 1.00 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 216 | 0 | 258 | 0 | 0 | 0 | 483 | 1329 | 0 | 0 | 1507 | 588 |
| RTOR Reduction (vph) | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Queue Length 50th (ft) | 216 | 0 | 252 | 0 | 0 | 0 | 483 | 1329 | 0 | 0 | 1507 | 477 |
| Queue Length 95th (ft) | 216 | 0 | 252 | 0 | 0 | 0 | 483 | 1329 | 0 | 0 | 1507 | 477 |
| Internal Link Dist (ft) | 295 | 778 | 295 | 778 | 295 | 778 | 295 | 778 | 295 | 778 | 295 | 778 |
| Turn Bay Length (ft) | 295 | 778 | 295 | 778 | 295 | 778 | 295 | 778 | 295 | 778 | 295 | 778 |
| Base Capacity (vph) | 295 | 778 | 295 | 778 | 295 | 778 | 295 | 778 | 295 | 778 | 295 | 778 |
| Spallback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.73 | 0.33 | 0.33 | 0.68 | 0.50 | 1.00 | 0.50 | 1.00 | 0.50 | 1.00 | 0.50 | 1.00 |
| Intersection Summary | Volume exceeds capacity, queue is theoretically infinite. | | | | | | | | | | | |
| - | Queue shown is maximum after two cycles. | | | | | | | | | | | |
| # | 95th percentile volume exceeds capacity, queue may be longer. | | | | | | | | | | | |
| - | Queue shown is maximum after two cycles. | | | | | | | | | | | |

HCM 2010 TWSC

13: I-10 WB Ramps & 8th St

4/4/2017

| Intersection | | | | | | | | | | | | |
|--|------------|--------|--------|------|-----------|-------|--|--|--|--|--|--|
| Int Delay, s/veh | | 3579.4 | | | | | | | | | | |
| | | | | | | | | | | | | |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR | | | | | | |
| Vol veh/h | 22 | 301 | 701 | 26 | 805 | 707 | | | | | | |
| Conflicting Peds. #/hr | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | |
| Sign Control | Free | Free | Free | Free | Stop | Stop | | | | | | |
| RT Channelized | - | None | - | None | - | None | | | | | | |
| Storage Length | - | - | - | - | 160 | 0 | | | | | | |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - | | | | | | |
| Grade, % | 0 | - | - | 0 | 0 | - | | | | | | |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | | | | | | |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | | | | | | |
| Mvmt Flow | 24 | 327 | 762 | 28 | 875 | 768 | | | | | | |
| | | | | | | | | | | | | |
| Major/Minor | Major1 | | Major2 | | Minor1 | | | | | | | |
| Conflicting Flow All | 0 | 0 | 351 | 0 | 1740 | 188 | | | | | | |
| Stage 1 | - | - | - | - | 188 | - | | | | | | |
| Stage 2 | - | - | - | - | 1552 | - | | | | | | |
| Critical Hwy | - | - | 4.12 | - | 6.42 | 6.22 | | | | | | |
| Critical Hwy Stg 1 | - | - | - | - | 5.42 | - | | | | | | |
| Critical Hwy Stg 2 | - | - | - | - | 5.42 | - | | | | | | |
| Follow-up Hwy | - | - | 2.218 | - | 3.518 | 3.318 | | | | | | |
| Pot Cap-1 Maneuver | - | - | 1208 | - | -96 | 854 | | | | | | |
| Stage 1 | - | - | - | - | -844 | - | | | | | | |
| Stage 2 | - | - | - | - | -192 | - | | | | | | |
| Platoon blocked, % | - | - | - | - | - | - | | | | | | |
| Mov Cap-1 Maneuver | - | - | 1208 | - | -34 | 854 | | | | | | |
| Mov Cap-2 Maneuver | - | - | - | - | -34 | - | | | | | | |
| Stage 1 | - | - | - | - | -844 | - | | | | | | |
| Stage 2 | - | - | - | - | -69 | - | | | | | | |
| | | | | | | | | | | | | |
| Approach | EB | | WB | | NB | | | | | | | |
| HCM Control Delay, s | 0 | | 12.5 | | \$ 6059.1 | | | | | | | |
| HCM LOS | | | | | F | | | | | | | |
| | | | | | | | | | | | | |
| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL | WBT | | | | | | |
| Capacity (veh/h) | 34 | 854 | - | - | 1208 | - | | | | | | |
| HCM Lane V/C Ratio | 25.735 | 0.9 | - | - | 0.631 | - | | | | | | |
| HCM Control Delay (s) | \$ 11350.9 | 33.7 | - | - | 12.9 | 0 | | | | | | |
| HCM Lane LOS | F | D | - | - | B | A | | | | | | |
| HCM 95th %ile Q(veh) | 108.2 | 12.5 | - | - | 4.7 | - | | | | | | |
| | | | | | | | | | | | | |
| Notes | | | | | | | | | | | | |
| -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon | | | | | | | | | | | | |

HCM 2010 TWSC

11: I-5 SB On-Ramp/US 101 SB Off-Ramp & 7th Street

4/4/2017

| Intersection | | | | | | | | | | | | |
|---|--------|-------|--------|------|-----------|------|-----------------|--------|------|------|------|------|
| Int Delay, s/veh | | 562.2 | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Vol. veh/h | 0 | 784 | 1099 | 0 | 3465 | 0 | 0 | 0 | 0 | 25 | 0 | 623 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | 35 | - | 0 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | - | 0 | - | - | 0 |
| Grade, % | - | 0 | - | - | 0 | - | - | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 852 | 1195 | 0 | 3766 | 0 | 0 | 0 | 0 | 27 | 0 | 677 |
| Major/Minor | Major1 | | Major2 | | Minor2 | | | | | | | |
| Conflicting Flow All | 3766 | 0 | 0 | 2047 | 0 | 0 | 4192 5813 18833 | | | | | |
| Stage 1 | - | - | - | - | - | - | 3766 3766 - | | | | | |
| Stage 2 | - | - | - | - | - | - | 426 2047 - | | | | | |
| Critical Hdwy | 4.14 | - | - | 4.14 | - | - | 6.84 6.54 6.94 | | | | | |
| Critical Hdwy Sig 1 | - | - | - | - | - | - | 5.84 5.54 - | | | | | |
| Critical Hdwy Sig 2 | - | - | - | - | - | - | 5.84 5.54 - | | | | | |
| Follow-up Hdwy | 2.22 | - | - | 2.22 | - | - | 3.52 4.02 3.32 | | | | | |
| Pot Cap-1 Maneuver | 55 | - | - | 271 | - | - | -1 0 -61 | | | | | |
| Stage 1 | - | - | - | - | - | - | -9 12 - | | | | | |
| Stage 2 | - | - | - | - | - | - | 627 98 - | | | | | |
| Platoon blocked, % | - | - | - | - | - | - | -1 0 -61 | | | | | |
| Mov Cap-1 Maneuver | 55 | - | - | 271 | - | - | -1 0 - | | | | | |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | -9 0 - | | | | | |
| Stage 1 | - | - | - | - | - | - | 627 0 - | | | | | |
| Stage 2 | - | - | - | - | - | - | - | | | | | |
| Approach | EB | | WB | | SB | | | | | | | |
| HCM Control Delay, s | 0 | | 0 | | \$ 5201.7 | | | | | | | |
| HCM LOS | | | | | F | | | | | | | |
| Minor Lane/Major Mvmt | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 | | | | |
| Capacity (veh/h) | 55 | - | - | 271 | - | - | 1 | 61 | | | | |
| HCM Lane V/C Ratio | - | - | - | - | - | - | -27.174 | 11.101 | | | | |
| HCM Control Delay (s) | 0 | - | - | 0 | - | - | \$ 18365.6 | 4673.5 | | | | |
| HCM Lane LOS | A | - | - | A | - | - | F | F | | | | |
| HCM 95th %ile Q(veh) | 0 | - | - | 0 | - | - | 5.2 | 80.2 | | | | |
| Notes | | | | | | | | | | | | |
| *: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined **: All major volume in platoon | | | | | | | | | | | | |

Queues

21: I-10 EB Ramps & Alameda St

4/24/2017

| Lane Group | EBL | EBR | NBL | NBT | SBL | SBT | SBR |
|-------------------------|-------|------|------|------|------|-------|------|
| Lane Group Flow (vph) | 496 | 689 | 484 | 1579 | 1 | 1289 | 675 |
| v/c Ratio | 1.15 | 0.71 | 0.75 | 0.66 | 0.01 | 1.18 | 0.65 |
| Control Delay | 126.8 | 18.3 | 32.2 | 10.8 | 25.0 | 121.3 | 12.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 126.8 | 18.3 | 32.2 | 10.8 | 25.0 | 121.3 | 12.8 |
| Queue Length 50th (ft) | -414 | 275 | 198 | 239 | 0 | -520 | 190 |
| Queue Length 95th (ft) | #611 | 418 | 315 | 300 | 5 | #653 | 323 |
| Internal Link Dist (ft) | | | | 1190 | | 1580 | |
| Turn Bay Length (ft) | 255 | | 530 | | 45 | | 330 |
| Base Capacity (vph) | 433 | 969 | 711 | 2387 | 74 | 1097 | 1032 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.15 | 0.71 | 0.68 | 0.66 | 0.01 | 1.18 | 0.65 |

Intersection Summary

- Volume exceeds capacity, queue is theoretically infinite.
- Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
- Queue shown is maximum after two cycles.

HCM 2010 TWSC

15: Private Dwy/I-10 EB Ramps & Porter St

4/14/2017

| Intersection | 4101 | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, S/vch | | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Vol, veh/h | 529 | 120 | 1 | 0 | 25 | 466 | 2 | 0 | 0 | 1033 | 0 | 463 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | 150 | - | 25 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | - | 0 |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 575 | 130 | 1 | 0 | 27 | 507 | 2 | 0 | 0 | 1123 | 0 | 503 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 534 | 0 | 0 | 132 | 0 | 0 | 1561 | 1815 | 131 | 1561 | 1562 | 280 |
| Stage 1 | - | - | - | - | - | - | 1281 | 1281 | - | 280 | 280 | - |
| Stage 2 | - | - | - | - | - | - | 280 | 534 | - | 1281 | 1282 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Sig 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Sig 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1034 | - | - | 1453 | - | - | 91 | 78 | 919 | - | 91 | 112 |
| Stage 1 | - | - | - | - | - | - | 203 | 236 | - | - | 727 | 679 |
| Stage 2 | - | - | - | - | - | - | 727 | 524 | - | - | 203 | 236 |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 1034 | - | - | 1453 | - | - | 16 | 31 | 919 | - | 47 | 45 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 16 | 31 | - | - | 47 | 45 |
| Stage 1 | - | - | - | - | - | - | 81 | 94 | - | - | 291 | 679 |
| Stage 2 | - | - | - | - | - | - | 245 | 524 | - | - | 81 | 94 |

| Approach | EB | WB | NB | SB |
|----------------------|------|----|-------|-----------|
| HCM Control Delay, s | 10.4 | 0 | 262.6 | \$ 7229.4 |
| HCM LOS | | | F | F |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 | SBLn3 |
|-----------------------|-------|-------|-----|-----|------|-----|-----|------------|-------|-------|
| Capacity (veh/h) | 16 | 1034 | - | - | 1453 | - | - | 47 | - | 759 |
| HCM Lane V/C Ratio | 0.136 | 0.556 | - | - | - | - | - | 23.89 | - | 0.663 |
| HCM Control Delay (s) | 262.6 | 12.8 | 0 | - | 0 | - | - | \$ 10461.4 | 0 | 18.6 |
| HCM Lane LOS | F | B | A | - | A | - | - | F | A | C |
| HCM 95th %ile Q(veh) | 0.4 | 3.5 | - | - | 0 | - | - | 137.5 | - | 5.1 |

Notes

-: Volume exceeds capacity \$: Delay exceeds 300s *: Computation Not Defined **: All major volume in platoon

HCM 2010 TWSC

11: I-5 SB On-Ramp/US 101 SB Off-Ramp & 7th Street

12/22/2016

| Intersection 168.7 | | | | | | | | | | | | | |
|--|------|------|------|------|------|-----------|---------|------|------|-----------|------|------|--|
| Init Delay, s/veh | | | | | | | | | | | | | |
| Movement | | | | | | | | | | | | | |
| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | |
| Vol, veh/h | 0 | 1643 | 1587 | 0 | 2363 | 0 | 0 | 0 | 0 | 60 | 0 | 515 | |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Sign Control | Free | Free | Free | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None | |
| Storage Length | - | - | - | - | - | - | - | - | - | 35 | - | 0 | |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | - | 0 | |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | - | 0 | |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| Mvmt Flow | 0 | 1786 | 1725 | 0 | 2568 | 0 | 0 | 0 | 0 | 65 | 0 | 560 | |
| Major/Minor Major1 Major2 Minor2 | | | | | | | | | | | | | |
| Conflicting Flow All | 2568 | 0 | 0 | 3511 | 0 | 0 | | | | 3461 | 6079 | 1284 | |
| Stage 1 | - | - | - | - | - | - | | | | 2568 | 2568 | - | |
| Stage 2 | - | - | - | - | - | - | | | | 893 | 3511 | - | |
| Critical Hwy | 4.14 | - | - | 4.14 | - | - | | | | 6.84 | 6.54 | 6.94 | |
| Critical Hwy Stg 1 | - | - | - | - | - | - | | | | 5.84 | 5.54 | - | |
| Critical Hwy Stg 2 | - | - | - | - | - | - | | | | 5.84 | 5.54 | - | |
| Follow-up Hwy | 2.22 | - | - | 2.22 | - | - | | | | 3.52 | 4.02 | 3.32 | |
| Pot Cap-1 Maneuver | 169 | - | - | 70 | - | - | | | | -5 | 0 | 156 | |
| Stage 1 | - | - | - | - | - | - | | | | -43 | 52 | - | |
| Stage 2 | - | - | - | - | - | - | | | | 360 | 16 | - | |
| Platoon blocked, % | - | - | - | - | - | - | | | | - | - | - | |
| Mov Cap-1 Maneuver | 169 | - | - | 70 | - | - | | | | -5 | 0 | 156 | |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | | | | -5 | 0 | - | |
| Stage 1 | - | - | - | - | - | - | | | | -43 | 0 | - | |
| Stage 2 | - | - | - | - | - | - | | | | 360 | 0 | - | |
| Approach EB WB SB | | | | | | | | | | | | | |
| HCM Control Delay, s | 0 | | | 0 | | | | | | \$ 1809.6 | | | |
| HCM LOS | | | | | | | | | | F | | | |
| Minor Lane/Major Mvmt EBL EBT EBR WBL WBT WBR SBL SBT SBR | | | | | | | | | | | | | |
| Capacity (veh/h) | 169 | - | - | 70 | - | - | 5 | 156 | | | | | |
| HCM Lane V/C Ratio | - | - | - | - | - | -13.043 | 3.588 | | | | | | |
| HCM Control Delay (s) | 0 | - | - | 0 | - | \$ 6836.1 | \$ 1224 | | | | | | |
| HCM Lane LOS | A | - | - | A | - | F | F | | | | | | |
| HCM 95th %ile Q(veh) | 0 | - | - | 0 | - | 10 | 54.3 | | | | | | |
| Notes | | | | | | | | | | | | | |
| -: Volume exceeds capacity \$: Delay exceeds 300s *: Computation Not Defined **: All major volume in platoon | | | | | | | | | | | | | |

HCM Signalized Intersection Capacity Analysis

21: I-10 EB Ramps & Alameda St

4/24/2017

| Movement | | | | | | | | | | | | | |
|---|-------|------|-------|------|------|------|-------|------|------|------|-------|-------|--|
| | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | |
| Lane Configurations | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | |
| Volume (vph) | 456 | 0 | 634 | 0 | 0 | 0 | 445 | 1443 | 10 | 1 | 1186 | 621 | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | |
| Satd. Flow (prot) | 1770 | 1583 | 1583 | 1770 | 3536 | 1770 | 3536 | 1770 | 3539 | 1583 | 1583 | 1583 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.13 | 1.00 | 1.00 | 0.13 | 1.00 | 1.00 | 0.13 | 1.00 | 1.00 | |
| Satd. Flow (perm) | 1770 | 1583 | 1583 | 240 | 3536 | 240 | 3536 | 240 | 3539 | 1583 | 1583 | 1583 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | |
| Adj. Flow (vph) | 486 | 0 | 689 | 0 | 0 | 0 | 484 | 1568 | 11 | 1 | 1289 | 675 | |
| RTOR Reduction (vph) | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Lane Group Flow (vph) | 496 | 0 | 684 | 0 | 0 | 0 | 484 | 1579 | 0 | 1 | 1289 | 574 | |
| Turn Type Prot pm+ov D.P+P NA Perm NA pm+ov | | | | | | | | | | | | | |
| Protected Phases | 1 | 8 | 1 | | | | 8 | 3 | | | 2 | 1 | |
| Permitted Phases | | | | | | | 2 | 2 | | | 2 | 2 | |
| Actuated Green, G (s) | 24.5 | 57.0 | 57.0 | | | | 63.5 | 63.5 | | | 31.0 | 55.5 | |
| Effective Green, g (s) | 24.5 | 57.0 | 57.0 | | | | 63.5 | 63.5 | | | 31.0 | 55.5 | |
| Actuated g/C Ratio | 0.24 | 0.57 | 0.57 | | | | 0.64 | 0.64 | | | 0.31 | 0.31 | |
| Clearance Time (s) | 4.0 | 4.0 | 4.0 | | | | 4.0 | 4.0 | | | 4.0 | 4.0 | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | | | | 3.0 | 3.0 | | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 433 | 965 | 965 | | | | 649 | 2386 | | | 74 | 1097 | |
| v/s Ratio Prot | c0.28 | 0.23 | 0.23 | | | | c0.24 | 0.21 | | | c0.36 | 0.15 | |
| v/s Ratio Perm | | 0.20 | 0.20 | | | | 0.23 | 0.23 | | | 0.00 | 0.21 | |
| v/c Ratio | 1.15 | 0.71 | 0.71 | | | | 0.75 | 0.66 | | | 1.18 | 0.61 | |
| Uniform Delay, d1 | 37.8 | 15.5 | 15.5 | | | | 26.6 | 11.5 | | | 23.9 | 34.5 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | | | 1.00 | 1.00 | |
| Incremental Delay, d2 | 89.4 | 2.4 | 2.4 | | | | 4.7 | 1.5 | | | 0.3 | 88.6 | |
| Delay (s) | 127.2 | 17.9 | 17.9 | | | | 31.2 | 12.9 | | | 24.2 | 123.1 | |
| Level of Service | F | B | B | | | | C | B | | | C | F | |
| Approach Delay (s) | | 63.7 | | | 0.0 | | | | | | | 86.3 | |
| Approach LOS | | E | | | A | | | | | | | F | |
| Intersection Summary | | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | 53.8 | | | | | | | | | D | |
| HCM 2000 Volume to Capacity ratio | | | 1.06 | | | | | | | | | | |
| Actuated Cycle Length (s) | | | 100.0 | | | | | | | | | 16.0 | |
| Intersection Capacity Utilization | | | 92.7% | | | | | | | | | F | |
| Analysis Period (min) | | | 15 | | | | | | | | | | |
| Critical Lane Group | | | | | | | | | | | | | |

HCM 2010 TWSC

15: Private Dwy/I-10 EB Ramps & Porter St

12/22/2016

| Intersection | | | | | | | | | | | | | | | |
|----------------------------|------|---|-------|------|-------|-------|------|------------|-------|-------|---------|-------|-------|--|--|
| Init Delay, s/veh | | 4069.1 | | | | | | | | | | | | | |
| Movement | | | | | | | | | | | | | | | |
| Vol, veh/h | 984 | 156 | 1 | 2 | 28 | 734 | 2 | 0 | 2 | 526 | 2 | 179 | | | |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Sign Control | Free | Free | Free | Free | Free | Free | Free | Free | Free | Free | Free | Free | | | |
| RT Channelized | - | - | - | - | - | - | - | - | - | - | - | - | | | |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - | | | |
| Veh in Median Storage, # | - | 0 | - | - | - | 0 | - | - | 0 | - | - | 0 | | | |
| Grade, % | - | 0 | - | - | - | 0 | - | - | 0 | - | - | 0 | | | |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | | | |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | | |
| Mvmt Flow | 1070 | 170 | 1 | 2 | 30 | 798 | 2 | 0 | 2 | 572 | 2 | 195 | | | |
| Major/Minor | | | | | | | | | | | | | | | |
| Conflicting Flow All | | 828 | 0 | 0 | 171 | 0 | 0 | 2744 | 3142 | 170 | 2744 | 2744 | 429 | | |
| Stage 1 | | - | - | - | - | - | - | 2309 | 2309 | - | 434 | 434 | - | | |
| Stage 2 | | - | - | - | - | - | - | 435 | 833 | - | 2310 | 2310 | - | | |
| Critical Hwy | | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | | |
| Critical Hwy Stg 1 | | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - | | |
| Critical Hwy Stg 2 | | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - | | |
| Follow-up Hwy | | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | | |
| Pot Cap-1 Maneuver | | ~803 | - | - | 1406 | - | - | 13 | 11 | 874 | ~13 | 20 | 626 | | |
| Stage 1 | | - | - | - | - | - | - | 51 | 72 | - | 600 | 581 | - | | |
| Stage 2 | | - | - | - | - | - | - | 600 | 384 | - | - | 51 | 72 | | |
| Platoon blocked, % | | - | - | - | - | - | - | - | - | - | - | - | - | | |
| Mov Cap-1 Maneuver | | ~803 | - | - | 1406 | - | - | 8 | 11 | 874 | ~13 | 20 | 626 | | |
| Mov Cap-2 Maneuver | | - | - | - | - | - | - | - | - | - | - | - | - | | |
| Stage 1 | | - | - | - | - | - | - | 51 | 72 | - | 600 | 579 | - | | |
| Stage 2 | | - | - | - | - | - | - | 411 | 383 | - | - | 51 | 72 | | |
| Approach | | EB | | | WB | | | NB | | | SB | | | | |
| HCM Control Delay, s | | 151 | | | 0 | | | 299.3 | | | \$ 1481 | | | | |
| HCM LOS | | | | | | | | F | | | F | | | | |
| Minor Lane/Major Mvmt | | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 | SBLn3 | | | | |
| Capacity (veh/h) | | 16 ~ 803 | - | - | - | 1406 | - | - | 13 | 20 | 626 | | | | |
| HCM Lane V/C Ratio | | 0.272 | 1.332 | - | - | 0.002 | - | - | 43.98 | 0.109 | 0.311 | | | | |
| HCM Control Delay (s) | | 299.3 | 175.1 | 0 | - | 7.6 | 0 | \$ 19902.2 | 205.9 | 13.3 | | | | | |
| HCM Lane LOS | | F | F | A | - | A | - | A | F | F | B | | | | |
| HCM 95th %ile Q(veh) | | 0.7 | 42.7 | - | - | 0 | - | - | 72.8 | 0.3 | 1.3 | | | | |
| Notes | | | | | | | | | | | | | | | |
| -: Volume exceeds capacity | | \$: Delay exceeds 300s *: Computation Not Defined **: All major volume in platoon | | | | | | | | | | | | | |

HCM 2010 TWSC

13: I-10 WB Ramps & 8th St

12/22/2016

| Intersection | | | | | | | | | | | | | | | |
|----------------------------|------|---|-------|-------|------|-------|------------|--|--|--|--|--|--|--|--|
| Init Delay, s/veh | | 15980.3 | | | | | | | | | | | | | |
| Movement | | | | | | | | | | | | | | | |
| Vol, veh/h | 19 | 511 | 47 | 841 | 47 | 498 | 679 | | | | | | | | |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | | |
| Sign Control | Free | Free | Free | Free | Free | Free | Free | | | | | | | | |
| RT Channelized | - | - | - | - | - | - | - | | | | | | | | |
| Storage Length | - | - | - | - | - | - | - | | | | | | | | |
| Veh in Median Storage, # | 0 | - | - | - | - | 0 | - | | | | | | | | |
| Grade, % | 0 | - | - | - | - | 0 | - | | | | | | | | |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | | | | | | | | |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | | | | | | | |
| Mvmt Flow | 21 | 555 | 914 | 51 | | 541 | 738 | | | | | | | | |
| Major/Minor | | | | | | | | | | | | | | | |
| Conflicting Flow All | | 0 | 0 | 576 | 0 | 2177 | 298 | | | | | | | | |
| Stage 1 | | - | - | - | - | - | - | | | | | | | | |
| Stage 2 | | - | - | - | - | - | - | | | | | | | | |
| Critical Hwy | | - | - | 4.12 | - | 6.42 | 6.22 | | | | | | | | |
| Critical Hwy Stg 1 | | - | - | - | - | 5.42 | - | | | | | | | | |
| Critical Hwy Stg 2 | | - | - | - | - | 5.42 | - | | | | | | | | |
| Follow-up Hwy | | - | - | 2.218 | - | 3.518 | 3.318 | | | | | | | | |
| Pot Cap-1 Maneuver | | - | - | 997 | - | ~51 | 741 | | | | | | | | |
| Stage 1 | | - | - | - | - | 753 | - | | | | | | | | |
| Stage 2 | | - | - | - | - | ~132 | - | | | | | | | | |
| Platoon blocked, % | | - | - | - | - | - | - | | | | | | | | |
| Mov Cap-1 Maneuver | | - | - | 997 | - | ~3 | 741 | | | | | | | | |
| Mov Cap-2 Maneuver | | - | - | - | - | ~3 | - | | | | | | | | |
| Stage 1 | | - | - | - | - | 753 | - | | | | | | | | |
| Stage 2 | | - | - | - | - | ~7 | - | | | | | | | | |
| Approach | | EB | | | WB | | NB | | | | | | | | |
| HCM Control Delay, s | | 0 | | | 31.1 | | \$ 35209.3 | | | | | | | | |
| HCM LOS | | | | | | | F | | | | | | | | |
| Minor Lane/Major Mvmt | | NBLn1 | NBLn2 | EBT | EBR | WBL | WBT | | | | | | | | |
| Capacity (veh/h) | | 3 | 741 | - | - | 997 | - | | | | | | | | |
| HCM Lane V/C Ratio | | 180.435 | 0.996 | - | - | 0.917 | - | | | | | | | | |
| HCM Control Delay (s) | | \$ 83139.8 | 55.6 | - | - | 32.8 | 0 | | | | | | | | |
| HCM Lane LOS | | F | F | - | - | D | A | | | | | | | | |
| HCM 95th %ile Q(veh) | | 70.2 | 16.5 | - | - | 14 | - | | | | | | | | |
| Notes | | | | | | | | | | | | | | | |
| -: Volume exceeds capacity | | \$: Delay exceeds 300s *: Computation Not Defined **: All major volume in platoon | | | | | | | | | | | | | |

HCM Signalized Intersection Capacity Analysis

4/24/2017

4/24/2017

21: I-10 EB Ramps & Alameda St

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ |
| Volume (vph) | 323 | 0 | 269 | 0 | 0 | 0 | 505 | 1499 | 0 | 0 | 1686 | 623 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 | 0.85 | 1.00 |
| Flt | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.85 | 1.00 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1583 | 1583 | 1770 | 1770 | 1770 | 3539 | 3539 | 3539 | 3539 | 1583 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1770 | 1583 | 1583 | 1770 | 1770 | 1770 | 3539 | 3539 | 3539 | 3539 | 1583 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 351 | 0 | 292 | 0 | 0 | 0 | 549 | 1629 | 0 | 0 | 1833 | 677 |
| RTOR Reduction (vph) | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 79 |
| RTOR Reduction (vph) | 351 | 0 | 286 | 0 | 0 | 0 | 549 | 1629 | 0 | 0 | 1833 | 598 |
| Lane Group Flow (vph) | 351 | 0 | 286 | 0 | 0 | 0 | 549 | 1629 | 0 | 0 | 1833 | 598 |
| Turn Type | Prot | pm+ov | pm+ov | pm+ov | pm+ov | pm+ov | pm+ov | pm+ov | pm+ov | pm+ov | pm+ov | pm+ov |
| Protected Phases | 1 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Permitted Phases | 1 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Actuated Green, G (s) | 17.6 | 49.0 | 49.0 | 17.6 | 49.0 | 49.0 | 70.4 | 70.4 | 70.4 | 70.4 | 39.0 | 56.6 |
| Effective Green, g (s) | 17.6 | 49.0 | 49.0 | 17.6 | 49.0 | 49.0 | 70.4 | 70.4 | 70.4 | 70.4 | 39.0 | 56.6 |
| Actuated g/C Ratio | 0.18 | 0.49 | 0.49 | 0.18 | 0.49 | 0.49 | 0.70 | 0.70 | 0.70 | 0.70 | 0.39 | 0.57 |
| Clearance Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 311 | 838 | 838 | 311 | 838 | 838 | 630 | 2633 | 630 | 2633 | 1380 | 959 |
| v/s Ratio Prot | c0.20 | 0.11 | 0.11 | c0.20 | 0.11 | 0.11 | c0.27 | 0.19 | c0.27 | 0.19 | c0.52 | 0.11 |
| v/s Ratio Perm | 1.13 | 0.34 | 0.34 | 1.13 | 0.34 | 0.34 | 0.87 | 0.62 | 0.87 | 0.62 | 1.33 | 0.62 |
| Uniform Delay, d1 | 41.2 | 15.6 | 15.6 | 41.2 | 15.6 | 15.6 | 29.0 | 7.8 | 29.0 | 7.8 | 30.5 | 14.6 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 90.4 | 0.2 | 0.2 | 90.4 | 0.2 | 0.2 | 12.6 | 1.1 | 12.6 | 1.1 | 152.8 | 1.3 |
| Delay (s) | 131.6 | 15.9 | 15.9 | 131.6 | 15.9 | 15.9 | 41.6 | 8.9 | 41.6 | 8.9 | 183.3 | 15.8 |
| Level of Service | F | B | B | F | B | B | D | A | D | A | F | B |
| Approach Delay (s) | 79.0 | E | E | 79.0 | E | E | 17.1 | B | 17.1 | B | 138.1 | F |
| Approach LOS | E | E | E | E | E | E | A | B | A | B | F | F |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2000 Control Delay | 81.6 | | | | | | | | | | | |
| HCM 2000 Volume to Capacity ratio | 1.18 | | | | | | | | | | | |
| Actuated Cycle Length (s) | 100.0 | | | | | | | | | | | |
| Intersection Capacity Utilization | 102.5% | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |
| c Critical Lane Group | 15 | | | | | | | | | | | |

Queues

4/24/2017

21: I-10 EB Ramps & Alameda St

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|-------|------|------|------|-------|------|
| Lane Group Flow (vph) | 351 | 292 | 549 | 1629 | 1833 | 677 |
| v/c Ratio | 1.13 | 0.35 | 0.87 | 0.62 | 1.33 | 0.66 |
| Control Delay | 130.7 | 14.4 | 42.2 | 7.0 | 181.3 | 13.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 130.7 | 14.4 | 42.2 | 7.0 | 181.3 | 13.6 |
| Queue Length 50th (ft) | -279 | 98 | 262 | 198 | -802 | 197 |
| Queue Length 95th (ft) | #490 | 155 | 383 | 206 | #940 | 355 |
| Internal Link Dist (ft) | 255 | 530 | 712 | 2632 | 1380 | 1030 |
| Turn Bay Length (ft) | 311 | 841 | 712 | 2632 | 1380 | 1030 |
| Base Capacity (vph) | 0 | 0 | 0 | 0 | 0 | 0 |
| Sanction Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.13 | 0.35 | 0.77 | 0.62 | 1.33 | 0.66 |
| Intersection Summary | | | | | | |
| - Volume exceeds capacity, queue is theoretically infinite. | | | | | | |
| - Queue shown is maximum after two cycles. | | | | | | |
| # 95th percentile volume exceeds capacity, queue may be longer. | | | | | | |
| - Queue shown is maximum after two cycles. | | | | | | |

HCM 2010 TWSC

13: I-10 WB Ramps & 8th St

2/27/2017

| Intersection | | | | | | | | | |
|----------------------------|------------|--------|--------|------|--------------------------------|-------|----------------------------|--|--|
| Int Delay, s/veh | | 3655.8 | | | | | | | |
| | | | | | | | | | |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR | | | |
| Vol veh/h | 22 | 306 | 701 | 26 | 816 | 707 | | | |
| Conflicting Peds. #/hr | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Sign Control | Free | Free | Free | Free | Stop | Stop | | | |
| RT Channelized | - | None | - | None | - | None | | | |
| Storage Length | - | - | - | - | 160 | 0 | | | |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - | | | |
| Grade, % | 0 | - | - | 0 | 0 | - | | | |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | | | |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | | | |
| Mvmt Flow | 24 | 333 | 762 | 28 | 887 | 768 | | | |
| | | | | | | | | | |
| Major/Minor | Major1 | | Major2 | | Minor1 | | | | |
| Conflicting Flow All | 0 | 0 | 357 | 0 | 1742 | 190 | | | |
| Stage 1 | - | - | - | - | 190 | - | | | |
| Stage 2 | - | - | - | - | 1552 | - | | | |
| Critical Hwy | - | - | 4.12 | - | 6.42 | 6.22 | | | |
| Critical Hwy Stg 1 | - | - | - | - | 5.42 | - | | | |
| Critical Hwy Stg 2 | - | - | - | - | 5.42 | - | | | |
| Follow-up Hwy | - | - | 2.218 | - | 3.518 | 3.318 | | | |
| Pot Cap-1 Maneuver | - | - | 1202 | - | -95 | 852 | | | |
| Stage 1 | - | - | - | - | -842 | - | | | |
| Stage 2 | - | - | - | - | -192 | - | | | |
| Platoon blocked, % | - | - | - | - | - | - | | | |
| Mov Cap-1 Maneuver | - | - | 1202 | - | -34 | 852 | | | |
| Mov Cap-2 Maneuver | - | - | - | - | -34 | - | | | |
| Stage 1 | - | - | - | - | -842 | - | | | |
| Stage 2 | - | - | - | - | -68 | - | | | |
| | | | | | | | | | |
| Approach | EB | | WB | | NB | | | | |
| HCM Control Delay, s | 0 | | 12.6 | | \$ 6182.2 | | | | |
| HCM LOS | | | | | F | | | | |
| | | | | | | | | | |
| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL | WBT | | | |
| Capacity (veh/h) | 34 | 852 | - | - | 1202 | - | | | |
| HCM Lane V/C Ratio | 26.087 | 0.902 | - | - | 0.634 | - | | | |
| HCM Control Delay (s) | \$ 11509.1 | 34.1 | - | - | 13 | 0 | | | |
| HCM Lane LOS | F | D | - | - | B | A | | | |
| HCM 95th %ile Q(veh) | 109.7 | 12.5 | - | - | 4.8 | - | | | |
| | | | | | | | | | |
| Notes | | | | | | | | | |
| -: Volume exceeds capacity | | | | | \$: Delay exceeds 300s | | *: Computation Not Defined | | |
| | | | | | *: All major volume in platoon | | | | |

HCM 2010 TWSC

11: I-5 SB On-Ramp/US 101 SB Off-Ramp & 7th Street

2/27/2017

| Intersection | | | | | | | | | |
|----------------------------|--------|-------|--------|------|-----------|------|--------------------------------|--------|----------------------------|
| Int Delay, s/veh | | 576.4 | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR |
| Vol, veh/h | 0 | 793 | 1108 | 0 | 3472 | 0 | 0 | 0 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 862 | 1204 | 0 | 3774 | 0 | 0 | 0 | 0 |
| Major/Minor | Major1 | | Major2 | | Minor2 | | | | |
| Conflicting Flow All | 3774 | 0 | 0 | 2066 | 0 | 0 | 4205 | 5840 | 1887 |
| Stage 1 | - | - | - | - | - | - | 3774 | 3774 | - |
| Stage 2 | - | - | - | - | - | - | - | - | - |
| Critical Hwy | 4.14 | - | - | 4.14 | - | - | 6.84 | 6.54 | 6.94 |
| Critical Hwy Stg 1 | - | - | - | - | - | - | 5.84 | 5.54 | - |
| Critical Hwy Stg 2 | - | - | - | - | - | - | 5.84 | 5.54 | - |
| Follow-up Hwy | 2.22 | - | - | 2.22 | - | - | 3.52 | 4.02 | 3.32 |
| Pot Cap-1 Maneuver | 55 | - | - | 267 | - | - | -1 | 0 | -60 |
| Stage 1 | - | - | - | - | - | - | -8 | 12 | - |
| Stage 2 | - | - | - | - | - | - | 623 | 95 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 55 | - | - | 267 | - | - | -1 | 0 | -60 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | -1 | 0 | - |
| Stage 1 | - | - | - | - | - | - | -8 | 0 | - |
| Stage 2 | - | - | - | - | - | - | 623 | 0 | - |
| Approach | EB | | WB | | SB | | | | |
| HCM Control Delay, s | 0 | | 0 | | \$ 5318.8 | | | | |
| HCM LOS | | | | | F | | | | |
| Minor Lane/Major Mvmt | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 | |
| Capacity (veh/h) | 55 | - | - | 267 | - | - | 1 | 60 | |
| HCM Lane V/C Ratio | - | - | - | - | - | - | -27.174 | 11.377 | |
| HCM Control Delay (s) | 0 | - | - | 0 | - | - | \$ 18365.6 | 4799.4 | |
| HCM Lane LOS | A | - | - | A | - | - | F | F | |
| HCM 95th %ile Q(veh) | 0 | - | - | 0 | - | - | 5.2 | 81 | |
| Notes | | | | | | | | | |
| -: Volume exceeds capacity | | | | | | | \$: Delay exceeds 300s | | *: Computation Not Defined |
| | | | | | | | *: All major volume in platoon | | |

Queues

21: I-10 EB Ramps & Alameda St

4/24/2017

| Lane Group | EBL | EBR | NBL | NBT | SBL | SBT | SBR |
|-------------------------|-------|------|------|------|------|-------|------|
| Lane Group Flow (vph) | 499 | 689 | 484 | 1585 | 1 | 1299 | 675 |
| v/c Ratio | 1.15 | 0.71 | 0.75 | 0.66 | 0.01 | 1.18 | 0.65 |
| Control Delay | 129.2 | 18.3 | 32.2 | 10.9 | 25.0 | 124.9 | 12.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 129.2 | 18.3 | 32.2 | 10.9 | 25.0 | 124.9 | 12.8 |
| Queue Length 50th (ft) | -418 | 275 | 198 | 241 | 0 | -526 | 190 |
| Queue Length 95th (ft) | #615 | 418 | 315 | 301 | 5 | #661 | 323 |
| Internal Link Dist (ft) | | | | 1190 | | 1580 | |
| Turn Bay Length (ft) | 255 | | 530 | | 45 | | 330 |
| Base Capacity (vph) | 433 | 969 | 711 | 2387 | 74 | 1097 | 1032 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.15 | 0.71 | 0.68 | 0.66 | 0.01 | 1.18 | 0.65 |

Intersection Summary

- Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

HCM 2010 TWSC

15: Private Dwy/I-10 EB Ramps & Porter St

2/27/2017

| Intersection | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/vch | 4181 | | | | | | | | | | | |
| Movement | 536 | 120 | 1 | 0 | 25 | 466 | 0 | 0 | 0 | 1033 | 0 | 466 |
| Vol, veh/h | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Conflicting Peds, #/hr | Free | Free | Free | Free | Free | Free | Free | Free | Free | Free | Free | Free |
| Sign Control | Free | Free | Free | Free | Free | Free | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | 150 | - | 25 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | - | 0 |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 583 | 130 | 1 | 0 | 27 | 507 | 0 | 0 | 0 | 1123 | 0 | 507 |

| Major/Minor | Major1 | Major2 | Minor1 | Minor2 |
|----------------------|--------|--------|--------|--------|
| Conflicting Flow All | 534 | 0 | 1576 | 1830 |
| Stage 1 | - | - | 1296 | 1296 |
| Stage 2 | - | - | 280 | 534 |
| Critical Hdwy | 4.12 | - | 7.12 | 6.52 |
| Critical Hdwy Sig 1 | - | - | 6.12 | 5.52 |
| Critical Hdwy Sig 2 | - | - | 6.12 | 5.52 |
| Follow-up Hdwy | 2.218 | - | 3.518 | 4.018 |
| Pot Cap-1 Maneuver | 1034 | - | 89 | 76 |
| Stage 1 | - | - | 199 | 232 |
| Stage 2 | - | - | 727 | 524 |
| Platoon blocked, % | - | - | - | - |
| Mov Cap-1 Maneuver | 1034 | - | 15 | 30 |
| Mov Cap-2 Maneuver | - | - | 15 | 30 |
| Stage 1 | - | - | 78 | 91 |
| Stage 2 | - | - | 242 | 524 |

| Approach | EB | WB | NB | SB |
|----------------------|------|----|----|-----------|
| HCM Control Delay, s | 10.5 | 0 | 0 | \$ 7378.4 |
| HCM LOS | | | A | F |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 | SBLn3 |
|-----------------------|-------|-------|-----|-----|------|-----|-----|------------|-------|-------|
| Capacity (veh/h) | - | 1034 | - | - | 1453 | - | - | 46 | - | 759 |
| HCM Lane V/C Ratio | - | 0.563 | - | - | - | - | - | 24.409 | - | 0.667 |
| HCM Control Delay (s) | 0 | 12.9 | 0 | - | 0 | - | - | \$ 10698.4 | 0 | 18.7 |
| HCM Lane LOS | A | B | A | - | A | - | - | F | A | C |
| HCM 95th %ile Q(veh) | - | 3.6 | - | - | 0 | - | - | 137.7 | - | 5.2 |

Notes

-: Volume exceeds capacity \$: Delay exceeds 300s *: Computation Not Defined *: All major volume in platoon

HCM 2010 TWSC

11: I-5 SB On-Ramp/US 101 SB Off-Ramp & 7th Street

2/27/2017

| Intersection | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|--|---------------|---------------|---------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Int Delay, s/veh | 174.5 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Vol, veh/h | 0 | 1650 | 1594 | 0 | 2378 | 0 | 0 | 0 | 0 | 60 | 0 | 526 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | 35 |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | - | 0 |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 1793 | 1733 | 0 | 2585 | 0 | 0 | 0 | 0 | 65 | 0 | 572 |
| Major/Minor | Major1 | Major2 | Minor2 | | | | | | | | | |
| Conflicting Flow All | 2585 | 0 | 0 | 3526 | 0 | 0 | | | | 3482 | 6111 | 1292 |
| Stage 1 | - | - | - | - | - | - | | | | 2585 | 2585 | - |
| Stage 2 | - | - | - | - | - | - | | | | 897 | 3526 | - |
| Critical Hwy | 4.14 | - | - | 4.14 | - | - | | | | 6.84 | 6.54 | 6.94 |
| Critical Hwy Stg 1 | - | - | - | - | - | - | | | | 5.84 | 5.54 | - |
| Critical Hwy Stg 2 | - | - | - | - | - | - | | | | 5.84 | 5.54 | - |
| Follow-up Hwy | 2.22 | - | - | 2.22 | - | - | | | | 3.52 | 4.02 | 3.32 |
| Pot Cap-1 Maneuver | 166 | - | - | 69 | - | - | | | | -5 | 0 | 154 |
| Stage 1 | - | - | - | - | - | - | | | | -42 | 51 | - |
| Stage 2 | - | - | - | - | - | - | | | | 358 | 16 | - |
| Platoon blocked, % | - | - | - | - | - | - | | | | - | - | - |
| Mov Cap-1 Maneuver | 166 | - | - | 69 | - | - | | | | -5 | 0 | 154 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | | | | -5 | 0 | - |
| Stage 1 | - | - | - | - | - | - | | | | -42 | 0 | - |
| Stage 2 | - | - | - | - | - | - | | | | 358 | 0 | - |
| Approach | EB | WB | SB | | | | | | | | | |
| HCM Control Delay, s | 0 | 0 | | | | | | | | \$ 1849.1 | | |
| HCM LOS | | | | | | | | | | F | | |
| Minor Lane/Minor Mvmt | EBL | EBT | EBR | WBL | WBT | WBR | SBL | SBT | SBR | | | |
| Capacity (veh/h) | 166 | - | - | 69 | - | - | 5 | 154 | | | | |
| HCM Lane V/C Ratio | - | - | - | - | - | - | 13.043 | 3.713 | | | | |
| HCM Control Delay (s) | 0 | - | - | 0 | - | - | \$ 6836.3 | 1280.2 | | | | |
| HCM Lane LOS | A | - | - | A | - | - | F | F | | | | |
| HCM 95th %ile Q(veh) | 0 | - | - | 0 | - | - | 10 | 56 | | | | |
| Notes | | | | | | | | | | | | |
| -: Volume exceeds capacity \$: Delay exceeds 300s *: Computation Not Defined *: All major volume in platoon | | | | | | | | | | | | |

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HCM Signalized Intersection Capacity Analysis

21: I-10 EB Ramps & Alameda St

4/24/2017

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|-------|-------|-------|-------|---------------------------|------|------|------|-------|------|-------|-------|
| Lane Configurations | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ |
| Volume (vph) | 459 | 0 | 634 | 0 | 0 | 0 | 445 | 1448 | 10 | 1 | 1195 | 621 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.85 | 1.00 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1770 | 1583 | 1583 | 1770 | 3536 | 1770 | 3536 | 1770 | 3539 | 1583 | 1583 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.13 | 1.00 | 1.00 | 0.13 | 1.00 | 1.00 | 0.13 | 1.00 | 1.00 |
| Satd. Flow (perm) | 1770 | 1583 | 1583 | 240 | 3536 | 240 | 3536 | 240 | 3539 | 1583 | 1583 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 499 | 0 | 689 | 0 | 0 | 0 | 484 | 1574 | 11 | 1 | 1299 | 675 |
| RTOR Reduction (vph) | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 101 |
| Lane Group Flow (vph) | 499 | 0 | 684 | 0 | 0 | 0 | 484 | 1585 | 0 | 1 | 1299 | 574 |
| Turn Type | Prot | pm+ov | pm+ov | D.P+P | NA | NA | NA | NA | NA | Perm | NA | pm+ov |
| Protected Phases | 1 | 8 | 1 | 8 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Permitted Phases | 24.5 | 57.0 | 57.0 | 63.5 | 63.5 | 63.5 | 63.5 | 63.5 | 63.5 | 31.0 | 31.0 | 55.5 |
| Effective Green, G (s) | 24.5 | 57.0 | 57.0 | 63.5 | 63.5 | 63.5 | 63.5 | 63.5 | 63.5 | 31.0 | 31.0 | 55.5 |
| Effective Green, g (s) | 24.5 | 57.0 | 57.0 | 63.5 | 63.5 | 63.5 | 63.5 | 63.5 | 63.5 | 31.0 | 31.0 | 55.5 |
| Actuated g/C Ratio | 0.24 | 0.57 | 0.57 | 0.64 | 0.64 | 0.64 | 0.64 | 0.64 | 0.64 | 0.31 | 0.31 | 0.56 |
| Clearance Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 433 | 965 | 965 | 649 | 2386 | 649 | 2386 | 649 | 2386 | 74 | 1097 | 941 |
| v/s Ratio Prot | c0.28 | 0.23 | 0.23 | c0.24 | 0.22 | 0.23 | 0.23 | 0.23 | 0.23 | 0.00 | 0.37 | 0.15 |
| v/s Ratio Perm | 1.15 | 0.71 | 0.71 | 0.75 | 0.66 | 0.75 | 0.66 | 0.66 | 0.66 | 0.01 | 1.18 | 0.61 |
| Uniform Delay, d1 | 37.8 | 15.5 | 15.5 | 26.6 | 11.5 | 26.6 | 11.5 | 23.9 | 34.5 | 15.0 | 34.5 | 15.0 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 92.0 | 2.4 | 2.4 | 4.7 | 1.5 | 4.7 | 1.5 | 0.3 | 92.3 | 1.2 | 92.3 | 1.2 |
| Delay (s) | 129.8 | 17.9 | 17.9 | 31.2 | 13.0 | 31.2 | 13.0 | 24.2 | 126.8 | 16.2 | 126.8 | 16.2 |
| Level of Service | F | B | B | C | B | C | B | C | F | C | F | B |
| Approach Delay (s) | 64.9 | E | | 0.0 | A | | | | | | 89.0 | F |
| Approach LOS | | | | | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | | 55.1 | HCM 2000 Level of Service | | | | | E | | |
| HCM 2000 Volume to Capacity ratio | | | | 1.06 | | | | | | | | |
| Actuated Cycle Length (s) | | | | 100.0 | Sum of lost time (s) | | | | | 16.0 | | |
| Intersection Capacity Utilization | | | | 93.1% | ICU Level of Service | | | | | F | | |
| Analysis Period (min) | | | | 15 | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

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Synchro 8 Report

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HCM 2010 TWSC

15: Private Dwy/I-10 EB Ramps & Porter St

2/27/2017

| Intersection | | | | | | | | | | | | | | | |
|---|----------|--------|-------|-------|------------|------------|-------|-------|-------|-------|-------|-------|----|----|--|
| Init Delay, s/veh | | 4052.3 | | | | | | | | | | | | | |
| Movement | | | | | | | | | | | | | | | |
| Vol. veh/h | 990 | 156 | 1 | 2 | 28 | 734 | 2 | 0 | 2 | 526 | 2 | 185 | | | |
| Conflicting Peds. #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop | | | |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None | | | |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | 150 | - | 25 | |
| Veh in Median Storage, # | - | 0 | - | - | - | 0 | - | 0 | - | - | - | - | - | 0 | |
| Grade, % | - | 0 | - | - | - | 0 | - | - | 0 | - | - | - | - | 0 | |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| Mvmt Flow | 1076 | 170 | 1 | 2 | 30 | 798 | 2 | 0 | 2 | 572 | 2 | 201 | | | |
| Major/Minor | | | | | | | | | | | | | | | |
| Conflicting Flow All | 828 | 0 | 0 | 171 | 0 | 0 | 2757 | 3155 | 170 | 2757 | 2757 | 429 | | | |
| Stage 1 | - | - | - | - | - | - | 2322 | 2322 | - | 434 | 434 | - | | | |
| Stage 2 | - | - | - | - | - | - | 435 | 833 | - | 2323 | 2323 | - | | | |
| Critical Hwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | | | |
| Critical Hwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - | | | |
| Critical Hwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - | | | |
| Follow-up Hwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | | | |
| Pot Cap-1 Maneuver | ~803 | - | - | 1406 | - | - | 13 | 11 | 874 | -13 | 20 | 626 | | | |
| Stage 1 | - | - | - | - | - | - | 50 | 71 | - | 600 | 581 | - | | | |
| Stage 2 | - | - | - | - | - | - | 600 | 384 | - | -50 | 71 | - | | | |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - | | | |
| Mov Cap-1 Maneuver | ~803 | - | - | 1406 | - | - | 8 | 11 | 874 | -13 | 20 | 626 | | | |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 8 | 11 | - | -13 | 20 | - | | | |
| Stage 1 | - | - | - | - | - | - | 50 | 71 | - | 600 | 579 | - | | | |
| Stage 2 | - | - | - | - | - | - | 405 | 383 | - | -50 | 71 | - | | | |
| Approach | | | | | | | | | | | | | | | |
| EB | WB | | NB | | SB | | | | | | | | | | |
| HCM Control Delay, s | 0 | | 299.3 | | \$ 14686.5 | | | | | | | | | | |
| HCM LOS | F | | F | | F | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| Minor Lane/Major Mvmt | | | | | | | | | | | | | | | |
| NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 | SBLn3 | | | | | | |
| Capacity (veh/h) | 16 ~ 803 | - | - | 1406 | - | - | 13 | 20 | 626 | | | | | | |
| HCM Lane V/C Ratio | 0.272 | 1.34 | - | 0.002 | - | - | 43.98 | 0.109 | 0.321 | | | | | | |
| HCM Control Delay (s) | 299.3 | 178.5 | 0 | 7.6 | 0 | \$ 19902.2 | 205.9 | 13.4 | | | | | | | |
| HCM Lane LOS | F | F | A | A | A | A | F | F | B | | | | | | |
| HCM 95th %ile Q(veh) | 0.7 | 43.4 | - | 0 | - | - | 72.8 | 0.3 | 1.4 | | | | | | |
| Notes | | | | | | | | | | | | | | | |
| ~: Volume exceeds capacity \$: Delay exceeds 300s *: Computation Not Defined **: All major volume in platoon | | | | | | | | | | | | | | | |

HCM 2010 TWSC

13: I-10 WB Ramps & 8th St

2/27/2017

| Intersection | | | | | | | | | | | | | | | |
|---|------------|---------|-------|--------|-------|------------|------|-----|--|--|--|--|--|--|--|
| Int Delay, s/veh | | 17231.8 | | | | | | | | | | | | | |
| Movement | | | | | | | | | | | | | | | |
| Vol, veh/h | 19 | 515 | | 841 | 47 | 520 | 679 | | | | | | | | |
| Conflicting Peds, #/hr | 0 | 0 | | 0 | 0 | 0 | 0 | | | | | | | | |
| Sign Control | Free | Free | | Free | Free | Stop | Stop | | | | | | | | |
| RT Channelized | - | None | | - | None | - | None | | | | | | | | |
| Storage Length | - | - | | - | - | 160 | 0 | | | | | | | | |
| Veh in Median Storage, # | 0 | - | | - | 0 | 0 | - | | | | | | | | |
| Grade, % | 0 | - | | - | 0 | 0 | - | | | | | | | | |
| Peak Hour Factor | 92 | 92 | | 92 | 92 | 92 | 92 | | | | | | | | |
| Heavy Vehicles, % | 2 | 2 | | 2 | 2 | 2 | 2 | | | | | | | | |
| Mvmt Flow | 21 | 560 | | 914 | 51 | 565 | 738 | | | | | | | | |
| Major/Minor | | | | | | | | | | | | | | | |
| Major1 | | Major2 | | Minor1 | | | | | | | | | | | |
| Conflicting Flow All | 0 | 0 | 580 | 0 | 2180 | 301 | - | | | | | | | | |
| Stage 1 | - | - | - | - | 301 | - | - | | | | | | | | |
| Stage 2 | - | - | - | - | 1879 | - | - | | | | | | | | |
| Critical Hdwy | - | - | 4.12 | - | 6.42 | 6.22 | - | | | | | | | | |
| Critical Hdwy Slg 1 | - | - | - | - | 5.42 | - | - | | | | | | | | |
| Critical Hdwy Slg 2 | - | - | - | - | 5.42 | - | - | | | | | | | | |
| Follow-up Hdwy | - | - | 2.218 | - | 3.518 | 3.318 | - | | | | | | | | |
| Pot Cap-1 Maneuver | - | - | 994 | - | ~ 51 | 739 | - | | | | | | | | |
| Stage 1 | - | - | - | - | 751 | - | - | | | | | | | | |
| Stage 2 | - | - | - | - | ~ 132 | - | - | | | | | | | | |
| Platoon blocked, % | - | - | - | - | - | - | - | | | | | | | | |
| Mov Cap-1 Maneuver | - | - | 994 | - | ~ 3 | 739 | - | | | | | | | | |
| Mov Cap-2 Maneuver | - | - | - | - | ~ 3 | - | - | | | | | | | | |
| Stage 1 | - | - | - | - | 751 | - | - | | | | | | | | |
| Stage 2 | - | - | - | - | ~ 7 | - | - | | | | | | | | |
| Approach | | | | | | | | | | | | | | | |
| EB | | WB | | NB | | | | | | | | | | | |
| HCM Control Delay, s | | 0 | | 31.5 | | \$ 37645.1 | | | | | | | | | |
| HCM LOS | | | | | | F | | | | | | | | | |
| Minor Lane/Major Mvmt | | | | | | | | | | | | | | | |
| NBLn1 | | EBLn2 | | EBR | | WBL | | WBT | | | | | | | |
| Capacity (veh/h) | 3 | 739 | - | - | 994 | - | - | | | | | | | | |
| HCM Lane V/C Ratio | 188.406 | 0.999 | - | - | 0.92 | - | - | | | | | | | | |
| HCM Control Delay (s) | \$ 86727.2 | 56.4 | - | - | 33.3 | 0 | - | | | | | | | | |
| HCM Lane LOS | F | F | - | - | D | A | - | | | | | | | | |
| HCM 95th %tile Q(veh) | 73.2 | 16.6 | - | - | 14.2 | - | - | | | | | | | | |
| Notes | | | | | | | | | | | | | | | |
| ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined **: All major volume in platoon | | | | | | | | | | | | | | | |

HCM Signalized Intersection Capacity Analysis

4/24/2017

4/24/2017

21: I-10 EB Ramps & Alameda St

Queues

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|--------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|
| Lane Configurations | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ | ↔ |
| Volume (vph) | 329 | 0 | 269 | 0 | 0 | 0 | 505 | 1510 | 0 | 0 | 1693 | 623 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Flt | 1.00 | 0.85 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 |
| Satd. Flow (prot) | 1770 | 1583 | 1583 | 1770 | 1770 | 1770 | 3539 | 3539 | 3539 | 1583 | 3539 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 |
| Satd. Flow (perm) | 1770 | 1583 | 1583 | 1770 | 1770 | 1770 | 3539 | 3539 | 3539 | 1583 | 3539 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 358 | 0 | 292 | 0 | 0 | 0 | 549 | 1641 | 0 | 0 | 1840 | 677 |
| RTOR Reduction (vph) | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 79 |
| Lane Group Flow (vph) | 358 | 0 | 286 | 0 | 0 | 0 | 549 | 1641 | 0 | 0 | 1840 | 598 |
| Turn Type | Prot | pm+ov | pm+ov | Prot | pm+ov | pm+ov | Prot | pm+ov | pm+ov | Prot | pm+ov | pm+ov |
| Protected Phases | 1 | 8 | 8 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 |
| Permitted Phases | 1 | 8 | 8 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 |
| Actuated Green, G (s) | 17.6 | 49.0 | 49.0 | 70.4 | 70.4 | 70.4 | 39.0 | 39.0 | 39.0 | 39.0 | 56.6 | 56.6 |
| Effective Green, g (s) | 17.6 | 49.0 | 49.0 | 70.4 | 70.4 | 70.4 | 39.0 | 39.0 | 39.0 | 39.0 | 56.6 | 56.6 |
| Actuated g/C Ratio | 0.18 | 0.49 | 0.49 | 0.70 | 0.70 | 0.70 | 0.39 | 0.39 | 0.39 | 0.39 | 0.57 | 0.57 |
| Clearance Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 311 | 838 | 838 | 630 | 2633 | 2633 | 1380 | 959 | 1380 | 959 | 1380 | 959 |
| v/s Ratio Prot | c0.20 | 0.11 | 0.11 | c0.27 | 0.20 | 0.20 | c0.52 | 0.11 | c0.52 | 0.11 | c0.52 | 0.11 |
| v/s Ratio Perm | 1.15 | 0.34 | 0.34 | 0.87 | 0.62 | 0.62 | 1.33 | 0.62 | 1.33 | 0.62 | 1.33 | 0.62 |
| Uniform Delay, d1 | 41.2 | 15.6 | 15.6 | 29.0 | 7.8 | 7.8 | 30.5 | 14.6 | 30.5 | 14.6 | 30.5 | 14.6 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 98.5 | 0.2 | 0.2 | 12.6 | 1.1 | 1.1 | 155.0 | 1.3 | 155.0 | 1.3 | 155.0 | 1.3 |
| Delay (s) | 139.7 | 15.9 | 15.9 | 41.6 | 8.9 | 8.9 | 185.5 | 15.8 | 185.5 | 15.8 | 185.5 | 15.8 |
| Level of Service | F | B | B | D | A | A | F | B | F | B | F | B |
| Approach Delay (s) | 84.0 | F | F | 0.0 | A | A | 17.1 | B | 17.1 | B | 139.9 | F |
| Approach LOS | F | F | F | A | A | A | B | B | B | B | F | F |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2000 Control Delay | 82.9 | | | | | | | | | | | |
| HCM 2000 Volume to Capacity ratio | 1.19 | | | | | | | | | | | |
| Actuated Cycle Length (s) | 100.0 | | | | | | | | | | | |
| Intersection Capacity Utilization | 103.0% | | | | | | | | | | | |
| Analysis Period (min) | 15 | | | | | | | | | | | |
| c Critical Lane Group | 15 | | | | | | | | | | | |

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|-------|------|------|------|-------|------|
| Lane Group Flow (vph) | 358 | 292 | 549 | 1641 | 1840 | 677 |
| v/c Ratio | 1.15 | 0.35 | 0.87 | 0.62 | 1.33 | 0.66 |
| Control Delay | 138.1 | 14.4 | 42.2 | 7.1 | 183.4 | 13.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 138.1 | 14.4 | 42.2 | 7.1 | 183.4 | 13.6 |
| Queue Length 50th (ft) | ~289 | 98 | 262 | 201 | ~807 | 197 |
| Queue Length 95th (ft) | #502 | 155 | 383 | 210 | #945 | 355 |
| Internal Link Dist (ft) | | | 530 | 1190 | 1580 | |
| Turn Bay Length (ft) | 255 | | 712 | 2632 | 1380 | 1030 |
| Base Capacity (vph) | 311 | 841 | 712 | 2632 | 1380 | 1030 |
| Sanction Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.15 | 0.35 | 0.77 | 0.62 | 1.33 | 0.66 |
| Intersection Summary | | | | | | |
| - Volume exceeds capacity, queue is theoretically infinite. | | | | | | |
| - Queue shown is maximum after two cycles. | | | | | | |
| # 95th percentile volume exceeds capacity, queue may be longer. | | | | | | |
| - Queue shown is maximum after two cycles. | | | | | | |

668 South Alameda Street

Historic Cultural, (/CA/Los_Angeles/Historic_Cultural) Los Angeles (/CA/Los_Angeles), 90021
Commute to **Downtown Huntington Park** (/compare#edit-commutes)

| Time | 22 min | 21 min | 27 min | 60+ min |
|------|--------|--------|--------|---------|
| Time | 22 min | 21 min | 27 min | 60+ min |

write

Man

Ne

Nearby Apartments ([/apartments.com/search/668-s-alameda-st-los-angeles-ca-90021](https://apartments.com/search/668-s-alameda-st-los-angeles-ca-90021))

Looking for a home for sale in Los Angeles? (<https://www.redfin.com/city/11203/CA/Los-Angeles>)

01 Walk Score

Very Walkable

Very Walkable

Excellent Transit

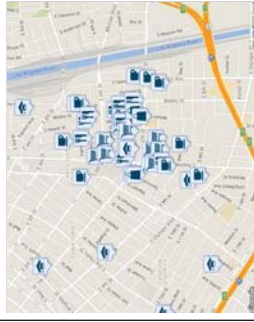
Transit is convenient for most trips.

Bikeable

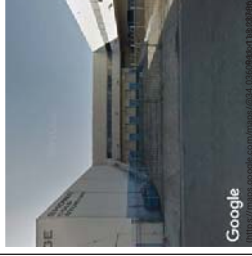
Bikeable

About your score

Add scores to your site [//professional/badges.php?address=668 South Alameda Street Los Angeles, CA 90021](http://professional/badges.php?address=668+South+Alameda+Street+Los+Angeles,+CA+90021)



About this Location



https://doi.org/10.1016/j.cmi.2017.04.001

668 South Alameda Street has a Walk Score of 81 out of 100. This location is Very Walkable so most errands can be accomplished on foot.

This location is in the Historic Cultural neighborhood in Los Angeles. Nearby parks include Little Tokyo Historic District, Pecan Playground and Pecan Recreation Center.

Excellent Transit

Appendix G

WalkScore Worksheet

| | |
|---|--|
| from \$1,930 | |
| The Gaery Building /score/the-gaery-building
Studio Walk Score 92 | |
| from \$1,865 | |
| Jila /score/jila-los-angeles-27rid...
Studio Walk Score 96 | |
| from \$1,850 | |
| HiKari /score/hikari-los-angeles...
Studio Walk Score 94 | |
| from \$2,110 | |
| Mosaic at Union Station /score/mosaic-at-union-station
Studio Walk Score 92 | |
| from \$1,815 | |
| Sakura Crossing /score/sakura-crossing
Studio Walk Score 98 | |

Popular apartment searches include fitness (*/CA/Los_Angeles/Historic_Cultural/fitness-apartments*), pool (*/CA/Los_Angeles/Historic_Cultural/pool-apartments*) and hardwood floor (*/CA/Los_Angeles/Historic_Cultural/hardwood-floor-apartments*).

Historic Cultural Neighborhood

668 South Alameda Street is in the Historic Cultural neighborhood. Historic Cultural is the 21st most walkable neighborhood in [Los Angeles](#) ([ICMA Los Angeles](#)) with a neighborhood Walk Score of 79.

Moving to Los Angeles from another city? View our [moving to Los Angeles](#) guide ([moving-to-los-angeles](#)).

Transit Score
71

668 South Alameda Street has excellent transit which means transit is convenient for most trips. Car sharing is available from RelayRides and Zipcar.

Rail lines:

- | | |
|------------------------------|--------|
| Metro Gold Line (804) | 1.0 mi |
| Metro Blue Line (801) | 1.2 mi |
| Metro Purple Line (805) | 1.2 mi |
| Metro Red Line (802) | 1.2 mi |
| Orange County Line | 1.4 mi |
| San Bernardino Line | 1.4 mi |
| Riverside Line | 1.4 mi |
| Antelope Valley Line | 1.4 mi |
| Ventura County Line | 1.4 mi |
| 91/PVL 91/Pennis Valley Line | 1.4 mi |

Bus lines:

- | | |
|----------------------|--------|
| 60 Metro Local Line | 0.1 mi |
| 760 Metro Rapid Line | 0.1 mi |
| 62 Metro Local Line | 0.1 mi |
| 40 Metro Local Line | 0.1 mi |
| 18 Metro Local Line | 0.2 mi |
| 53 Metro Local Line | 0.2 mi |
| 720 Metro Rapid Line | 0.2 mi |

Car shares:

- | | |
|--|--------|
| RelayRides: 2012 Toyota Prius | 0.7 mi |
| RelayRides: 2008 Saturn Astra | 0.9 mi |
| Zipcar: PacMutual Building | 1.3 mi |
| RelayRides: 2007 Mercedes-Benz CLS-Class | 1.4 mi |
| Zipcar: Roosevelt Lofts | 1.4 mi |
| RelayRides: 2004 Mercedes-Benz S-Class | 1.5 mi |
| Zipcar: Mosale Apartments | 1.5 mi |
| Zipcar: Pegasus Apartments | 1.5 mi |

Historic Cultural Los Angeles Apartments for Rent

View all [Historic Cultural apartments](#) ([apartments/search/CA/Los Angeles/Historic Cultural](#)) on a map.

from **\$2,295**
Wakaba (*/kore/bautiful-los-an.*)
Walk Score 97
Studio

Appendix H

Arts District Active Transportation Program

L.A. Arts District Little Tokyo Farmers Market

Tokyo Villa Homeowners Associates

Chinatown

Learn More About Historic Cultural (/CA/Los_Angeles/Hi...

Learn More About Los Angeles (/CA/Los_Angeles)

United States (/cities-and-neighborhoods/)California (/CA)Los Angeles (/CA/Los_Angeles)Historic Cultural (/CA/Los_Angeles/Historic_Cultural)

(http://taps.io/LaVg) (http://taps.io/LaVg)

- Walk Score (/)

Professional (/Professional/)
- Blog (/http://blog.walkscore.com/professional/walk-score-widget.php)

About (/about.shtml)

How it Works (/how-it-works.php)

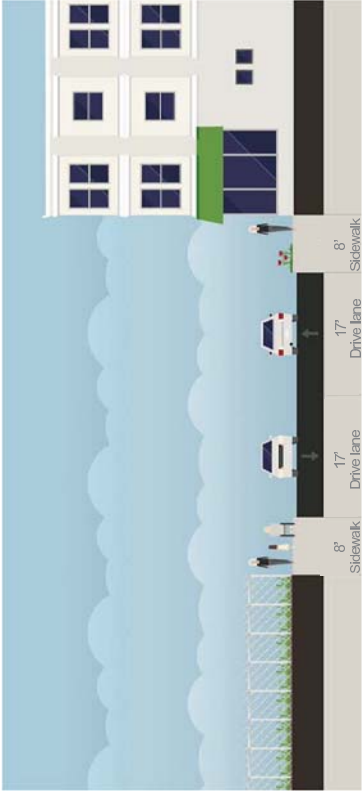
Press (/press)

Android (/https://play.google.com/store/apps/details?id=com.walkscore.android)

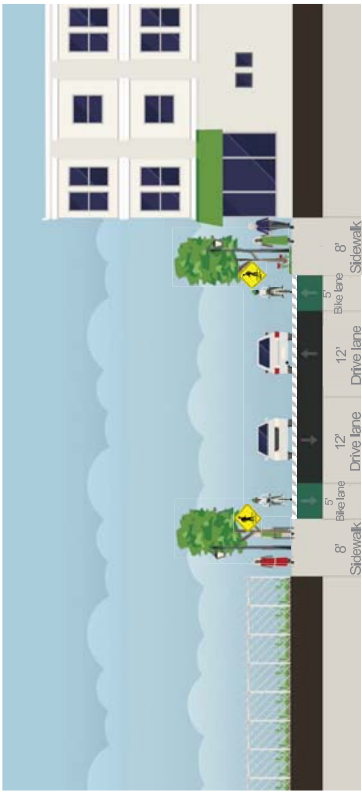
iPhone (/https://itunes.apple.com/us/app/walk-score/id786671518-mac)

Terms & Privacy (/terms-of-use.shtml)

Feedback (/contact)



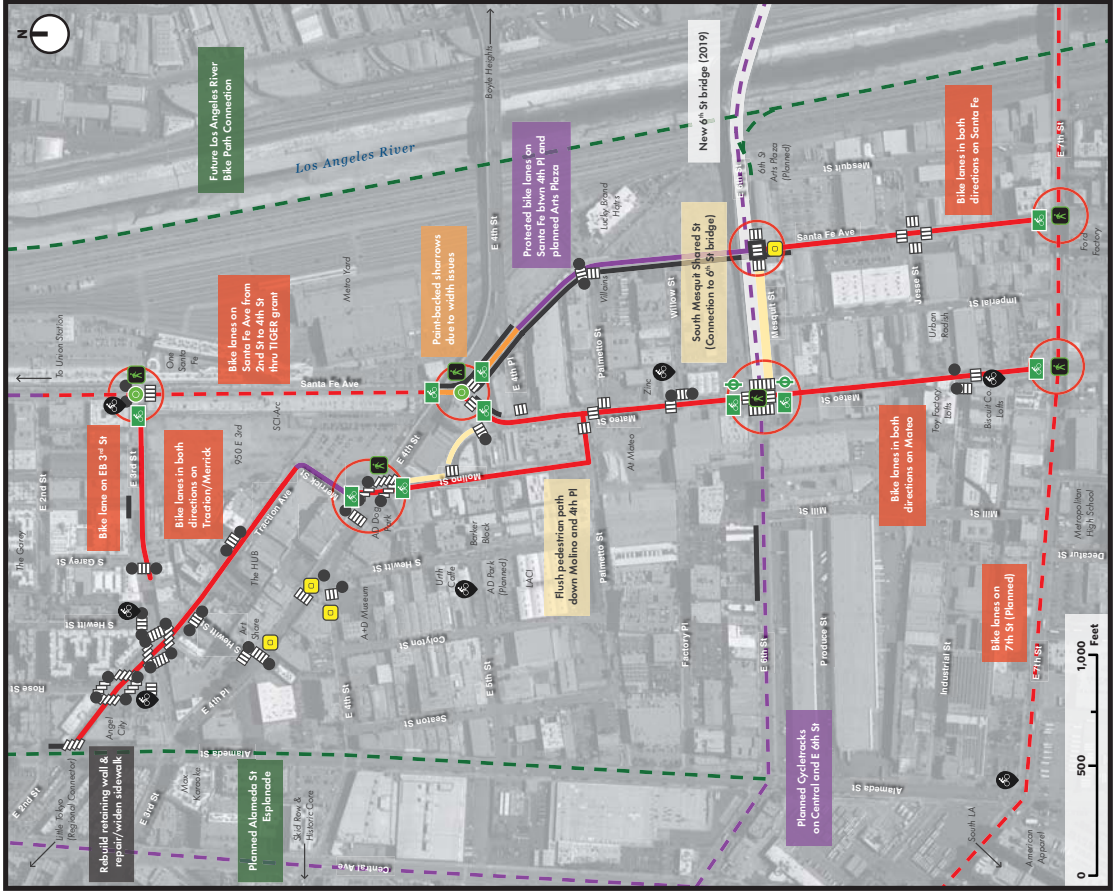
SANTE FE AVENUE – EXISTING
Lacks bike lanes and pedestrian lighting; future connection to Arts Plaza



SANTE FE AVENUE – PROPOSED
New pedestrian-activated signal/new bike lanes/raised crosswalk near Arts Plaza at Mesquite looking south with pedestrian lighting and street trees.



DOWNTOWN LOS ANGELES ARTS DISTRICT PEDESTRIAN AND CYCLIST SAFETY PROJECT
ATTACHMENT D-4B: SANTE FE AVENUE SECTION



- DESIRED LINEAR FEATURES**
- Continental Crosswalk
 - Raised Continental Crosswalk
 - New/Widened Sidewalk
 - Shared Street/Flush Ped. Pathway
 - Protected Bike Lane (Class IV Bikeway)
 - Bike Lane (Class II Bikeway)
 - Bike Route (Class III Bikeway)
- DESIRED INTERSECTION FEATURES**
- Intersection Upgrade
 - New Traffic Signals
 - Stop Control
 - Pedestrian Activated Signal
 - Leading Pedestrian Indicator
 - Bulbout
 - Bike Loop Detector
 - BikeBox
- NON-PROJECT FEATURES**
- Metro Bike Share Hub
 - Proposed Bike Path (Class I)
 - Proposed Cycletrack (Class IV)
 - Proposed Bike Lane (Class II)

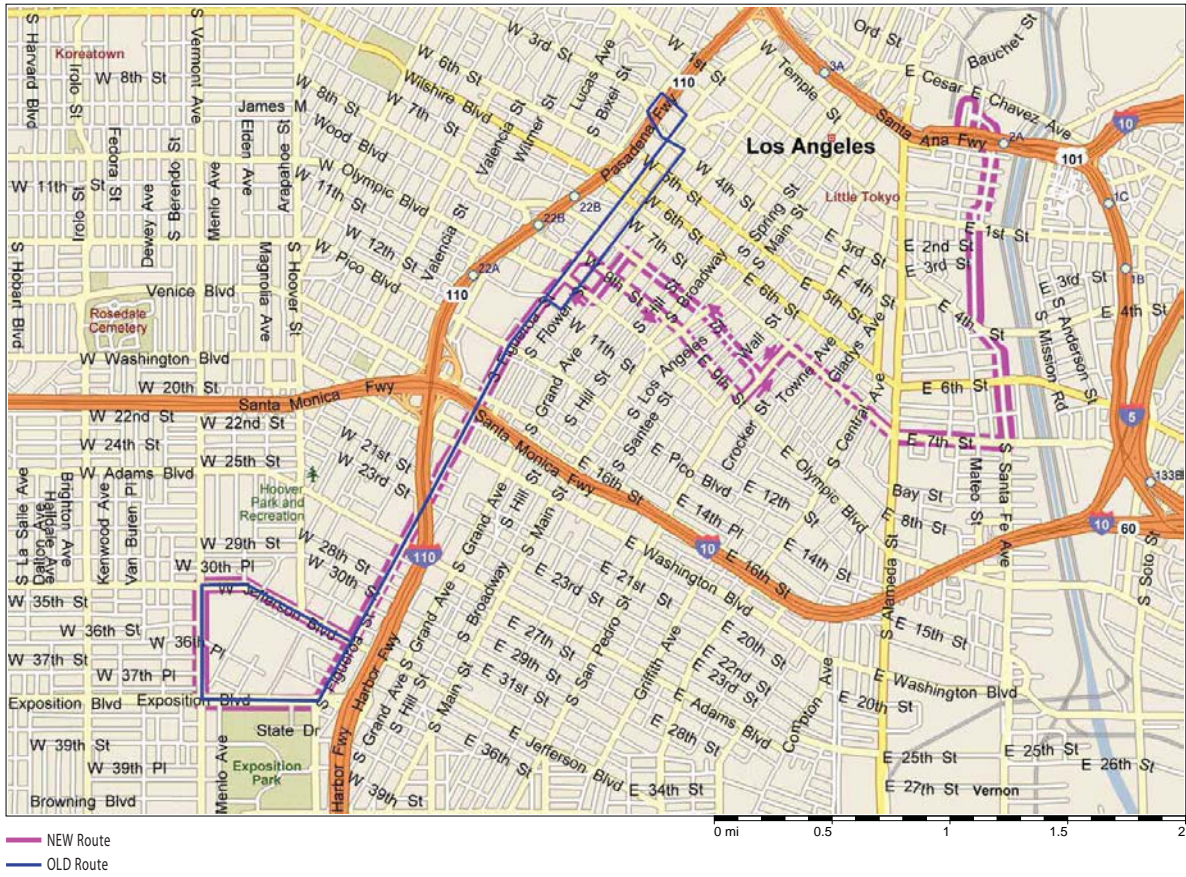


Appendix I
LADOT DASH Future Routes

EXISTING ROUTE

| | Tentatively planned for late 2017 | | | Tentatively planned for 2018 / 2019 | |
|------------|--|-------------------------|-------------------------|--|-----------------|
| | ADDED
SERVICE | EXTEND
WEEKDAY HOURS | EXTEND
WEEKEND HOURS | INCREASE
FREQUENCIES | ROUTE
CHANGE |
| Downtown F | | • | • | | • |

DOWNTOWN DASH F - RECOMMENDED ROUTE CHANGE



Appendix J

Internal Capture Worksheet

Appendix K

TDM Program Case Studies

| | | | |
|--|----------------------|---------------|-------------------|
| NCHRP 8-51 Internal Trip Capture Estimation Tool | | | |
| Project Name: | 668 S Alameda Street | Organization: | |
| Project Location: | 668 S Alameda Street | Performed By: | GTC |
| Scenario Description: | | Date: | February 27, 2017 |
| Analysis Year: | | Checked By: | |
| Analysis Period: | PM Street Peak Hour | Date: | |

| Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate) | | | | | | | | | |
|--|---|----------|-------|--|--|-------------------------|----------|---------|--|
| Land Use | Development Data (For Information Only) | | | | | Estimated Vehicle-Trips | | | |
| | ITE LUCs ¹ | Quantity | Units | | | Total | Entering | Exiting | |
| Office | 710 | 33 | kaf | | | 50 | 8 | 42 | |
| Retail | 826/850 | 33 | kaf | | | 193 | 95 | 98 | |
| Restaurant | 952 | 16 | kaf | | | 160 | 96 | 64 | |
| Cinema/Entertainment | | | | | | 0 | | | |
| Residential | 220 | 475 | du | | | 295 | 182 | 103 | |
| Hotel | | | | | | 0 | | | |
| All Other Land Uses ² | | | | | | 0 | | | |
| Total | | | | | | 698 | 391 | 307 | |

| Table 2-P: Mode Split and Vehicle Occupancy Estimates | | | | | | |
|---|----------------|-----------|-----------------|---------------|-----------|-----------------|
| Land Use | Entering Trips | | | Exiting Trips | | |
| | Veh. Occ. | % Transit | % Non-Motorized | Veh. Occ. | % Transit | % Non-Motorized |
| Office | 1.00 | 15% | | 1.00 | 15% | |
| Retail | 1.00 | 15% | | 1.00 | 15% | |
| Restaurant | 1.00 | 15% | | 1.00 | 15% | |
| Cinema/Entertainment | | | | | | |
| Residential | 1.00 | 15% | | 1.00 | 15% | |
| Hotel | | | | | | |
| All Other Land Uses ² | | | | | | |

| Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance) | | | | | |
|---|------------------|--------|------------|----------------------|-------------|
| Origin (From) | Destination (To) | | | | |
| | Office | Retail | Restaurant | Cinema/Entertainment | Residential |
| Office | | 0 | 0 | | 0 |
| Retail | | | | | 0 |
| Restaurant | | | | | 0 |
| Cinema/Entertainment | | | | | 0 |
| Residential | | 0 | 0 | | |
| Hotel | | | | | 0 |

| Table 4-P: Internal Person-Trip Origin-Destination Matrix* | | | | | |
|--|------------------|--------|------------|----------------------|-------|
| Origin (From) | Destination (To) | | | | |
| | Office | Retail | Restaurant | Cinema/Entertainment | Hotel |
| Office | | 8 | 2 | 0 | 1 |
| Retail | 2 | | 28 | 0 | 25 |
| Restaurant | 2 | 26 | | 0 | 12 |
| Cinema/Entertainment | 0 | 0 | 0 | | 0 |
| Residential | 4 | 10 | 13 | 0 | 0 |
| Hotel | 0 | 0 | 0 | 0 | |

| Table 5-P: Computations Summary | | | | |
|---|-------|----------|---------|--|
| | Total | Entering | Exiting | |
| All Person-Trips | 698 | 391 | 307 | |
| Internal Capture Percentage | 38% | 34% | 43% | |
| External Vehicle-Trips ³ | 367 | 219 | 148 | |
| External Transit-Trips ⁴ | 65 | 39 | 26 | |
| External Non-Motorized Trips ⁴ | 0 | 0 | 0 | |

| Table 6-P: Internal Trip Capture Percentages by Land Use | | | |
|--|----------------|---------------|--|
| Land Use | Entering Trips | Exiting Trips | |
| Office | 100% | 28% | |
| Retail | 46% | 56% | |
| Restaurant | 45% | 63% | |
| Cinema/Entertainment | N/A | N/A | |
| Residential | 20% | 26% | |
| Hotel | N/A | N/A | |

*Land Use Codes (LUCs) from Trip Generation Informational Report, published by the Institute of Transportation Engineers.

¹Total estimate for all other land uses at mixed-use development site-and subject to internal trip capture computations in the estimator

²Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

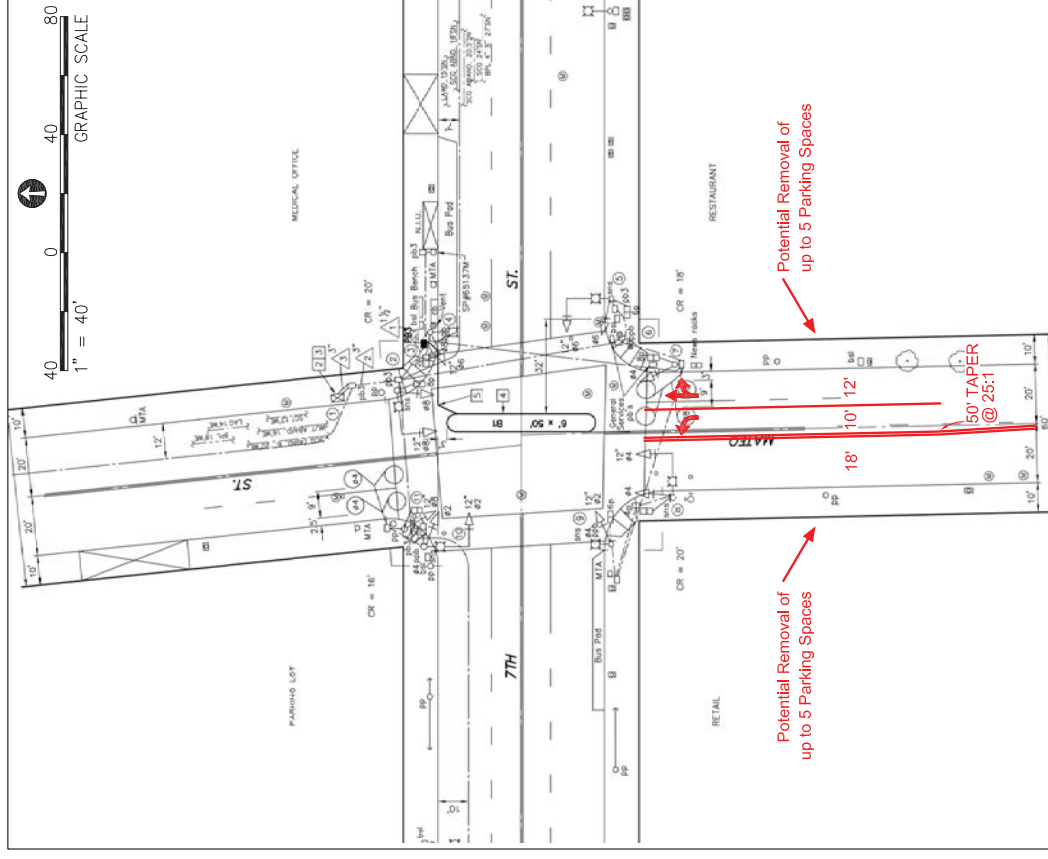
³Person-Trips

⁴Indicates computation that has been rounded to the nearest whole number.

TABLE E-1
TDM PROGRAM CASE STUDIES

| Case Study or Example | Telecommuting/ Teleworking | Light Rail Option | Parking Cashout | Parking Management | Rideshare Program - Carpool/ Sponsored Vanpool | Worksite Flextime | Buspool/shuttle Program | Bicycle Program | Compressed Workweek | Better Transit Information | Incentive Program | Guaranteed Ride Home | Discounted/Free Transit passes | Result | Source |
|---|----------------------------|-------------------|-----------------|--------------------|--|-------------------|-------------------------|-----------------|---------------------|----------------------------|-------------------|----------------------|--------------------------------|---|--|
| University of Washington | | | | | | | | | | | | x | | 13% Reduction of Average Trips per month | TDM Case Studies & Commuter Testimonials, Transportation Demand Management Institute of the Association for Commuter Transportation. |
| Rehoboth Beach, DE | | | | | | | | | | x | | | | 13% increase in ridership from the year before | "Demand Framework" Mitigating Traffic Congestion- The Role of Demand-Side Strategies. USDOT/FHWA. (pg. 6) |
| A survey conducted by Artery Business Committee Transportation Management Association in Boston | | | | | | | | | | | | x | | 7% of commuters who used to drive alone switched to transit once they became aware of a GRH service | "Demand Framework" Mitigating Traffic Congestion- The Role of Demand-Side Strategies. USDOT/FHWA. (pg. 14) |
| Downtown area in Ann Arbor, Michigan | | | | | | | | | | | | | x | Daily bus trips increased 9.2% and number of vehicles coming into downtown decreased by 3.5% between 2000 and 2001 | "Demand Framework" Mitigating Traffic Congestion- The Role of Demand-Side Strategies. USDOT/FHWA. (pg. 14) |
| Bishop Ranch in California | | | | | | x | | | | | | | | Peak-period traffic demand decreased: employees starting work before 7:00am increased from 8-17%, and employees starting work after 9:00am increased from 1-9%. Employees leaving before 4pm increased by 12-17%. | "Demand Framework" Mitigating Traffic Congestion- The Role of Demand-Side Strategies. USDOT/FHWA. (pg. 14) |
| 1995 Study on Southern California Employees | | | | | | | | | x | | | | | Employees on 9/80 drove 13 fewer miles per week and those on 4/40 drove 20 miles less per week | "Traveler Choices." Mitigating Traffic Congestion- The Role of Demand-Side Strategies USDOT/FHWA. (pg. 6) |
| Contra Costa SchoolPool | | | | | x | | | | | | | | | Annual Vehicle Trip reduction of 965, 640 and a VMT reduction of 2,896,920 | Mitigating Traffic Congestion- The Role of Demand-Side Strategies USDOT/FHWA. |
| Orenco Station Mixed-Use Development- Hillsboro, OR | | x | | | | | | | | | | | x | 53% increase in transit usage after Westside light rail opened | Mitigating Traffic Congestion- The Role of Demand-Side Strategies USDOT/FHWA. |
| Bal Harbour Village - FL | | | | | x | | | | | | | | | 48% SOV, 12% Vanpool, 2% Telework, 38% Flextime | Mitigating Traffic Congestion- The Role of Demand-Side Strategies USDOT/FHWA. |
| Calibre - Alexandria, VA | x | | x | x | | | | | | | | | x | 2% Transit, 2% Carpool, 5% Telework | Mitigating Traffic Congestion- The Role of Demand-Side Strategies USDOT/FHWA. |
| CH2M Hill - Denver, CO | x | | | | | x | | | | | | | | 17% Mode Shift, 8% Telework and Flextime, 3% Transit, 5% Carpool, 5% Bike | Mitigating Traffic Congestion- The Role of Demand-Side Strategies USDOT/FHWA. |
| Georgia Power Company - Atlanta GA | x | | | | x | | | | | | | | x | 15% Compressed/Flextime, 13% Vanpool/Carpool, 5% Telework | Mitigating Traffic Congestion- The Role of Demand-Side Strategies USDOT/FHWA. |
| Florida Hospital | | | | | x | | | | | | | | | 10% Carpool/Vanpool | Commute Alternative Systems Handbook pg.21 |
| 3M Company in Minnesota | | | | | x | | | | | | | | | 7% Vanpool | Commute Alternative Systems Handbook pg.35 |
| National Geographic | | | | | | | x | | | | | | | 35% of employees use the buspool program | Commute Alternative Systems Handbook pg.36 |
| Georgia Pacific | x | | | | x | x | | x | | | x | | x | Transit Ridership increased by 10%; Carpools increased by 157% | Quantifying the business benefits of TDM pg.17-18 |

Appendix M
Signal Warrant Analysis



Peak Hour

WARRANT **3**

| | | | |
|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| N/A | SATISFIED | YES | NO |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

| | | | |
|-----|--------------------------|--------------------------|-------------------------------------|
| N/A | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| YES | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| NO | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

★ The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal. ★

- a. Part A or Part B must be satisfied.
- b. In applying each condition, the major street and minor street volumes shall be for the same hours.
- c. The study should consider the effects of the right-turn vehicles from the minor-street approaches. Engineering judgment should be used to determine what, if any, portion of the right-turn traffic is subtracted from the minor-street traffic count.
- d. Estimated Peak Hour Volumes may be used for new intersections, significantly reconstructed intersections, or where near-term land development will result in increased volumes.
- e. Engineering judgment should also be used in applying various traffic signal warrants to cases where approaches consist of one lane plus one left-turn or right-turn lane. This site-specific traffic characteristics should dictate whether an approach is considered as one lane or two lanes. For example, for an approach with one lane for through and right-turning traffic plus a left-turn lane, if engineering judgment indicates that it should be considered a one-lane approach because the traffic using the left turn lane is minor, the total traffic volume approaching the intersection should be applied against the signal warrants as a one-lane approach. The approach should be considered two lanes if approximately half of the traffic on the approach turns left and the left-turn lane is of sufficient length to accommodate all left-turn vehicles. Similar engineering judgment and rationale should be applied to a street approach with one through/left-turn lane plus a right-turn lane. In this case, the degree of conflict of minor-street right-turn traffic with traffic on the major street should be considered. Thus, right-turn traffic should not be included in the minor-street volume if the movement enters the major street with minimal conflict. The approach should be evaluated as a one-lane approach with only the traffic volume in the through/left-turn lane considered.
- f. At an intersection with a high volume of left-turn traffic from the major street, the signal warrant analysis may be performed in a manner that considers the higher volume of the minor-street left-turn volumes plus the higher volume minor-street approach as the "minor street" volume and both approaches of the major street minus the higher of the major-street left-turn volume as "major street" volume. In these cases, engineering judgment should be used to determine if left-turn phasing is necessary to accommodate the high volume of left-turn traffic.

| PART A | | SATISFIED | YES | NO |
|---|--|-----------|-----|----|
| All parts 1, 2, and 3 below must be satisfied
for the same one hour, for any four consecutive 15-minute periods) | | | | |

| | YES | NO | NOT |
|---|-------------------------------------|--------------------------|-------------------------------------|
| 1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; <u>AND</u> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; <u>AND</u> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

| PART B | | SATISFIED | YES | NO |
|--------|------|--------------------------|-------------------------------------|-------------------------------------|
| | Hour | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

| APPROACH Lanes | 2 or More | | Hour |
|--------------------------------|-----------|------|------|
| | One | More | 7:30 |
| Both Approaches - Major Street | | ✓ | 3692 |
| Higher Approach - Minor Street | ✓ | | 22 |

| | YES | NO |
|--|--------------------------|-------------------------------------|
| The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| OR The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

MAJOR ST.: 7th Street

MINOR ST.: I-5 SB On-Ramp/US 101 SB Off-Ra

MPH

35

Speed Limit

or

MPH

Critical Approach Speed

☐ RURAL (R)
 ☒ URBAN (U)

Speed limit or critical speed on major street traffic > 40 mph

In built up area of isolated community of < 10,000 population

☐ RURAL (R) or ☒ URBAN (U)

MPH MPH

Speed Limit

Speed limit or critical speed on major street traffic > 40 mph..... ☐ RURAL (R) or ☒ URBAN (U)

In built up area of isolated community of < 10,000 population.....

☐ RURAL (R) ☒ URBAN (U)

DATE 6/13/17 PREPARER GTC REVIEWER

MAJOR ST: 8th Street
MINOR ST: I-10 WB Ramps

Speed limit or critical speed on major street traffic > 40 mph
In built up area of isolated community of < 10,000 population

Critical Approach Speed MPH 25
Speed Limit MPH 25
or
RURAL (R) ☒ URBAN (U) ☒

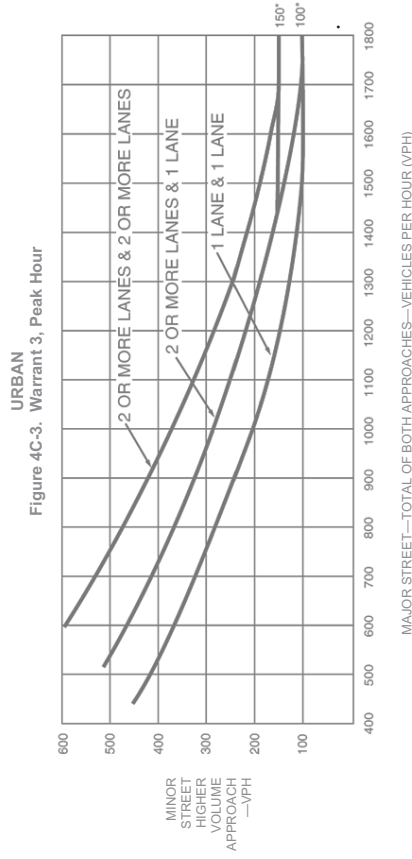
Eight-Hour Vehicular Volume
WARRANT 1
N/A ☒ SATISFIED YES ☐ NO ☐

* The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal *

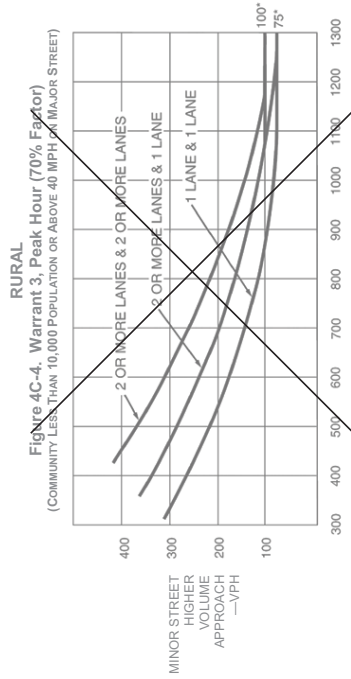
- a. Condition A or Condition B or combination of 80% of both parts A and B must be satisfied.
- b. A 6-hour Manual Count may be used in a determination that this warrant is not met. However, supplement manual counts should be taken during separate hours for a determination that this warrant is met.
- c. In applying each condition, the major street and minor street volumes shall be for the same hours. On the minor street, the higher volume does not need to be the same approach during each of the hours.
- d. The study should consider the effects of the right-turn vehicles from the minor-street approaches. Engineering judgment should be used to determine what, if any, portion of the right-turn traffic is subtracted from the minor-street traffic count.
- e. Figure 4C-103(CA) should be used for new intersections, significantly reconstructed intersections, where near-term land development will result in increased volumes, or where it is not reasonable to use current traffic volumes.
- f. Engineering judgment should also be used in applying various traffic signal warrants to cases where approaches consist of one lane plus one left-turn or right-turn lane. This site-specific traffic characteristics should dictate whether an approach is considered as one lane or two lanes. For example, for an approach with one lane for through and right-turning traffic plus a left-turn lane, if engineering judgment indicates that it should be considered a one-lane approach because the traffic using the left turn lane is minor, the total traffic volume approaching the intersection should be applied against the signal warrants as a one-lane approach. The approach should be considered two lanes if approximately half of the traffic on the approach turns left and the left-turn lane is of sufficient length to accommodate all left-turn vehicles. Similar engineering judgment and rationale should be applied to a street approach with one through/left-turn lane plus a right-turn lane. In this case, the degree of conflict of minor-street right-turn traffic with traffic on the major street should be considered. Thus, right-turn traffic should not be included in the minor-street volume if the movement enters the major street with minimal conflict. The approach should be evaluated as a one-lane approach with only the traffic volume in the through/left-turn lane considered.
- g. At an intersection with a high volume of left-turn traffic from the major street, the signal warrant analysis may be performed in a manner that considers the higher volume of the major-street left-turn volumes plus the higher volume minor-street approach as the "minor street" volume and both approaches of the major street minus the higher of the major-street left-turn volume as "major street" volume. In these cases, engineering judgment should be used to determine if left-turn phasing is necessary to accommodate the high volume of left-turn traffic.

Peak Hour (continued)

* The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal *



* Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one lane.

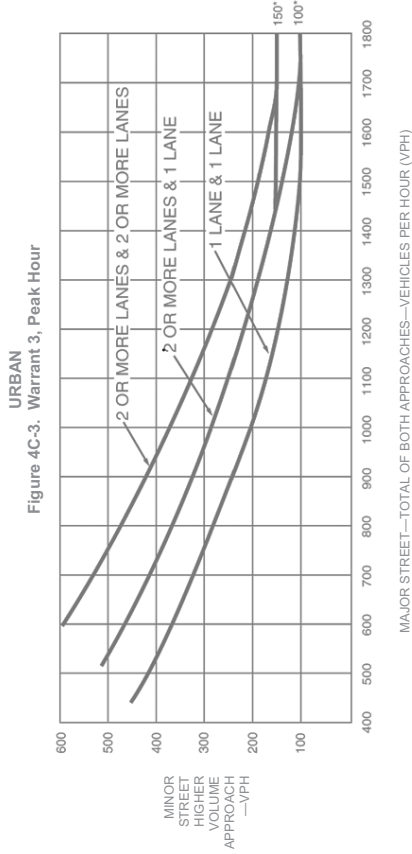


* Note: 100 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

Peak Hour

(continued)

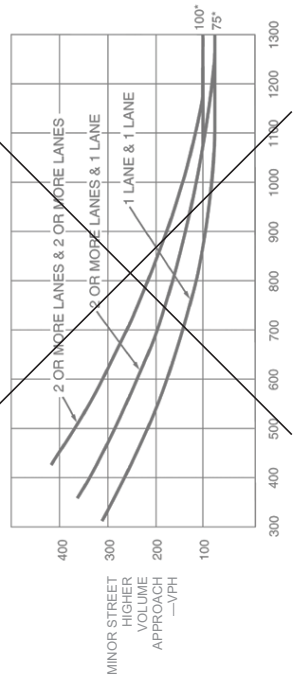
* The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal *



* Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one lane.

RURAL

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH MAJOR STREET)



* Note: 100 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

WARRANT 3

Peak Hour

N/A ☐ SATISFIED YES ☒ NO ☐

* The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal *

- a. Part A or Part B must be satisfied.
- b. In applying each condition, the major street and minor street volumes shall be for the same hours.
- c. The study should consider the effects of the right-turn vehicles from the minor-street approaches. Engineering judgment should be used to determine what, if any, portion of the right-turn traffic is subtracted from the minor-street traffic count.
- d. Estimated Peak Hour Volumes may be used for new intersections, significantly reconstructed intersections, or where near-term land development will result in increased volumes.
- e. Engineering judgment should also be used in applying various traffic signal warrants to cases where approaches consist of one lane plus one left-turn or right-turn lane. This site-specific traffic characteristics should dictate whether an approach is considered as one lane or two lanes. For example, for an approach with one lane for through and right-turning traffic plus a left-turn lane, if engineering judgment indicates that it should be considered a one-lane approach because the traffic using the left turn lane is minor, the total traffic volume approaching the intersection should be applied against the signal warrants as a one-lane approach. The approach should be considered two lanes if approximately half of the traffic on the approach turns left and the left-turn lane is of sufficient length to accommodate all left-turn vehicles. Similar engineering judgment and rationale should be applied to a street approach with one through/left-turn lane plus a right-turn lane. In this case, the degree of conflict of minor-street right-turn traffic with traffic on the major street should be considered. Thus, right-turn traffic should not be included in the minor-street volume if the movement enters the major street with minimal conflict. The approach should be evaluated as a one-lane approach with only the traffic volume in the through/left-turn lane considered.
- f. At an intersection with a high volume of left-turn traffic from the major street, the signal warrant analysis may be performed in a manner that considers the higher volume of the major-street left-turn volumes plus the higher volume minor-street approach as the "minor street" volume and both approaches of the major street minus the higher of the major-street left-turn volume as "major street" volume. In these cases, engineering judgment should be used to determine if left-turn phasing is necessary to accommodate the high volume of left-turn traffic.

PART A

All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods

| | SATISFIED | YES | NO |
|--|-------------------------------------|-------------------------------------|-------------------------------------|
| | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| YES | NO | N/A | |
| 1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

PART B

| | SATISFIED | YES | NO |
|--|--------------------------|-------------------------------------|--------------------------|
| | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

| APPROACH LANES | One | 2 or More | Hour |
|--------------------------------|-----|-----------|-------|
| Both Approaches - Major Street | ✓ | | 17:00 |
| Higher Approach - Minor Street | ✓ | | 1215 |
| | | | 395 |

| | | |
|--|--------------------------|-------------------------------------|
| The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS) | YES | NO |
| OR, The plotted point falls above the applicable curve in Figure 4C-4. (RURAL AREAS) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

100%

Traffic Signal Warrants Worksheet

| DATE | PREPARED BY | REVIEWED BY |
|---------|-------------|-------------|
| 6/13/17 | GTC | GTC |

MA 100 ST.
Porter StreetMINOR ST.
I-10 EB Ramps

Speed limit or critical speed on major street traffic > 40 mph...
In built up area of isolated community of < 10,000 population.




★ The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal. ★

- a. Part A or Part B must be satisfied.
- b. In applying each condition, the major street and minor street volumes shall be for the same hours.
- c. The study should consider the effects of the right-turn vehicles from the minor-street approaches. Engineering judgment should be used to determine what, if any, portion of the right-turn traffic is subtracted from the minor-street traffic count.
- d. Estimated Peak Hour Volumes may be used for new intersections, significantly reconstructed intersections, or where near-term land development will result in increased volumes.
- e. Engineering judgment should also be used in applying various traffic signal warrants to cases where approaches consist of one lane plus one left-turn or right-turn lane. This site-specific traffic characteristics should dictate whether an approach is considered as one lane or two lanes. For example, for an approach with one lane for through and right-turning traffic plus a left-turn lane, if engineering judgment indicates that it should be considered a one-lane approach because the traffic using the left turn lane is minor, the total traffic volume approaching the intersection should be applied against the signal warrants as a one-lane approach. The approach should be considered two lanes if approximately half of the traffic on the approach turns left and the left-turn lane is of sufficient length to accommodate all left-turn vehicles. Similar engineering judgment and rationale should be applied to a street approach with one through/left-turn lane plus a right-turn lane. In this case, the degree of conflict of minor-street right-turn traffic with traffic on the major street should be considered. Thus, right-turn traffic should not be included in the minor-street volume if the movement enters the major street with minimal conflict. The approach should be evaluated as a one-lane approach with only the traffic volume in the through/left-turn lane considered.
- f. At an intersection with a high volume of left-turn traffic from the major street, the signal warrant analysis may be performed in a manner that considers the higher volume of the major-street left-turn volumes plus the higher volume minor-street approach as the "minor street" volume and both approaches of the major street minus the higher of the major-street left-turn volume as "major street" volume. In these cases, engineering judgment should be used to determine if left-turn phasing is necessary to accommodate the high volume of left-turn traffic.

PART A

All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

| | YES | NO | N/A |
|--|-------------------------------------|--------------------------|-------------------------------------|
| 1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

PART B

| APPROACH LANES | 2 or More | | Hour |
|--------------------------------|-----------|------|------|
| | One | More | |
| Both Approaches - Major Street | ✓ | | 943 |
| Higher Approach - Minor Street | ✓ | | 900 |

The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS)

(rev. July 2014)

Porter Street @ I-10 EB Ramps

6/13/17

(rev. July 2014)

Eight-Hour Vehicular Volume

✧ The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal. ✧

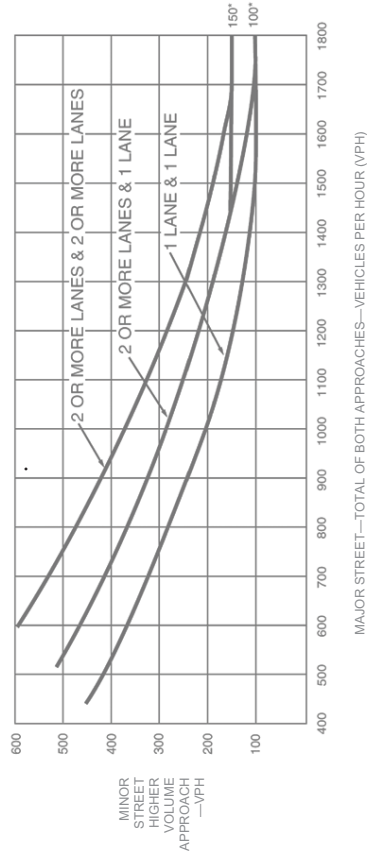
- a. Condition A or Condition B or combination of 80% of both parts A and B must be satisfied.
- b. A 6-hour Manual Count may be used in a determination that this warrant is not met. However, supplemental manual counts should be taken during separate hours for a determination that this warrant is met.
- c. In applying each condition, the major street and minor street volumes shall be for the same hours. On the minor street, the higher volume does not need to be the same approach during each of the hours.
- d. The study should consider the effects of the right-turn vehicles from the minor-street approaches. Engineering judgment should be used to determine what, if any, portion of the right-turn traffic is subtracted from the minor-street traffic count.
- e. Figure 4C-103(CA) should be used for new intersections, significantly reconstructed intersections, where near-term land development will result in increased volumes, or where it is not reasonable to use existing traffic volumes.
- f. Engineering judgment should also be used in applying various traffic signal warrants to cases where approaches consist of one lane plus one left-turn or right-turn lane. This site-specific traffic characteristics should dictate whether an approach is considered as one lane or two lanes. For example, for an approach with one lane for through and right-turning traffic plus a left-turn lane, if engineering judgment indicates that it should be considered a one-lane approach because the traffic using the left turn lane is minor, the total traffic volume approaching the intersection should be applied against the signal warrants as a one-lane approach. The approach should be considered two lanes if approximately half of the traffic on the approach turns left and the left-turn lane is of sufficient length to accommodate all left-turn vehicles. Similar engineering judgment and rationale should be applied to a street approach with one through/left-turn lane plus a right-turn lane. In this case, the degree of conflict of minor-street right-turn traffic with traffic on the major street should be considered. Thus, right-turn traffic should not be included in the minor-street volume if the movement enters the major street with minimal conflict. The approach should be evaluated as a one-lane approach with only the traffic volume in the through/left-turn lane considered.
- g. At an intersection with a high volume of left-turn traffic from the major street, the signal warrant analysis may be performed in a manner that considers the higher volume of the major-street left-turn volumes plus the higher volume minor-street approach as the 'minor street' volume and both approaches of the major street minus the higher of the major-street left-turn volume as 'major street' volume. In these cases, engineering judgment should be used to determine if left-turn phasing is necessary to accommodate the high volume of left-turn traffic.

| | | |
|---|-----|-------------------------------------|
|  | | |
| SATISFIED | N/A | <input checked="" type="checkbox"/> |
| YES | | <input type="checkbox"/> |
| NO | | <input type="checkbox"/> |

Peak Hour *(continued)*

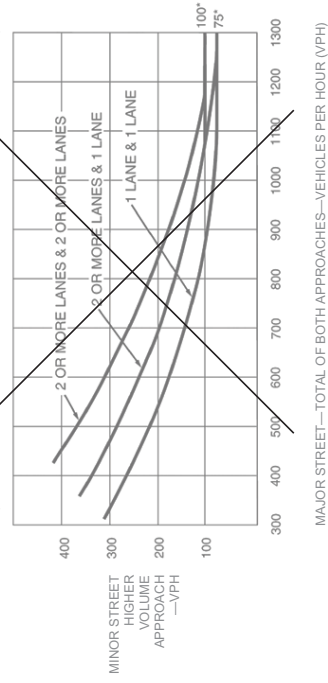
★ The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal ★

URBAN
Figure 4C-3. Warrant 3, Peak Hour



* Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one lane.

RURAL



* Note: 100 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

L-2 Supplemental Traffic Analysis



MEMORANDUM

TO: Mike Harden, ESA PCR

FROM: Sarah M. Drobis, P.E., and Casey Le, EIT

DATE: August 22, 2017

RE: Supplemental Traffic Analysis for the
668 S. Alameda Street Mixed-Use Project
Los Angeles, California

Ref: J1419

Gibson Transportation Consulting, Inc. (GTC) was asked to conduct a supplemental traffic analysis based on review of development projects undergoing environmental review to determine whether any of the projects could be considered related projects ("Related Projects") of the 668 S. Alameda Street Mixed-Use Project (Project) for the purposes of California Environmental Quality Act (CEQA) analysis. This memorandum summarizes the findings of our review.

BACKGROUND

GTC prepared *Transportation Impact Study for the 668 South Alameda Street Mixed-Use Project* (June 2017) (Transportation Study) for the Project. The Los Angeles Department of Transportation (LADOT) approved the Transportation Study and issued the related *Traffic Impact Assessment for the Proposed Mixed-Use Development Project at 668 S. Alameda Street* dated June 15, 2017. Subsequently, the Los Angeles Department of City Planning (City Planning) provided the Applicant's consultant with a list of development projects undergoing environmental review. GTC assessed the list to determine whether any of the projects could be considered Related Projects for purposes of CEQA analysis based on the following criteria:

- the Related Project was submitted prior to the Project's Notice of Preparation (NOP), issued in December 2016
- the proximity to the Project
- the size of the Related Project

GTC determined that one project on the list could qualify as a Related Project and was arguably within the scope of the Transportation Study.

City Planning is currently reviewing the administrative Draft Environmental Impact Report (EIR) for the Project. To provide a conservative and comprehensive analysis, GTC updated the list of Related Projects and prepared supplemental analyses to confirm that the impact

conclusions of the approved Transportation Study are still valid. As expected, the additional Related Project does not result in any new significant impacts or material changes to traffic volumes and would not require new mitigation measures. This memorandum summarizes the supplemental traffic analysis for future cumulative traffic conditions and verifies the validity of the Transportation Study. The supplemental analysis was conducted using the same assumptions and methodologies presented in the approved Transportation Study.

UPDATED RELATED PROJECTS LIST AND FIGURES

As discussed above, City Planning provided a list of development projects within the Arts District/downtown Los Angeles area. In an abundance of caution, GTC updated the list of Related Projects, which was originally provided in Table 6 of the Transportation Study, to include the Southern California Flower Market Project at 755 S. Wall Street (Related Project No. 163).

The updated Related Projects are detailed in Table 1 and illustrated in Figure 1. Figure 2 illustrates the peak hour traffic volumes from the updated Related Projects at study intersections. Figure 3 illustrates the peak hour traffic volumes for Future without Project Conditions. Figure 4 illustrates the peak hour traffic volumes for Future with Project Conditions. Figure 5 illustrates the peak hour traffic volumes for Future with Project with Mitigation Conditions.

FUTURE WITH PROJECT CONDITIONS

Similar to the analysis presented in the Transportation Study, the Future without Project conditions traffic volume forecasts illustrated in Figure 3 were developed by applying an ambient growth rate of 1.0% per year compounded annually to account for the growth in traffic over existing conditions and by adding the updated Related Projects traffic volumes illustrated in Figure 2. This is a conservative approach as many of the Related Projects are reflected in the ambient growth.

The Project-only traffic volumes presented in Figure 10 of the Transportation Study were added to the Future without Project Conditions traffic volumes presented in Figure 3. The resulting Future with Project Conditions traffic volumes are illustrated in Figure 4.

Table 2 summarizes the impact of Project traffic during the weekday morning and afternoon peak hours under Future operating conditions with consideration of the additional Related Project. As shown, consistent with the analysis and conclusions in the Transportation Study, the Project is anticipated to result in a significant impact at the following six signalized study intersections under Future with Project conditions:

3. Alameda Street & 6th Street (afternoon peak hour)
6. Central Avenue & 7th Street (afternoon peak hour)
7. Alameda Street & 7th Street (morning and afternoon peak hours)
8. Mateo Street & 7th Street (morning and afternoon peak hours)
9. Santa Fe Avenue & 7th Street (morning and afternoon peak hours)
18. Alameda Street & Olympic Boulevard (morning and afternoon peak hours)

Detailed analysis worksheets are provided in the Attachment.

FUTURE WITH PROJECT WITH MITIGATION CONDITIONS

As detailed in the Transportation Study, the mitigation program for the Project would include implementation of a transportation demand management (TDM) program and contribution toward an areawide transportation management organization (TMO). This mitigation program would result in peak hour trip reductions from the implementation of the TDM program and capacity enhancements as a result of the TMO. The Project-only with Mitigation traffic volumes illustrated in Figure 13 of the Transportation Study were added to the Future without Project Conditions traffic volumes with consideration of the updated Related Projects illustrated in Figure 2. The resulting Future with Project with Mitigation Conditions traffic volumes are illustrated in Figure 5.

Table 2 also summarizes the effectiveness of the Project's mitigation program during the weekday morning and afternoon peak hour at the 18 signalized study intersections under Future with Project with Mitigation Conditions with consideration of the updated Related Projects. As shown, consistent with the analysis and conclusions in the Transportation Study, the following three signalized intersections would remain significantly impacted by Project traffic after mitigation:

3. Alameda Street & 6th Street (afternoon peak hour)
7. Alameda Street & 7th Street (morning and afternoon peak hours)
8. Mateo Street & 7th Street (morning and afternoon peak hours)



Detailed analysis worksheets are provided in the Attachment.

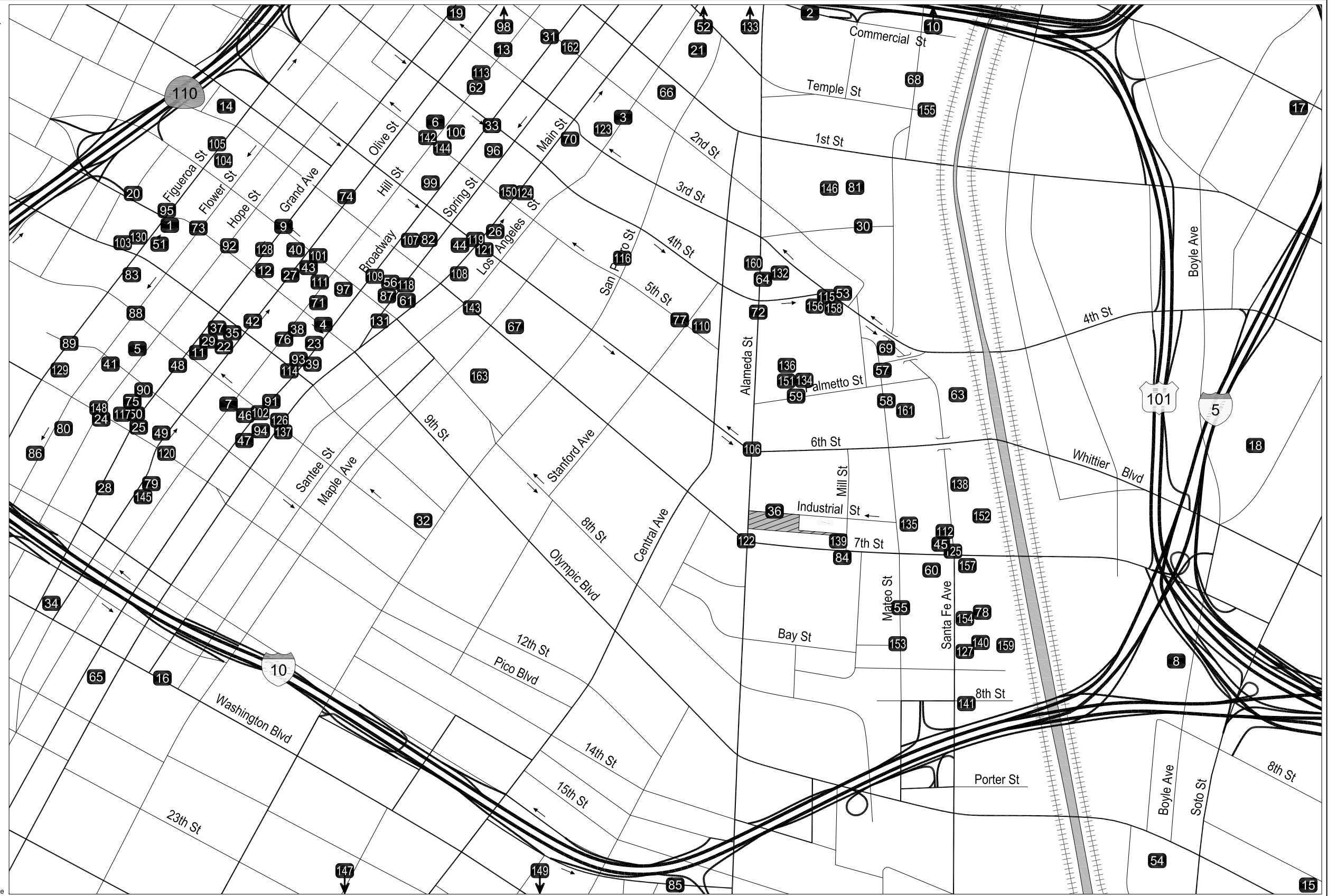
SUMMARY AND CONCLUSION

As described above, the results of this supplemental analysis with consideration of the updated Related Projects are consistent with the analysis and conclusions in the Transportation Study. Six study intersections under Future with Project Conditions would be significantly impacted by the Project prior to mitigation. With implementation of the mitigation program, impacts at three study intersections under Future with Project with Mitigation Conditions would remain significant and unavoidable, consistent with the results of the Transportation Study.

Therefore, the supplemental analysis of the Project's traffic impacts under Future with Project and Future with Project with Mitigation Conditions with respect to the updated Related Projects does not result in any new significant traffic impacts or materially different traffic impacts, and the conclusions presented in the Transportation Study are still valid.

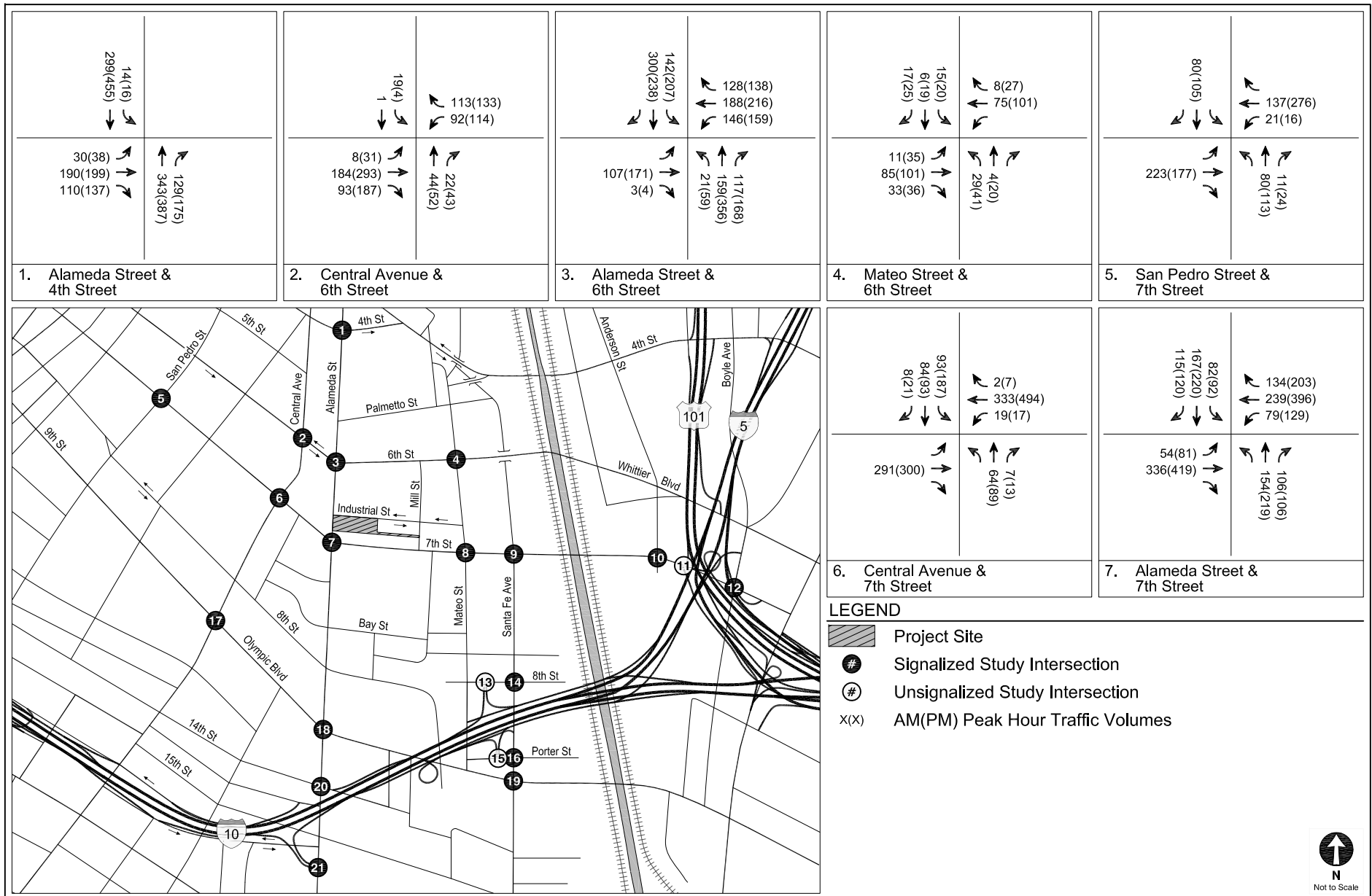
LEGEND

-  Project Site
-  Related Project



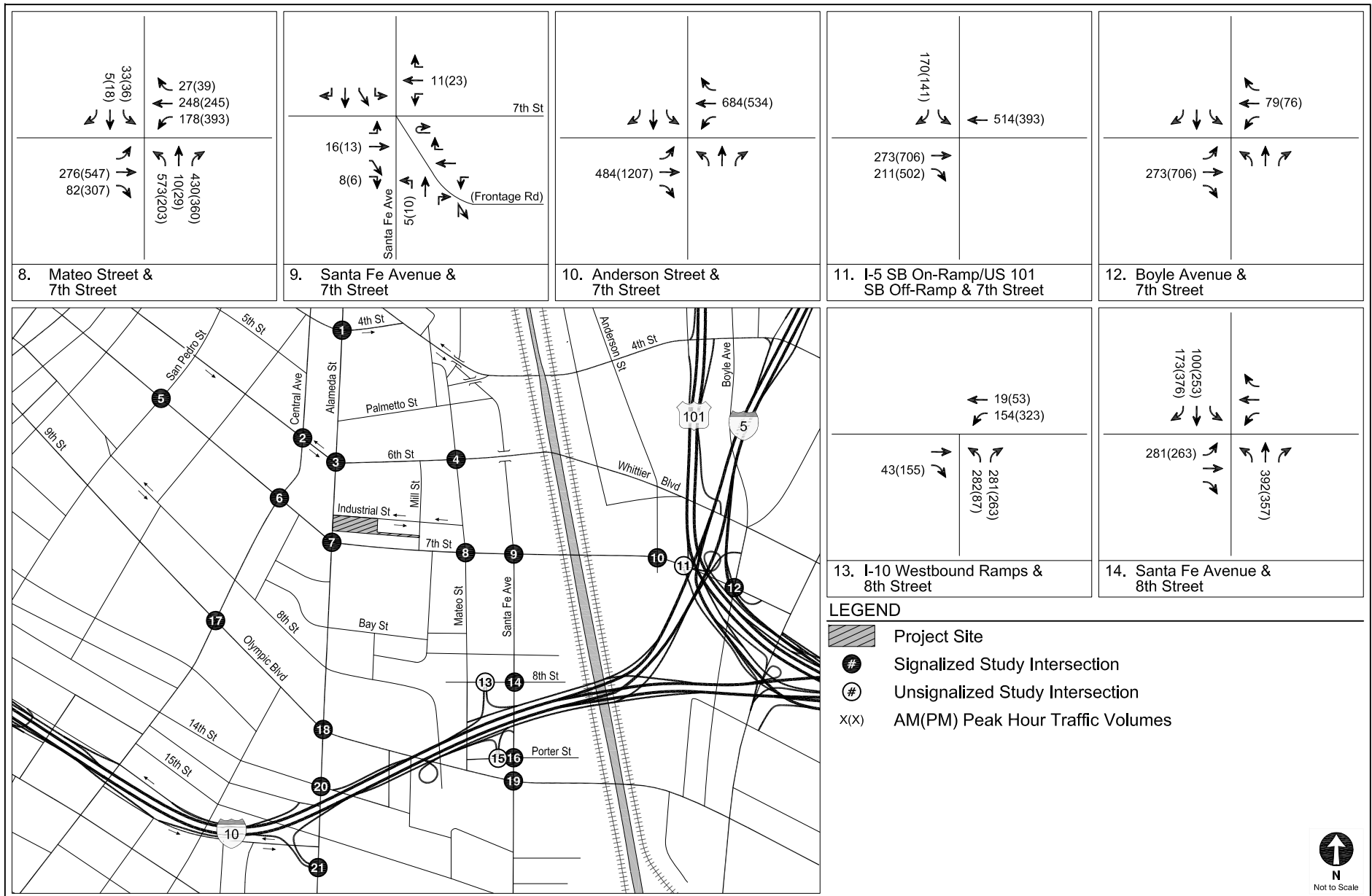
LOCATIONS OF RELATED PROJECTS

FIGURE
1



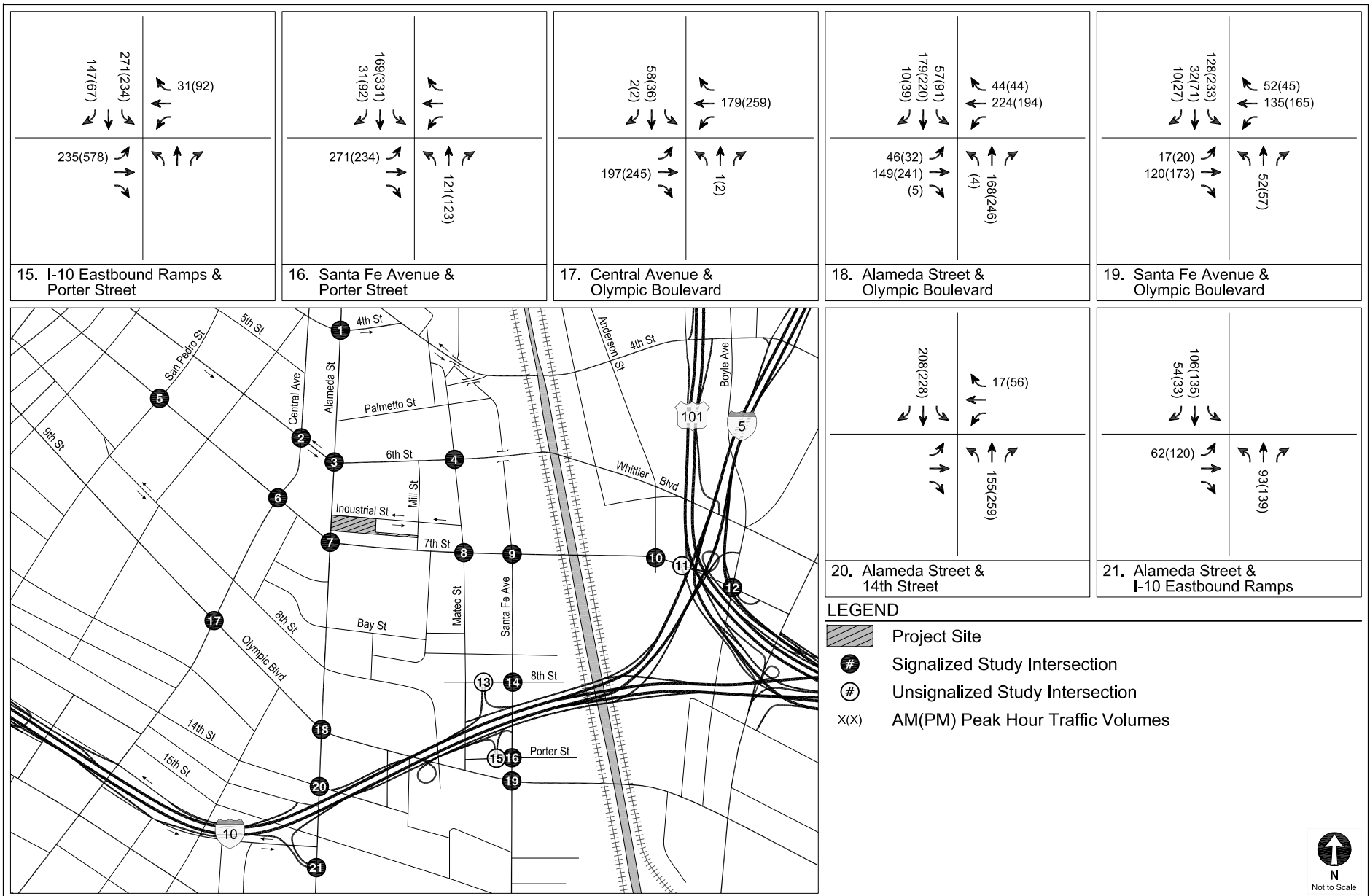
RELATED PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE
2



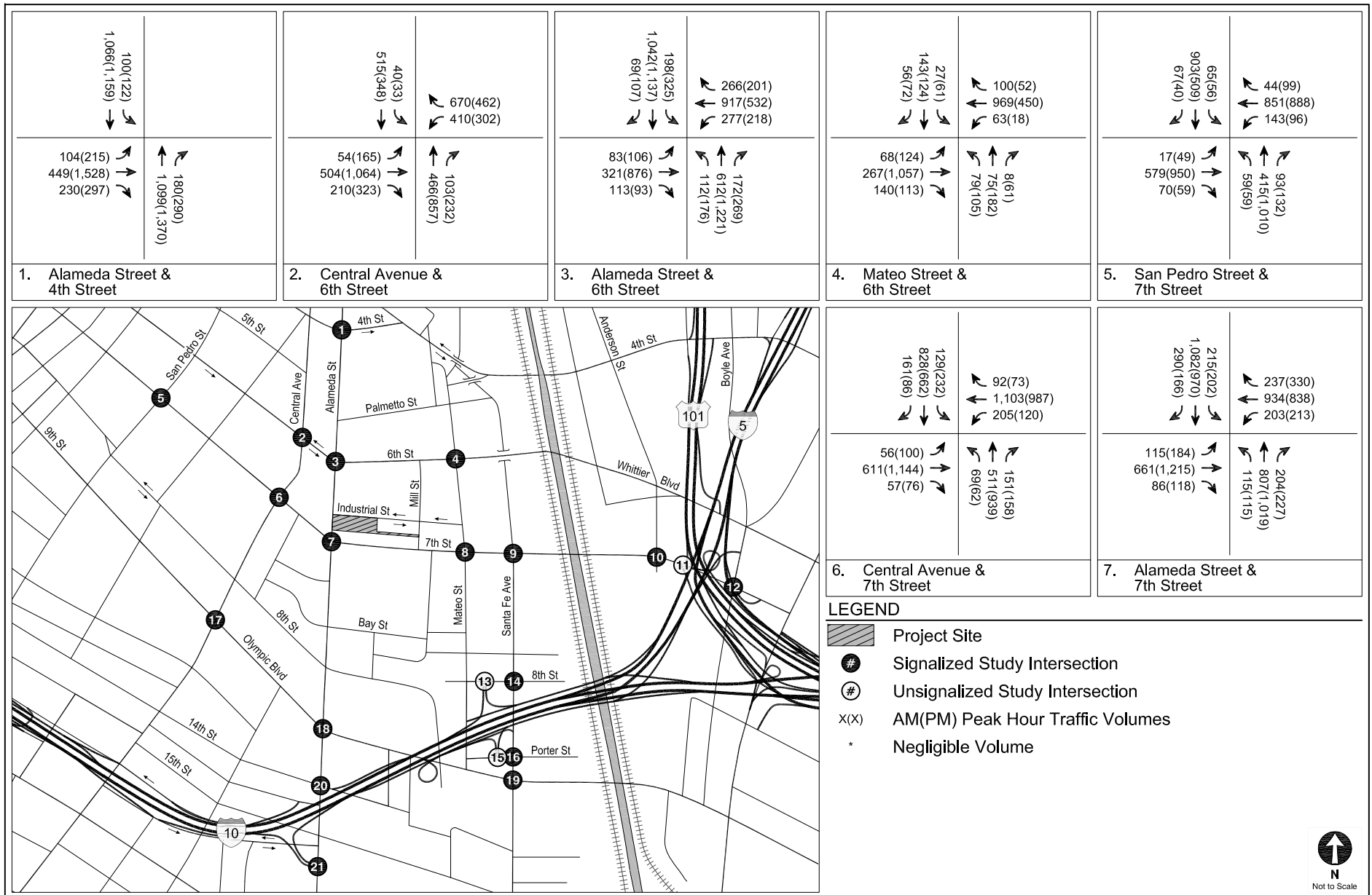
RELATED PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE
2 (CONT.)



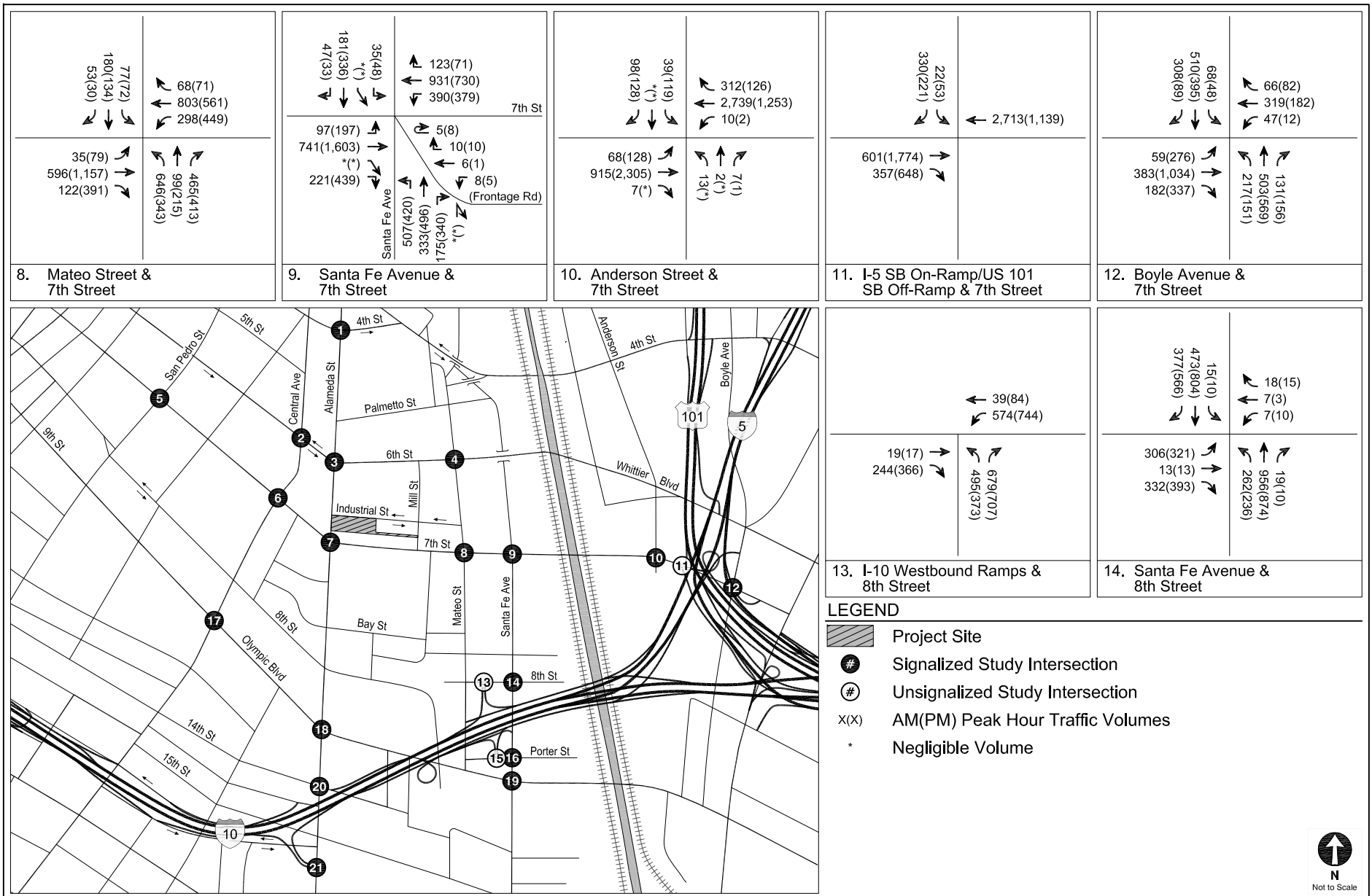
RELATED PROJECT-ONLY
PEAK HOUR TRAFFIC VOLUMES

FIGURE
2 (CONT.)



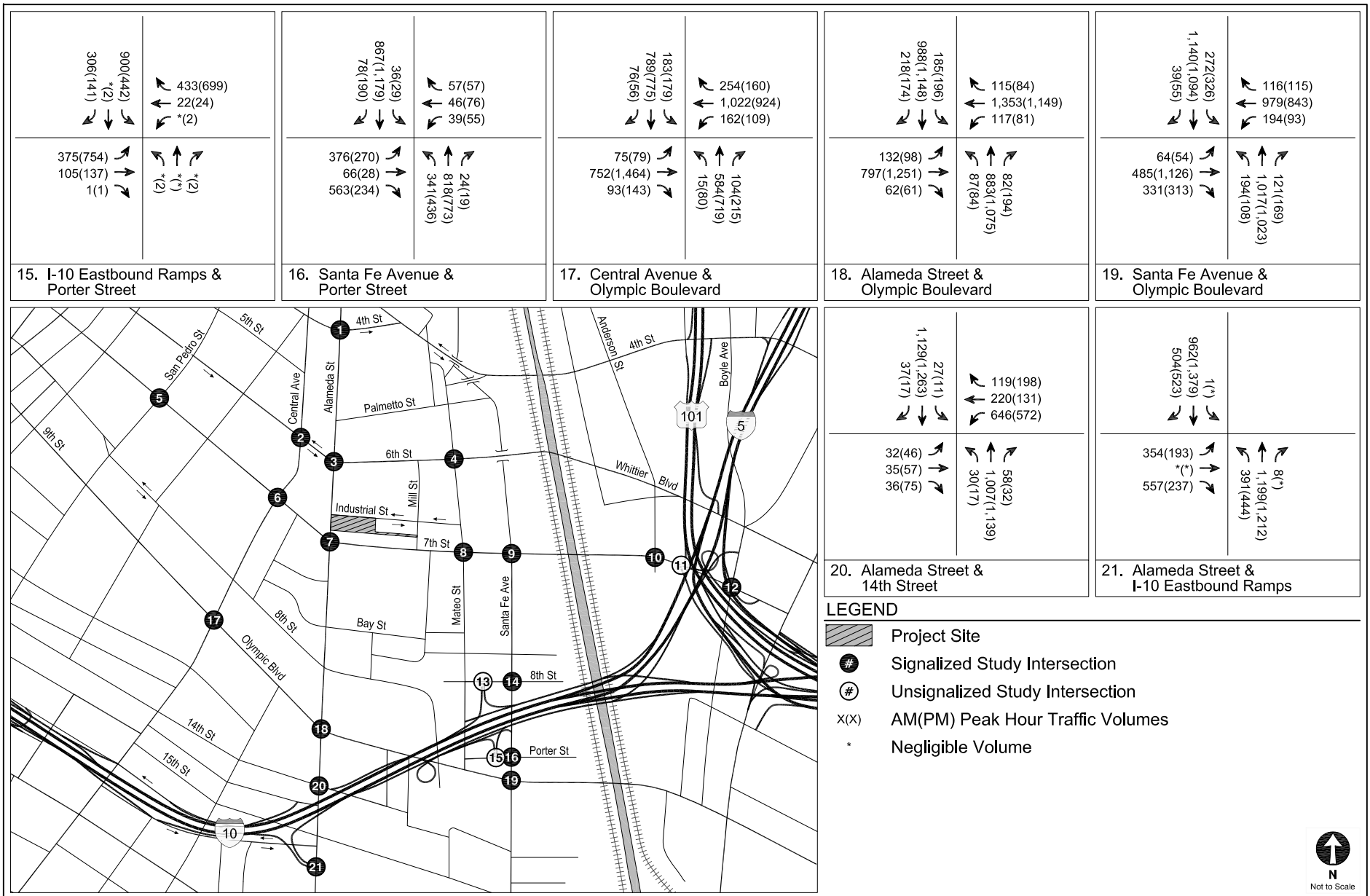
FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2022)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
3



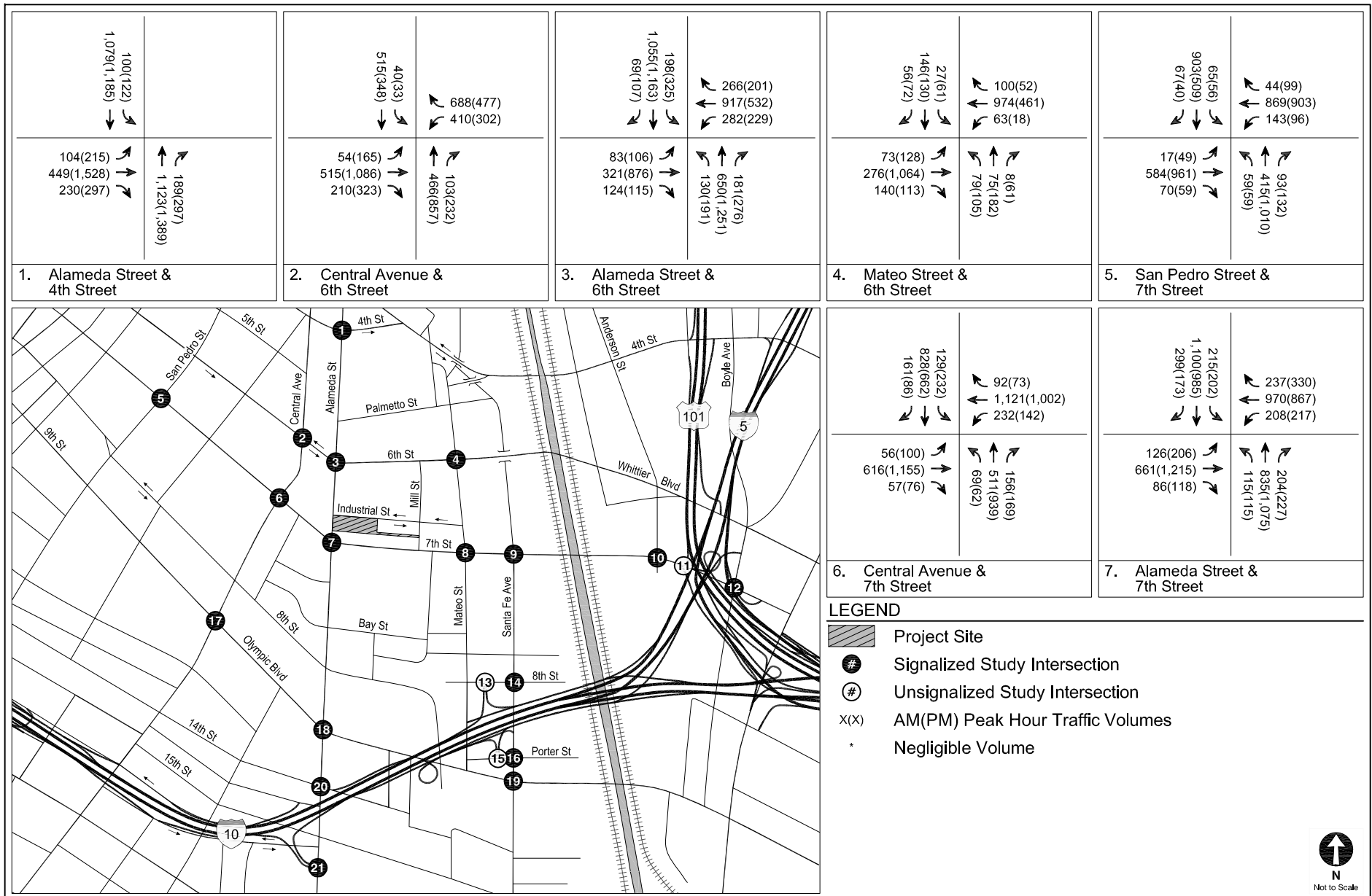
FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2022)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
3 (CONT.)



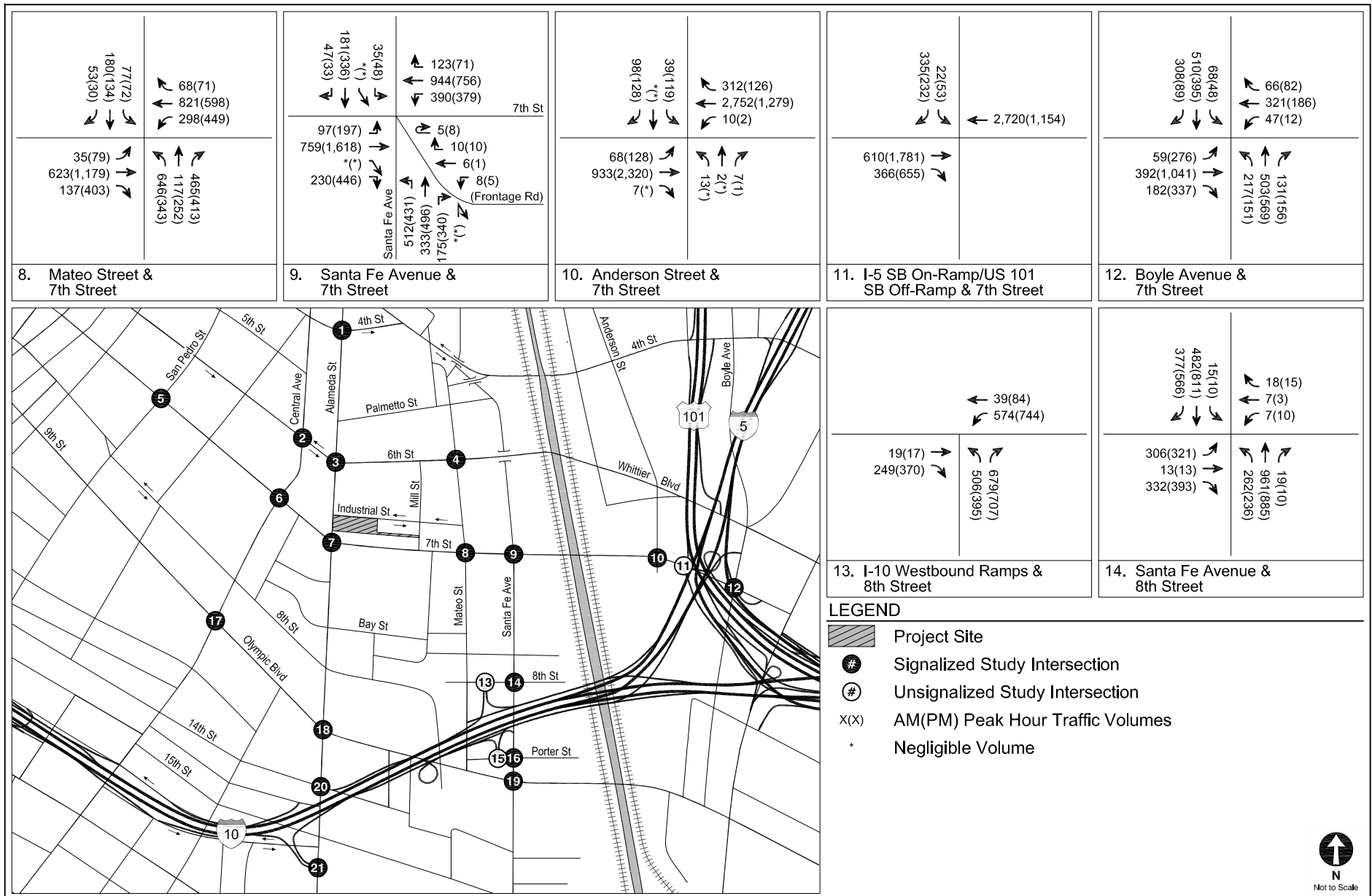
FUTURE WITHOUT PROJECT CONDITIONS (YEAR 2022)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
3 (CONT.)



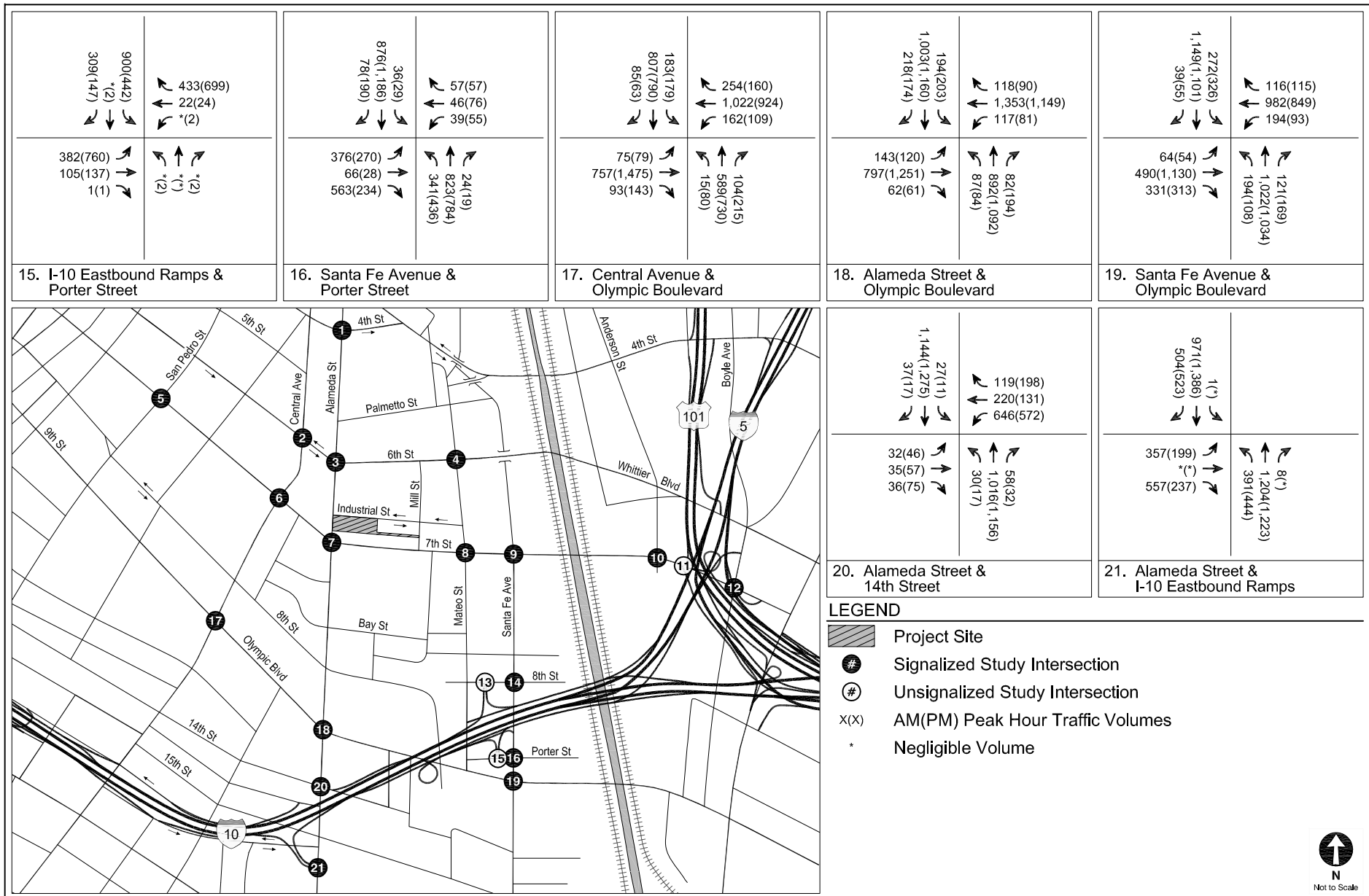
FUTURE WITH PROJECT CONDITIONS (YEAR 2022)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
4



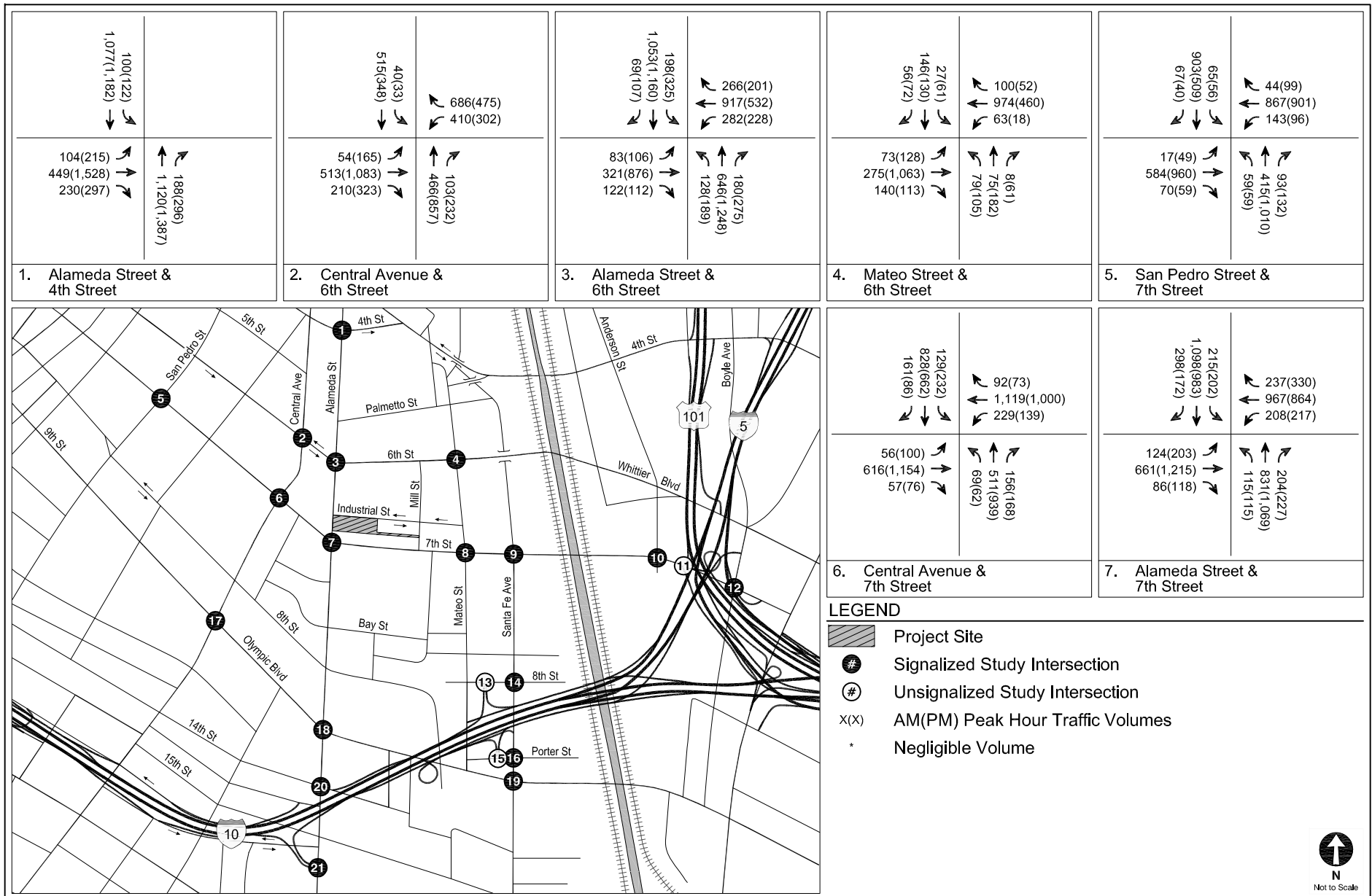
FUTURE WITH PROJECT CONDITIONS (YEAR 2022)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
4 (CONT.)



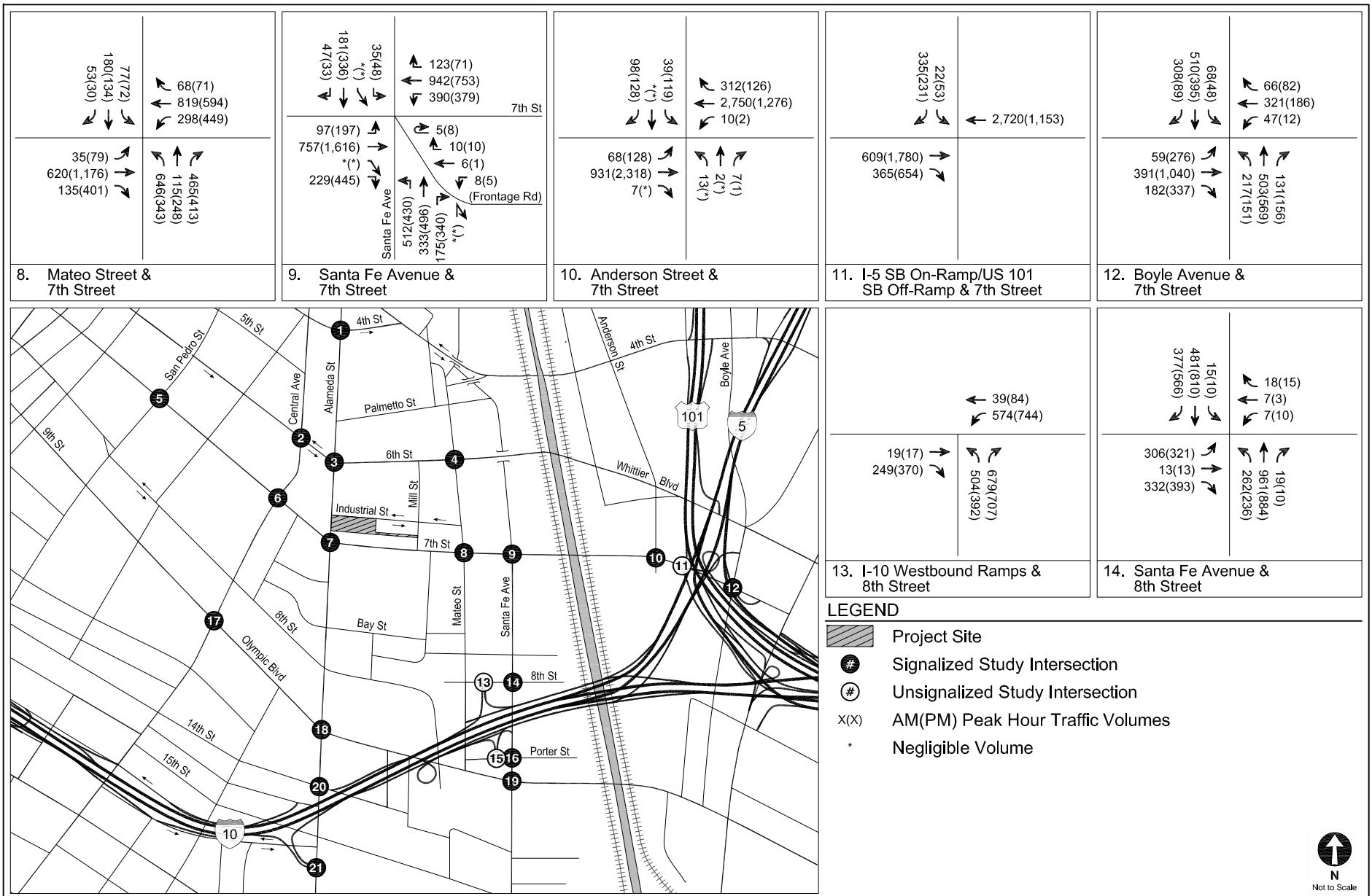
FUTURE WITH PROJECT CONDITIONS (YEAR 2022)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
4 (CONT.)



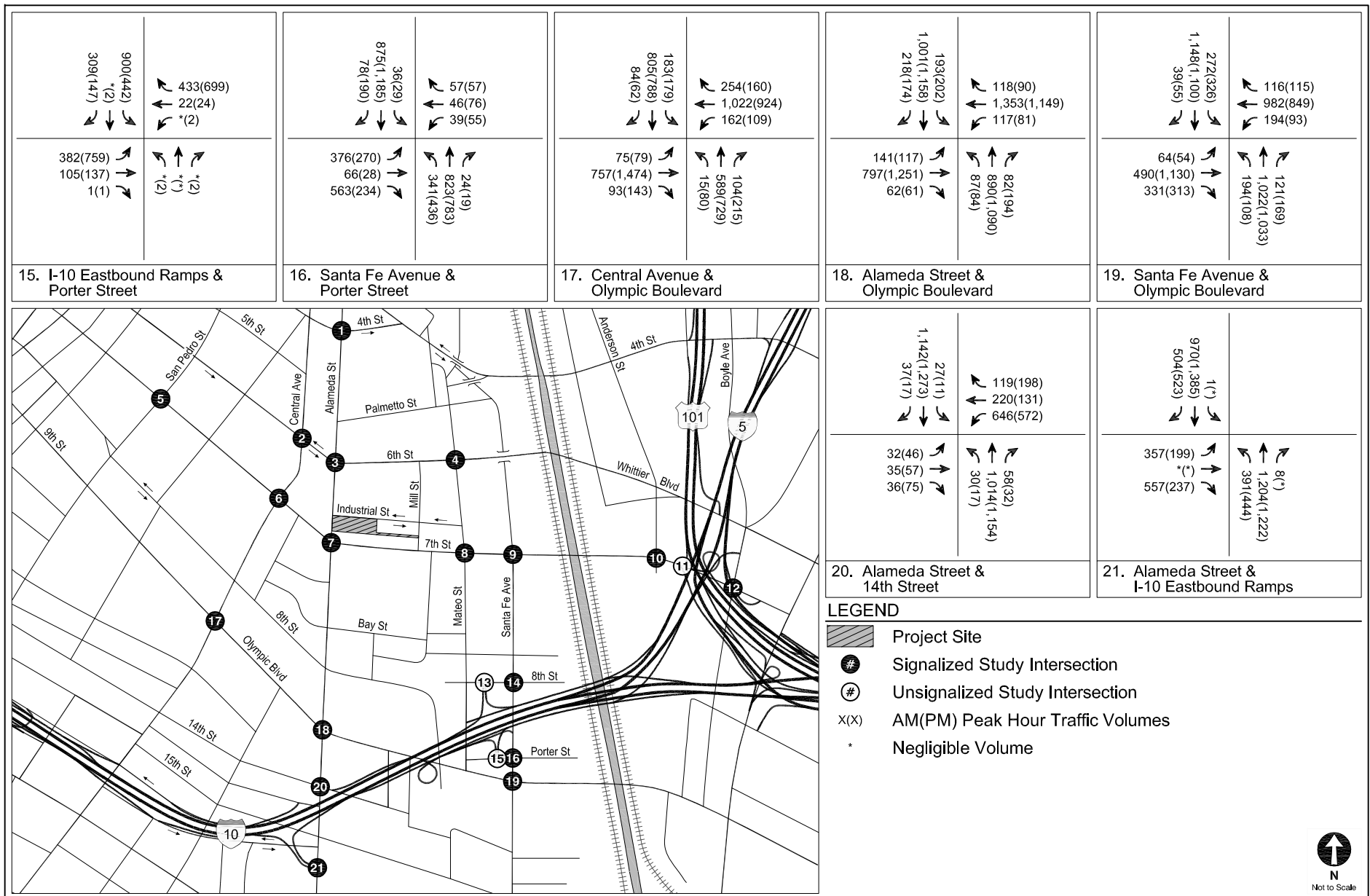
FUTURE WITH PROJECT WITH MITIGATION CONDITIONS (YEAR 2022)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
5



**FUTURE WITH PROJECT WITH MITIGATION CONDITIONS (YEAR 2022)
PEAK HOUR TRAFFIC VOLUMES**

**FIGURE
5 (CONT.)**



FUTURE WITH PROJECT WITH MITIGATION CONDITIONS (YEAR 2022)
PEAK HOUR TRAFFIC VOLUMES

FIGURE
5 (CONT.)

**TABLE 1
RELATED PROJECTS**

| No. | Project | Address | Use | Trip Generation [a] | | | | | | | |
|-----|---|--------------------------------------|---|---------------------|--------------|------|-------|--------------|-------|-------|-------|
| | | | | Daily | AM Peak Hour | | | PM Peak Hour | | | Total |
| | | | | | In | Out | Total | In | Out | Total | |
| 1. | Apex Ph I | 900 S Figueroa Street | 629 condominium units, 27,000 sf retail | 2624 | 37 | 146 | 183 | 143 | 95 | 238 | |
| 2. | Bus Maintenance & Inspection Facility | 454 E Commercial Street | 2 acres Other | 0 | 22 | 8 | 30 | 9 | 1 | 10 | |
| 3. | Vibiana Lofts (Mixed-Use) | 225 S. Los Angeles Street | 300 condominium units, 3,400 sf retail | 1910 | 88 | 136 | 224 | 75 | 52 | 126 | |
| 4. | Northeast Tower (Mixed-Use) | 215 W. 9th Street | 210 condominium units, 9,000 sf retail | 1140 | 14 | 56 | 70 | 64 | 38 | 102 | |
| 5. | Amacon Project | 1133 S Hope Street | 208 apartment units, 5,029 sf retail | 1543 | 20 | 74 | 94 | 91 | 50 | 141 | |
| 6. | 5th & Olive (formerly Park Fifth Project) | 437 S. Hill Street | 600 apartment units, 13,872 sf retail | 3088 | 44 | 122 | 167 | 162 | 97 | 259 | |
| 7. | 11th & Hill Project | 1115 S. Hill Street | 172 condominium units, 6,850 sf restaurant | 543 | (45) | 40 | (5) | 50 | (7) | 43 | |
| 8. | Warehouse/Office/Manufacturing | 1115 S Boyle Avenue | 294,256 sf warehouse, 76,576 sf office, 65,949 sf manufacturing | 1,125 | 55 | 19 | 74 | 27 | 88 | 115 | |
| 9. | 8th/Hope/Grand Project | 609 W. 8th Street | 225 condominium units, 200 hotel rooms, 30,000 sf retail, 32,000 sf restaurant | 4908 | 90 | 104 | 194 | 242 | 159 | 401 | |
| 10. | MTA Bus Facility | 920 N Vignes Street | Other | 2277 | 33 | 52 | 85 | 57 | 31 | 88 | |
| 11. | Ten50 Mixed-Use (Formerly Glass Tower) | 1050 S Grand Avenue | 151 condominium units, 3472 sf retail, 2,200 sf restaurant | 1084 | 15 | 54 | 68 | 64 | 35 | 99 | |
| 12. | Embassy Tower | 848 S. Grand Avenue | 420 condominium units, 38,500 sf retail | 3882 | 66 | 144 | 210 | 212 | 165 | 377 | |
| 13. | Zen Mixed-Use Project (Kawada Tower) | 250 S. Hill Street | 330 condominium units, 12,000 sf retail | 1217 | 21 | 73 | 94 | 66 | 42 | 108 | |
| 14. | Wilshire Grand Project | 900 W Wilshire Boulevard | 900 hotel rooms, 400,000 sf office | 3,624 | 725 | 75 | 800 | 94 | 764 | 858 | |
| 15. | Boyle Heights MU Project (Wyvernwood) | 2901 E Olympic Boulevard | 4,400 apt units, 185 ksf retail, 150 ksf office, 15 ksf daycare, 15 ksf library | 19382 | 463 | 1044 | 1507 | 1123 | 804 | 1927 | |
| 16. | Washington Blvd Opportunity - Mercy housing | 220 E Washington Boulevard | 7,750 sf retail, 7,750 restaurant, 357 apartment units | 2113 | 38 | 118 | 156 | 125 | 53 | 178 | |
| 17. | Medical Office Expansion | 1828 E Cesar Chavez Street | 32,300 sf office | 1168 | 58 | 16 | 74 | 30 | 82 | 112 | |
| 18. | Linda Vista Senior Housing and Medical Office | 610 St. Louis Street | 97 condominium units, 33,000 sf medical office | 1530 | 65 | 24 | 89 | 41 | 89 | 130 | |
| 19. | Grand Avenue | 237 S Grand Avenue | 1,648 condominium units, 412 apartment units, 449,000 sf retail, 681,000 sf office | 21,631 | 929 | 611 | 1,540 | 1,067 | 1,348 | 2,414 | |
| 20. | Metropolis Mixed-Use | 899 S Francisco Street | 1,558 condominium units, 70,000 sf retail | 8010 | 307 | 318 | 625 | 387 | 512 | 899 | |
| 21. | LA Civic Center Office | 150 N. Los Angeles Street | 712,500 sf office, 35,000 sf retail, 2,500 sf child care | 13,534 | 930 | 118 | 1,048 | 435 | 942 | 1,374 | |
| 22. | Apartments | 1027 S. Olive Street | 100 apartment units | 632 | 9 | 39 | 48 | 38 | 21 | 59 | |
| 23. | Broadway Palace | 928 S. Broadway | 670 apartment units, 17 condominium units, 58,800 sf retail, 34,824 sf office | 4715 | 21 | 229 | 250 | 272 | 109 | 381 | |
| 24. | SPR - Mixed-Use | 1306 Hope Street | 419 apartment units, 42,000 sf retail | 4280 | 88 | 105 | 194 | 136 | 102 | 238 | |
| 25. | G12 Mixed-Use | 1200 S Grand Avenue | 640 apartment units, 45,000 sf retail | 4886 | 92 | 148 | 240 | 181 | 134 | 315 | |
| 26. | Mixed-Use | 534 S. Main Street | 160 apartment units, 18,000 sf retail, 3,500 sf restaurant, 3,500 sf fast food | 2213 | 52 | 75 | 127 | 87 | 58 | 145 | |
| 27. | Mixed-Use | 840 S. Olive Street | 303 condominium units, 9,680 sf restaurant | 3071 | 81 | 166 | 247 | 174 | 96 | 270 | |
| 28. | Mixed-Use | 710 S. Grand Avenue | 700 apartment units, 27,000 sf retail, 5,000 sf restaurant | 5245 | 88 | 185 | 273 | 275 | 202 | 477 | |
| 29. | Restaurant | 1036 S. Grand Avenue | 7,149 sf restaurant | 492 | 2 | 3 | 5 | 27 | 14 | 41 | |
| 30. | Santa Fe Freight Yard Redevelopment | 950 E 3rd Street | 532 school other, 635 apartment units, 30,062 sf retail | 6372 | 162 | 177 | 339 | 245 | 213 | 458 | |
| 31. | Retail/Restaurant | 201 S. Broadway | 27,765 sf retail/restaurant | 0 | (40) | (41) | (81) | 53 | 17 | 70 | |
| 32. | The City Market (Mixed-Use) | 1057 S. San Pedro Street | 877 apt units, 68 condo units, 210 hotel rms, 294.6 ksf office, 224.9 ksf retail, 744 cinema seats | 0 | 837 | 434 | 1271 | 632 | 957 | 1589 | |
| 33. | Mixed-Use | 400 S. Broadway | 450 apartment units, 10,000 sf retail, 5,000 sf bar | 2,266 | 36 | 147 | 183 | 139 | 73 | 212 | |
| 34. | Mixed-Use | 233 W Washington Boulevard | 160 apartment units, 24,000 sf retail | 1764 | 25 | 56 | 81 | 89 | 71 | 160 | |
| 35. | 1001 S. Olive Street | 1001 S. Olive Street | 201 apartment units, 4,100 sf retail | 1,581 | 22 | 79 | 101 | 94 | 51 | 145 | |
| 36. | Camden Arts Mixed-Use | 1525 E Industrial Street | 328 apartment units, 27,300 sf office, 6,400 sf retail, 5,700 sf restaurant | 2,288 | 58 | 73 | 131 | 86 | 69 | 155 | |
| 37. | Mixed-Use | 1000 S. Grand Avenue | 274 apartment units, 12,000 sf restaurant | 2,216 | 27 | 94 | 121 | 130 | 69 | 199 | |
| 38. | Hill Street Mixed-Use | 920 S. Hill Street | 239 apartment units, 5,400 sf retail | 1,476 | 23 | 84 | 107 | 87 | 50 | 137 | |
| 39. | Broadway Mixed-Use | 955 S. Broadway | 201 apartment units, 6,000 sf retail | 1,275 | 21 | 72 | 93 | 74 | 43 | 117 | |
| 40. | Mixed-Use | 801 S. Olive St | 331 apartment units, 10,000 sf restaurant | 2,557 | 33 | 129 | 162 | 140 | 83 | 225 | |
| 41. | Flower Mixed-Use | 1212 W Flower Street | 730 condominium units, 10,500 sf retail, 70,465 sf office | 3956 | 78 | 233 | 311 | 229 | 121 | 350 | |
| 42. | Olympic & Olive Mixed-Use Project | 960 S. Olive Street | 263 apartment units, 14,500 sf restaurant | 2,266 | 25 | 91 | 116 | 48 | 23 | 71 | |
| 43. | Mixed-Use | 820 S. Olive Street | 589 apartment units, 4,500 sf retail | 3,309 | 63 | 202 | 264 | 195 | 106 | 302 | |
| 44. | Mixed-Use | 601 S. Main Street | 452 apartment units, 25,000 sf retail | 2,686 | 36 | 144 | 179 | 152 | 87 | 238 | |
| 45. | Mixed-Use | 2051 E 7th Street | 240 apartment units, 8,000 sf retail, 3,500 sf restaurant | 2,196 | 9 | 97 | 106 | 138 | 55 | 193 | |
| 46. | Mixed-Use (Herald Examiner) | 1111 S. Broadway | 214 apartment units, 10,000 sf retail | 5,198 | 144 | 176 | 319 | 258 | 274 | 532 | |
| 47. | Mixed-Use | 1148 S. Broadway | 94 apartment units, 2,500 sf retail | 553 | 8 | 30 | 38 | 32 | 18 | 50 | |
| 48. | DTLA South Park Site 1 | 1120 S Grand Avenue | 666 apartment units, 0 hotel rooms, 20,690 sf retail | 2730 | 42 | 127 | 170 | 136 | 93 | 229 | |
| 49. | DTLA South Park Site 4 | 1230 S Olive Street | 362 apartment units, 4,000 sf retail | 2114 | 31 | 126 | 157 | 127 | 69 | 196 | |
| 50. | Apartments | 1247 S Grand Avenue | 118 apartment units, 5,125 sf retail | 763 | 10 | 41 | 51 | 42 | 25 | 67 | |
| 51. | Variety Arts (Mixed-Use) | 940 S Figueroa Street | 1,942 theatre seats, 10,056 sf restaurant, 5119 sf bar | 2,237 | 5 | 4 | 9 | 99 | 35 | 134 | |
| 52. | La Plaza Cultura Village | 527 N Spring Street | 345 apartment units, 23,000 sf retail, 21,000 sf specialty retail, 11,000 sf restaurant | 3585 | 49 | 118 | 167 | 189 | 131 | 320 | |
| 53. | Mixed-Use (Coca Cola) | 963 E. 4th Street | 75,000 sf office, 25,000 sf retail, 20,000 sf restaurant | 2,512 | 106 | 22 | 128 | 113 | 138 | 251 | |
| 54. | Mixed-Use (Sears Project) | 2650 E Olympic Boulevard | 1,000 apartment units, 34,000 sf retail, 46,000 sf restaurant, 230,000 sf office | 11,307 | 482 | 463 | 945 | 550 | 526 | 1,076 | |
| 55. | Mixed-Use | 826 S Mateo Street | 90 condominium units, 11,000 sf retail, 5,600 sf restaurant | 1,267 | 11 | 34 | 45 | 62 | 39 | 101 | |
| 56. | Mixed-Use | 737 S. Spring Street | 320 apartment units, 25,000 sf pharmacy/drugstore | 3,942 | 72 | 141 | 213 | 167 | 116 | 283 | |
| 57. | 520 Mateo | 520 S Mateo Street | 600 live-work apt units, 90 ksf live-work office, 10 ksf museum, 20 ksf office, 30 ksf commercial | 4,995 | 157 | 220 | 373 | 274 | 223 | 491 | |
| 58. | Retail (Palmetto & Mateo) | 555 S Mateo Street | 153,000 sf retail OR 130,000 sf retail, 50,000 sf office | 4,300 | 5 | 30 | 35 | 220 | 205 | 425 | |
| 59. | Mixed-Use | 1147 E Palmetto | 120 apartment units, 141 hotel rooms, 20,000 sf restaurant | 2,908 | 73 | 141 | 215 | 147 | 83 | 230 | |
| 60. | Mixed-Use | 2030 E 7th Street | 243,000 sf office, 40,000 sf retail | 2,306 | 274 | 34 | 308 | 69 | 249 | 318 | |
| 61. | Mixed-Use | 732 S Spring Street | 303 apartment units, 7,200 sf retail | 3,409 | 59 | 152 | 211 | 164 | 104 | 268 | |
| 62. | Mixed-Use | 340 S. Hill Street | 428 apartment units, 6,700 sf restaurant | 2,361 | 34 | 129 | 163 | 141 | 79 | 219 | |
| 63. | Office | 540 S Santa Fe Avenue | 65,812 sf office | 726 | 90 | 12 | 102 | 17 | 81 | 98 | |
| 64. | Mixed-Use | 360 S Alameda Street | 55 apartment units, 2,500 sf restaurant, 6,300 sf office | 670 | 25 | 33 | 58 | 35 | 26 | 61 | |
| 65. | The Reef - LA Mart/SOLA Village | 1900 S Broadway | 900 condo units, 550 apt units, 210 hotel rms, 143.1 ksf retail, 180 ksf office, 17.6 ksf gallery/museum, 8 ksf gym | -- | 390 | 552 | 942 | 637 | 566 | 1203 | |
| 66. | Apartments | 118 S. Astronaut e.s. Onizuka Street | 77 apartment units | 97 | (1) | 20 | 19 | 19 | 6 | 25 | |
| 67. | Clinic at 7th & Wall | 649 S. Wall Street | 66 emp medical office, 55 assisted living beds | 104 | 24 | 5 | 29 | 3 | 24 | 27 | |
| 68. | Metro Emergency Security Operations Center | 410 N Center Street | 110,000 sf office | 1,165 | 87 | 0 | 87 | 0 | 79 | 79 | |
| 69. | Restaurant | 500 S Mateo Street | 12,882 sf restaurant | 1,052 | 48 | 41 | 89 | 50 | 31 | 81 | |
| 70. | Medallion Phase 2 | 300 S. Main Street | 471 apartment units, 27,780 sf restaurant, 5,190 sf retail | 4691 | 143 | 243 | 386 | 257 | 153 | 410 | |

Notes

[a] Related project information provided by the Los Angeles Department of Transportation and Department of City Planning on December 2016, as well as recent traffic studies prepared in the area.

**TABLE 1 (CONTINUED)
RELATED PROJECTS**

| No. | Project | Address | Use | Trip Generation [a] | | | | | | |
|------|---|---|---|---------------------|--------------|----------|--------------|---------|----------|-------|
| | | | | Daily | AM Peak Hour | | PM Peak Hour | | | |
| | | | | | Inbound | Outbound | Total | Inbound | Outbound | Total |
| 71. | Alexan South Broadway | 850 S. Hill Street | 300 apartment units, 3,500 sf retail, 3,500 sf restaurant | 1,970 | 28 | 106 | 134 | 116 | 65 | 181 |
| 72. | 400 S Alameda Street | 400 S Alameda Street | 66 hotel rooms, 2,130 sf restaurant, 840 sf retail | 508 | 19 | 17 | 36 | 23 | 14 | 37 |
| 73. | Mixed-Use | 700 W 9th Street | 629 condominium units 27,000 sf retail | 2624 | 37 | 146 | 183 | 143 | 95 | 238 |
| 74. | Giannini Place (Nomad Hotel) | 649 S Olive Street | 241 hotel rooms | 1,674 | 60 | 44 | 109 | 63 | 60 | 123 |
| 75. | Grand Residence | 1229 S Grand Avenue | 161 condominium units 3,000 sf restaurant | 1116 | 23 | 62 | 85 | 62 | 33 | 95 |
| 76. | 940 S Hill MU | 940 S. Hill Street | 232 apartment units 14,000 sf retail | 1,881 | 20 | 80 | 100 | 115 | 53 | 168 |
| 77. | Mixed Use | 719 E 5th Street | 160 apartment units 10,057 sf retail | 1,033 | 15 | 58 | 73 | 59 | 37 | 96 |
| 78. | Mixed-Use | 2130 E Violet Street | 94,000 sf office, 3,500 sf retail, 4,000 sf restaurant | 1,351 | 137 | 30 | 167 | 39 | 122 | 161 |
| 79. | 14th & Olive MU | 1340 S Olive Street | 156 apartment units, 5,000 sf retail, 10,000 sf restaurant | 1700 | 51 | 82 | 133 | 89 | 57 | 146 |
| 80. | Mixed-Use | 1334 S Flower Street | 188 apartment units 10,096 sf retail/restaurant | 1038 | (3) | 63 | 60 | 67 | 22 | 89 |
| 81. | Mixed-Use (Private Club) | 929 E 2nd Street | 42,019 sf retail, 18,261 sf event space, 40,249 sf office, 5,383 sf health club | 2,014 | 61 | 9 | 70 | 101 | 88 | 189 |
| 82. | Spring St Hotel | 633 Spring Street | 176 hotel rooms, 5,290 sf bar, 8,430 sf restaurant | 2,045 | 83 | 33 | 116 | 97 | 99 | 196 |
| 83. | LUXE Hotel Mixed-Use project | 1020 S Figueroa Street | 650 condominium units, 300 hotel rooms, 40,000 sf retail, 40,000 sf restaurant | 6583 | 204 | 274 | 478 | 312 | 227 | 539 |
| 84. | Mixed Use (Revised) | 1800 E 7th Street | 122 apartment units 13,600 sf office | 816 | 26 | 45 | 71 | 45 | 37 | 82 |
| 85. | Restaurant | 1722 E 16th Street | 8,515 sf restaurant | 707 | (1) | 0 | (1) | 34 | 22 | 56 |
| 86. | 1370 S Flower St Residential | 1400 S Flower Street | 147 apartment units 6,921 sf retail | 801 | (1) | 49 | 48 | 51 | 17 | 68 |
| 87. | Mixed Use | 745 S Spring Street | 247 condominium units, 10,675 sf retail | 1543 | 23 | 67 | 90 | 80 | 60 | 140 |
| 88. | Fig Central | 1101 S Flower Street | 504 condominium units, 183 hotel rooms, 166,000 sf retail | 6737 | 130 | 180 | 310 | 302 | 269 | 571 |
| 89. | Circa (1200 Figueroa Project) | 1200 S Figueroa Street | 648 condominium units, 48,000 sf retail | 7344 | 231 | 159 | 390 | 284 | 283 | 567 |
| 90. | 1201 S Grand Ave | 1201 S Grand Avenue | 126 condominium units | 699 | 12 | 53 | 65 | 36 | 22 | 58 |
| 91. | Hoxton Hotel | 1060 S Broadway | 164 hotel rooms | 1340 | 51 | 36 | 87 | 50 | 48 | 98 |
| 92. | 888 S Hope St | 888 S Hope Street | 526 apartment units | 3498 | 54 | 214 | 268 | 212 | 114 | 326 |
| 93. | 950 S Broadway | 950 S Broadway | 30 apartment units, 7,500 sf retail | 520 | 7 | 15 | 22 | 25 | 22 | 47 |
| 94. | Forest City/South Park (1) | 1100 S Hill Street & 1200 S Broadway | 391 apartment units, 15,000 sf retail | 3241 | 49 | 164 | 213 | 184 | 114 | 298 |
| 95. | South Park | SE Corner of 9th Street & Figueroa Street | 341 apartment units | 2268 | 35 | 139 | 174 | 137 | 74 | 211 |
| 96. | Title Insurance Building | 433 S Spring Street | 320,000 sf office | 3992 | 58 | 110 | 168 | 193 | 163 | 356 |
| 97. | Broadway Trade Center | 801 S Broadway | 400,000 sf office, 150 hotel rooms | 5638 | 596 | 108 | 704 | 147 | 539 | 686 |
| 98. | The Grand | SE Corner of Grand Avenue & 1st Street | 450 apartment units, 300 hotel rooms | 5444 | 140 | 249 | 389 | 273 | 186 | 459 |
| 99. | 537 S Broadwday | 537 S Broadwday | 45,000 sf office | 496 | 62 | 8 | 70 | 11 | 56 | 67 |
| 100. | Clark Hotel | 426 S Hill Street | 348 hotel rooms | 2843 | 109 | 75 | 184 | 107 | 102 | 209 |
| 101. | Freehand Hotel | 416 W 8th Street | 200 hotel rooms | 1634 | 63 | 43 | 106 | 61 | 59 | 120 |
| 102. | Proper Hotel | 1106 S Broadway | 148 hotel rooms | 1209 | 46 | 32 | 78 | 45 | 44 | 89 |
| 103. | Olympic Tower | 815 W Olympic Boulevard | 374 apartment units, 373 hotel rooms, 33,498 sf office, 65,074 sf retail/restaurant | 6530 | 190 | 217 | 407 | 181 | 151 | 332 |
| 104. | Mitsui Fudosan (8th & Figueroa Tower) | 744 S Figueroa Street | 436 apartment units, 10,000 sf retail | 2697 | 40 | 153 | 193 | 160 | 90 | 250 |
| 105. | CitiGroup Plaza Phase III | 755 S Figueroa Street | 500,000 sf office, 200,000 sf retail | 9334 | 648 | 119 | 767 | 302 | 735 | 1037 |
| 106. | 6AM | 1206-1338 E 6th Street | 412 hotel rms, 1,305 apt units, 431 condo units, 253.5 ksf office, 127.6 ksf community space, 29.3 ksf school, 22.4 ksf | 14258 | 437 | 585 | 1022 | 710 | 642 | 1352 |
| 107. | Brooks Building | 644 S Broadway | 30 apartment units, 2,500 sf bar | 200 | 3 | 12 | 15 | 12 | 7 | 19 |
| 108. | Cecil Hotel Renovation | 640 S Main Street | 301 apartment units | 2002 | 31 | 123 | 154 | 122 | 65 | 187 |
| 109. | Garland Building | 740 S Broadway | 47 apartment units | 313 | 5 | 19 | 24 | 19 | 10 | 29 |
| 110. | 801 E 5th St | 801 E 5th Street | 160 apartment units, 7,500 sf retail | 1384 | 20 | 69 | 89 | 77 | 50 | 127 |
| 111. | 825 S Hill St | 825 S Hill Street | 490 apartment units | 3259 | 50 | 200 | 250 | 198 | 106 | 304 |
| 112. | Amp Lofts | 695 S Santa Fe Avenue | 320 live/work apartment units, 20,000 sf commercial | 2982 | 45 | 137 | 182 | 165 | 107 | 272 |
| 113. | Beacon Tower | 343 S Hill Street | 428 apartment units | 2846 | 44 | 174 | 218 | 172 | 93 | 265 |
| 114. | Broadway and Olympic Condos | 995 S Broadway | 163 condominium units | 947 | 12 | 60 | 72 | 57 | 28 | 85 |
| 115. | 4th & Hewitt | 401 S Hewitt Street | 266,000 sf office & 18,200 sf retail | 3,711 | 376 | 56 | 432 | 100 | 364 | 464 |
| 116. | Catalina Building | 443 S San Pedro Street | 78 live/work apartment units | 519 | 8 | 32 | 40 | 31 | 17 | 48 |
| 117. | E on Grand | 1249 S Grand Avenue | 115 apartment units, 5,000 sf retail | 979 | 15 | 49 | 64 | 55 | 35 | 90 |
| 118. | Holland Partner Group/Eighth and Spring | 755 S Spring Street | 275 apartment units, 8,900 sf retail | 2209 | 34 | 115 | 149 | 127 | 77 | 204 |
| 119. | Jade Enterprises/Topaz | 6th Street & Main Street | 159 apartment units, 23,000 sf retail | 2039 | 30 | 73 | 103 | 105 | 79 | 184 |
| 120. | Olive DTLA | Pico Boulevard & Olive Street | 293 apartment units | 1948 | 30 | 119 | 149 | 118 | 64 | 182 |
| 121. | SB Omega | 6th Street & Main Street | 452 apartment units | 3006 | 46 | 185 | 231 | 182 | 98 | 280 |
| 122. | Row DTLA | 7th Street & Alameda Street | 1.3 million sf office | 14339 | 1785 | 243 | 2028 | 329 | 1608 | 1937 |
| 123. | Budokan of Los Angeles | 237-249 S Los Angeles Street | 63,000 sf sports complex | 2709 | 114 | 73 | 187 | 233 | 142 | 375 |
| 124. | Merced Theater and Masonic Hall | 450 N Main Street | 18,000 sf TV studio, 50 seat auditorium | 1405 | 2 | 2 | 4 | 104 | 7 | 111 |
| 125. | Ford Factory Building | 7th Street & Santa Fe Avenue | 254,000 sf office | 2802 | 348 | 48 | 396 | 64 | 314 | 378 |
| 126. | Harris Building Office Conversion | 11th Street & Main Street | 52,000 sf office | 574 | 71 | 10 | 81 | 13 | 64 | 77 |
| 127. | Soho House | 1000 S Santa Fe Avenue | 16 hotel rooms | 131 | 5 | 3 | 8 | 5 | 5 | 10 |
| 128. | Embassy Hotel | 831 S Grand Avenue | 183 hotel rooms | 1495 | 57 | 40 | 97 | 56 | 54 | 110 |
| 129. | Fig + Pico Conference Center Hotels | 1248-1260 S Figueroa Street | 1,162 hotel rooms, 13,145 sf retail | 5720 | 192 | 125 | 317 | 203 | 212 | 415 |
| 130. | Hotel Figueroa | 939 S Figueroa Street | 268 hotel rooms | 2190 | 84 | 58 | 142 | 82 | 79 | 161 |
| 131. | Tuck Hotel | 820 S Spring Street | 14 hotel rooms | 114 | 4 | 3 | 7 | 4 | 4 | 8 |
| 132. | 330 S Alameda St Mixed-Use | 330 S Alameda Street | 186 live-work apartment units, 10,415 sf office, 11,925 sf retail | 1,662 | 36 | 76 | 112 | 91 | 65 | 156 |
| 133. | 643-655 N Spring Street | 643-655 N Spring Street | 203 apartment units, 21,300 sf commercial | 1,610 | 24 | 74 | 98 | 89 | 58 | 147 |
| 134. | 527 Colyton Street | 527 S Colyton Street | 310 apartment units, 11,375 sf commercial | 2,548 | 39 | 130 | 169 | 145 | 89 | 234 |
| 135. | 676 Mateo Street | 676 Mateo Street | 172 apartment units, 14,975 sf restaurant, 8,050 sf retail/office/art production | 3,264 | 114 | 146 | 260 | 167 | 109 | 276 |
| 136. | 1100 E 5th Street | 1100 E 5th Street | 218 apartment units, 18,400 sf restaurant, 9,200 sf retail/office/art production | 4,037 | 139 | 182 | 321 | 206 | 134 | 340 |
| 137. | 1100 Main Street | 1100 Main Street | 379 apartment units, 26,000 sf commercial | 3,630 | 55 | 163 | 218 | 199 | 132 | 331 |
| 138. | 640 S Santa Fe Avenue | 640 S Santa Fe Avenue | 107,000 sf office/retail/restaurant | 8,976 | 321 | 348 | 669 | 436 | 336 | 772 |
| 139. | 1745 E 7th Street | 1745 E 7th Street | 57 apartment units, 6,000 sf commercial | 635 | 10 | 25 | 35 | 34 | 23 | 57 |
| 140. | 2110 Bay Street | 2110 Bay Street | 110 apartment units, 50,000 sf commercial | 2,867 | 41 | 63 | 104 | 133 | 121 | 254 |

Notes

[a] Related project information provided by the Los Angeles Department of Transportation and Department of City Planning on December 2016, as well as recent traffic studies prepared in the area.

**TABLE 1 (CONTINUED)
RELATED PROJECTS**

| No. | Project | Address | Use | Trip Generation [a] | | | | | | |
|------|---|--|--|---------------------|--------------|----------|-------|--------------|----------|-------|
| | | | | Daily | AM Peak Hour | | | PM Peak Hour | | |
| | | | | | Inbound | Outbound | Total | Inbound | Outbound | Total |
| 141. | 1200 S Santa Fe Avenue | 1200 S Santa Fe Avenue | 53 apartment units, 13,000 sf retail | 907 | 12 | 27 | 39 | 44 | 37 | 81 |
| 142. | 5th & Hill Tower | 5th Street & Hill Street | 242 apartment units, 200 hotel rooms, 52,500 sf commercial | 5,485 | 119 | 160 | 279 | 253 | 212 | 465 |
| 143. | Fashion District Tower | 222 E 7th Street | 452 apartment units, 13,655 sf commercial | 3,749 | 82 | 199 | 281 | 211 | 124 | 335 |
| 144. | Fifth and Hill | 333 W 5th Street | 100 condo units, 200 hotel rooms, 27,500 sf commercial | 4,095 | 144 | 136 | 280 | 181 | 141 | 322 |
| 145. | Mixed-Use | 215 W 14th Street | 154 apartment units, 10,700 sf retail | 1,481 | 22 | 67 | 89 | 81 | 54 | 135 |
| 146. | Mixed-Use Project (Megatoys) | 905 E 2nd Street | 320 condominium units, 18,712 sf retail | 1,207 | (6) | 70 | 64 | 69 | 23 | 92 |
| 147. | Mixed-Use Project | 1011 E Adams Boulevard | 80 apartment units, 17,372 sf retail | 60 | 11 | 30 | 41 | 10 | 0 | 10 |
| 148. | SPR-Mixed-use Onyx West & East | 1300 S Hope Street | 419 apartment units, 42,000 sf retail | 632 | 9 | 39 | 48 | 38 | 21 | 59 |
| 149. | Manufacturing | 2710 S Compton Avenue | 36,260 sf manufacturing, 50,504 sf warehousing | 346 | 37 | 10 | 47 | 15 | 33 | 48 |
| 150. | 433 S Main Street | 433 S Main Street | 161 condo units, 6,900 sf mixed-use | 1,859 | 62 | 85 | 147 | 66 | 48 | 114 |
| 151. | Arts District Center (Mixed-Use) | 1129 E 5th St, 1101 E. 5th St, 445-457 S Colyton St, 450-456 S Seaton St | 149 hotel rooms, 228 apartments, 27,860 sf office, 28,400 sf restaurant, 23,000 sf retail, 27,700 sf other | 4,286 | 102 | 121 | 223 | 179 | 102 | 281 |
| 152. | 670 Mesquit | 670 Mesquit Street | 944,055 creative office, 308 apartment units, 236 hotel rooms, 136,152 sf commercial | 20,195 | 1,482 | 404 | 1,886 | 677 | 1,568 | 2,245 |
| 153. | 1000 S Mateo Street | 1000 S Mateo Street | 104 live/work units, 121,556 sf commercial | 5,882 | 84 | 86 | 170 | 258 | 257 | 515 |
| 154. | 2117 E Violet Street | 2117 E Violet Street | 509 live/work units, 288,230 sf commercial | 15,692 | 224 | 313 | 537 | 718 | 667 | 1,385 |
| 155. | 234 N Center Street | 234 N Center Street | 430 apartment units, 8,742 sf retail | 3,233 | 49 | 178 | 227 | 189 | 110 | 299 |
| 156. | 405 S Hewitt Street | 405 S Hewitt Street | 14,906 sf retail, 255,514 sf office | 3,454 | 360 | 53 | 413 | 91 | 345 | 436 |
| 157. | 710 S Santa Fe Avenue | 710 S Santa Fe Avenue | Heavy manufacturing to regional center commercial zone change | -- | -- | -- | -- | -- | -- | -- |
| 158. | 940 E 4th Street | 940 E 4th Street | 93 live/work units, 20,248 sf commercial | 1,483 | 21 | 45 | 66 | 74 | 59 | 133 |
| 159. | 2159 E Bay Street | 2159 E Bay Street | 4 condominium units, 222,000 sf office | 2,472 | 304 | 44 | 348 | 57 | 276 | 333 |
| 160. | 333 S Alameda Street | 333 S Alameda Street | 994 live/work units, 99,300 sf commercial | 10,850 | 160 | 442 | 602 | 577 | 407 | 984 |
| 161. | 641 Imperial Street | 641 Imperial Street | 140 live/work units, 14,700 sf office | 1,093 | 34 | 60 | 94 | 61 | 48 | 109 |
| 162. | Tribune (LA Times) South Tower Project | 222 W 2nd Street | 107 condo units, 593,312 sf office, 8,000 sf retail | 4,006 | 467 | 93 | 560 | 118 | 423 | 541 |
| 163. | Southern California Flower Market Project | 755 S Wall Street | 53,200 sf office, 323 apartment units, 8,945 sf commercial | 2,499 | 108 | 82 | 191 | 164 | 141 | 305 |

Notes

[a] Related project information provided by the Los Angeles Department of Transportation and Department of City Planning on December 2016, as well as recent traffic studies prepared in the area.

**TABLE 2
FUTURE WITH PROJECT CONDITIONS (YEAR 2022)
SIGNALIZED INTERSECTION PEAK HOUR LEVELS OF SERVICE**

| No. | Signalized Intersection | Peak Hour | Future without Project Conditions | | Future with Project Conditions | | | | Future with Project with Mitigation Conditions | | | |
|-----|---------------------------------------|-----------|-----------------------------------|-----|--------------------------------|-----|---------------|--------------------|--|-----|---------------|--------------------|
| | | | V/C | LOS | V/C | LOS | Change in V/C | Significant Impact | V/C | LOS | Change in V/C | Significant Impact |
| 1. | Alameda Street & 4th Street | AM | 0.547 | A | 0.557 | A | 0.010 | NO | 0.547 | A | 0.000 | NO |
| | | PM | 0.922 | E | 0.931 | E | 0.009 | NO | 0.920 | E | -0.002 | NO |
| 2. | Central Avenue & 6th Street | AM | 0.618 | B | 0.622 | B | 0.004 | NO | 0.611 | B | -0.007 | NO |
| | | PM | 0.927 | E | 0.935 | E | 0.008 | NO | 0.924 | E | -0.003 | NO |
| 3. | Alameda Street & 6th Street | AM | 0.842 | D | 0.859 | D | 0.017 | NO | 0.847 | D | 0.005 | NO |
| | | PM | 1.144 | F | 1.172 | F | 0.028 | YES | 1.159 | F | 0.015 | YES |
| 4. | Mateo Street & 6th Street | AM | 0.505 | A | 0.512 | A | 0.007 | NO | 0.501 | A | -0.004 | NO |
| | | PM | 0.575 | A | 0.577 | A | 0.002 | NO | 0.567 | A | -0.008 | NO |
| 5. | San Pedro Street & 7th Street | AM | 0.620 | B | 0.626 | B | 0.006 | NO | 0.615 | B | -0.005 | NO |
| | | PM | 0.735 | C | 0.739 | C | 0.004 | NO | 0.728 | C | -0.007 | NO |
| 6. | Central Avenue & 7th Street | AM | 0.884 | D | 0.890 | D | 0.006 | NO | 0.879 | D | -0.005 | NO |
| | | PM | 0.927 | E | 0.944 | E | 0.017 | YES | 0.933 | E | 0.006 | NO |
| 7. | Alameda Street & 7th Street | AM | 0.954 | E | 0.984 | E | 0.030 | YES | 0.971 | E | 0.017 | YES |
| | | PM | 1.096 | F | 1.118 | F | 0.022 | YES | 1.106 | F | 0.010 | YES |
| 8. | Mateo Street & 7th Street | AM | 1.196 | F | 1.222 | F | 0.026 | YES | 1.209 | F | 0.013 | YES |
| | | PM | 1.411 | F | 1.445 | F | 0.034 | YES | 1.433 | F | 0.022 | YES |
| 9. | Santa Fe Avenue & 7th Street | AM | 1.115 | F | 1.128 | F | 0.013 | YES | 1.117 | F | 0.002 | NO |
| | | PM | 1.544 | F | 1.560 | F | 0.016 | YES | 1.549 | F | 0.005 | NO |
| 10. | Anderson Street & 7th Street | AM | 1.063 | F | 1.067 | F | 0.004 | NO | 1.056 | F | -0.007 | NO |
| | | PM | 0.835 | D | 0.839 | D | 0.004 | NO | 0.829 | D | -0.006 | NO |
| 12. | Boyle Avenue & 7th Street | AM | 0.678 | B | 0.680 | B | 0.002 | NO | 0.670 | B | -0.008 | NO |
| | | PM | 0.960 | E | 0.962 | E | 0.002 | NO | 0.954 | E | -0.006 | NO |
| 14. | Santa Fe Avenue & 8th Street | AM | 0.999 | E | 1.002 | F | 0.003 | NO | 0.991 | E | -0.008 | NO |
| | | PM | 1.019 | F | 1.021 | F | 0.002 | NO | 1.011 | F | -0.008 | NO |
| 16. | Santa Fe Avenue & Porter Street | AM | 0.835 | D | 0.838 | D | 0.003 | NO | 0.828 | D | -0.007 | NO |
| | | PM | 1.008 | F | 1.010 | F | 0.002 | NO | 1.000 | E | -0.008 | NO |
| 17. | Central Avenue & Olympic Boulevard | AM | 0.672 | B | 0.675 | B | 0.003 | NO | 0.664 | B | -0.008 | NO |
| | | PM | 0.956 | E | 0.962 | E | 0.006 | NO | 0.953 | E | -0.003 | NO |
| 18. | Alameda Street & Olympic Boulevard | AM | 0.923 | E | 0.940 | E | 0.017 | YES | 0.929 | E | 0.006 | NO |
| | | PM | 0.945 | E | 0.956 | E | 0.011 | YES | 0.944 | E | -0.001 | NO |
| 19. | Santa Fe Avenue & Olympic Boulevard | AM | 0.957 | E | 0.960 | E | 0.003 | NO | 0.949 | E | -0.008 | NO |
| | | PM | 1.048 | F | 1.053 | F | 0.005 | NO | 1.043 | F | -0.005 | NO |
| 20. | Alameda Street & 14th Street | AM | 0.706 | C | 0.712 | C | 0.006 | NO | 0.701 | C | -0.005 | NO |
| | | PM | 0.733 | C | 0.737 | C | 0.004 | NO | 0.727 | C | -0.006 | NO |
| 21. | Alameda Street & I-10 Eastbound Ramps | AM | 0.792 | C | 0.797 | C | 0.005 | NO | 0.787 | C | -0.005 | NO |
| | | PM | 0.865 | D | 0.872 | D | 0.007 | NO | 0.861 | D | -0.004 | NO |

Attachment
Analysis Worksheets

Level of Service Worksheet (Circular 212 Method)



| I/S #: | | North-South Street: Alameda St | | | Year of Count: 2016 | | | Ambient Growth: (%): 1 | | | Conducted by: | | GTC | | Date: August 2017 | | | | |
|--|--------------------|--|--------------|-------------|--|--------------|-------------|--|--------------|--------------|---------------|--|---------------|--------------|--|--|--------------|--------------|-------------|
| 1 | | East-West Street: 4th St | | | Projection Year: 2022 | | | Peak Hour: AM | | | Reviewed by: | | | | Project: 668 S Alameda St Mixed-Use | | | | |
| No. of Phases | | 2 | | | 2 | | | 2 | | | | | 2 | | 2 | | | | |
| Opposed Ø'ing: N/S-1, E/W-2 or Both-3? | | 0 | | | 0 | | | 0 | | | | | 0 | | 0 | | | | |
| Right Turns: FREE-1, NRTOR-2 or OLA-3? | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | NB-- 0 SB-- 0 | | NB-- 0 SB-- 0 | | | | |
| ATSAC-1 or ATSAC+ATCS-2? | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | EB-- 0 WB-- 0 | | EB-- 0 WB-- 0 | | | | |
| Override Capacity | | 2 | | | 2 | | | 2 | | | | | 2 | | 2 | | | | |
| | | 0 | | | 0 | | | 0 | | | | | 0 | | 0 | | | | |
| MOVEMENT | | EXISTING CONDITION | | | EXISTING PLUS PROJECT | | | FUTURE CONDITION W/O PROJECT | | | | FUTURE CONDITION W/ PROJECT | | | | FUTURE W/ PROJECT W/ MITIGATION | | | |
| | | Volume | No. of Lanes | Lane Volume | Project Traffic | Total Volume | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume |
| NORTHBOUND | Left | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Through | 712 | 1 | 380 | 24 | 736 | 397 | 343 | 1099 | 1 | 640 | 24 | 1123 | 1 | 656 | -2 | 1121 | 1 | 655 |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | |
| | Right | 48 | 0 | 48 | 9 | 57 | 57 | 129 | 180 | 0 | 180 | 9 | 189 | 0 | 189 | -1 | 188 | 0 | 188 |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | |
| SOUTHBOUND | Left | 81 | 1 | 81 | 0 | 81 | 81 | 14 | 100 | 1 | 100 | 0 | 100 | 1 | 100 | 0 | 100 | 1 | 100 |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Through | 723 | 2 | 362 | 13 | 736 | 368 | 299 | 1066 | 2 | 533 | 13 | 1079 | 2 | 540 | -2 | 1077 | 2 | 539 |
| | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | |
| EASTBOUND | Left | 70 | 0 | 70 | 0 | 70 | 70 | 30 | 104 | 0 | 104 | 0 | 104 | 0 | 104 | 0 | 104 | 0 | 104 |
| | Left-Through | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | |
| | Through | 244 | 2 | 105 | 0 | 244 | 105 | 190 | 449 | 2 | 184 | 0 | 449 | 2 | 184 | 0 | 449 | 2 | 184 |
| | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Right | 113 | 1 | 113 | 0 | 113 | 113 | 110 | 230 | 1 | 230 | 0 | 230 | 1 | 230 | 0 | 230 | 1 | 230 |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | |
| WESTBOUND | Left | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Through | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | |
| CRITICAL VOLUMES | | North-South: 461
East-West: 113
SUM: 574 | | | North-South: 478
East-West: 113
SUM: 591 | | | North-South: 740
East-West: 230
SUM: 970 | | | | North-South: 756
East-West: 230
SUM: 986 | | | | North-South: 755
East-West: 230
SUM: 985 | | | |
| VOLUME/CAPACITY (V/C) RATIO: | | 0.383 | | | 0.394 | | | 0.647 | | | | 0.657 | | | | 0.657 | | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | 0.283 | | | 0.294 | | | 0.547 | | | | 0.557 | | | | 0.557 | | | |
| LEVEL OF SERVICE (LOS): | | A | | | A | | | A | | | | A | | | | A | | | |

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

| | | | |
|-------------------------------|-------|------------------------|-------|
| Change in v/c due to project: | 0.010 | Δv/c after mitigation: | 0.010 |
| Significant impacted? | NO | Fully mitigated? | N/A |

Level of Service Worksheet (Circular 212 Method)



| I/S #: | | North-South Street: | | Central Ave | | Year of Count: | | 2016 | | Ambient Growth: (%): | | 1 | | Conducted by: | | GTC | | Date: | | August 2017 | | | | | |
|---|--------------------|---|--------------|--|-----------------------|--|-------------|--|--------------|--|-------------|--|--------------|--|-------------|--|--------------|--------------|-------------|---------------------------|--|----------------|--|----------|--|
| | | East-West Street: | | 6th St | | Projection Year: | | 2022 | | Peak Hour: | | AM | | Reviewed by: | | | | Project: | | 68 S Alameda St Mixed-Use | | | | | |
| <div>No. of Phases</div> <div>Opposed Ø'ing: N/S-1, E/W-2 or Both-3?</div> <div>Right Turns: FREE-1, NRTOR-2 or OLA-3?</div> <div>ATSAC-1 or ATSAC+ATCS-2?</div> <div>Override Capacity</div> | | <div>NB-- 0 SB-- 0</div> <div>EB-- 0 WB-- 0</div> | | <div>4</div> <div>0</div> <div>0</div> <div>2</div> <div>0</div> | | <div>4</div> <div>0</div> <div>0</div> <div>2</div> <div>0</div> | | <div>4</div> <div>0</div> <div>0</div> <div>2</div> <div>0</div> | | <div>4</div> <div>0</div> <div>0</div> <div>2</div> <div>0</div> | | <div>4</div> <div>0</div> <div>0</div> <div>2</div> <div>0</div> | | <div>4</div> <div>0</div> <div>0</div> <div>2</div> <div>0</div> | | <div>4</div> <div>0</div> <div>0</div> <div>2</div> <div>0</div> | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| MOVEMENT | | EXISTING CONDITION | | | EXISTING PLUS PROJECT | | | FUTURE CONDITION W/O PROJECT | | | | FUTURE CONDITION W/ PROJECT | | | | FUTURE W/ PROJECT W/ MITIGATION | | | | | | | | | |
| | | Volume | No. of Lanes | Lane Volume | Project Traffic | Total Volume | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | | | | | | |
| NORTHBOUND | Left | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| | Through | 398 | 1 | 237 | 0 | 398 | 237 | 44 | 466 | 1 | 285 | 0 | 466 | 1 | 285 | 0 | 466 | 1 | 285 | | | | | | |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | | | | | |
| | Right | 76 | 0 | 76 | 0 | 76 | 76 | 22 | 103 | 0 | 103 | 0 | 103 | 0 | 103 | 0 | 103 | 0 | 103 | | | | | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | | |
| SOUTHBOUND | Left | 20 | 1 | 20 | 0 | 20 | 20 | 19 | 40 | 1 | 40 | 0 | 40 | 1 | 40 | 0 | 40 | 1 | 40 | | | | | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| | Through | 484 | 2 | 242 | 0 | 484 | 242 | 1 | 515 | 2 | 258 | 0 | 515 | 2 | 258 | 0 | 515 | 2 | 258 | | | | | | |
| | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| | Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | | |
| EASTBOUND | Left | 43 | 1 | 43 | 0 | 43 | 43 | 8 | 54 | 1 | 54 | 0 | 54 | 1 | 54 | 0 | 54 | 1 | 54 | | | | | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| | Through | 301 | 2 | 151 | 11 | 312 | 156 | 184 | 504 | 2 | 252 | 11 | 515 | 2 | 258 | -1 | 514 | 2 | 257 | | | | | | |
| | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| | Right | 110 | 1 | 110 | 0 | 110 | 110 | 93 | 210 | 1 | 210 | 0 | 210 | 1 | 210 | 0 | 210 | 1 | 210 | | | | | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | | |
| WESTBOUND | Left | 300 | 1 | 300 | 0 | 300 | 300 | 92 | 410 | 1 | 410 | 0 | 410 | 1 | 410 | 0 | 410 | 1 | 410 | | | | | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| | Through | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | |
| | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| | Right | 525 | 2 | 279 | 18 | 543 | 289 | 113 | 670 | 2 | 349 | 18 | 688 | 2 | 358 | -2 | 686 | 2 | 357 | | | | | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | | |
| CRITICAL VOLUMES | | North-South: 257 | | East-West: 451 | | SUM: 708 | | North-South: 257 | | East-West: 456 | | SUM: 713 | | North-South: 325 | | East-West: 668 | | SUM: 993 | | North-South: 325 | | East-West: 667 | | SUM: 992 | |
| VOLUME/CAPACITY (V/C) RATIO: | | | | 0.515 | | | | | | 0.519 | | | | 0.718 | | | | | | 0.721 | | | | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | | | 0.415 | | | | | | 0.419 | | | | 0.618 | | | | | | 0.621 | | | | | |
| LEVEL OF SERVICE (LOS): | | | | A | | | | | | A | | | | B | | | | | | B | | | | | |

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

| | | | |
|-------------------------------|-------|------------------------|-------|
| Change in v/c due to project: | 0.004 | Δv/c after mitigation: | 0.003 |
| Significant impacted? | NO | Fully mitigated? | N/A |

Level of Service Worksheet (Circular 212 Method)



| I/S #: | | North-South Street: | | | Alameda St | | | Year of Count: | | 2016 | | Ambient Growth: (%): | | 1 | | Conducted by: | | GTC | | Date: | | August 2017 | |
|---------------------------------|--------------------|--|--------------|-------------|-----------------------|--------------|-------------|------------------------------|--------------|---------------|-------------|-----------------------------|--------------|---------------|-------------|---------------------------------|--------------|---------------|-------------|------------------|--|---------------------------|--|
| 3 | | East-West Street: | | | 6th St | | | Projection Year: | | 2022 | | Peak Hour: | | AM | | Reviewed by: | | | | Project: | | 68 S Alameda St Mixed-Use | |
| | | No. of Phases | | | 3 | | | | | 3 | | | | 3 | | | | 3 | | | | 3 | |
| | | Opposed Ø'ing: N/S-1, E/W-2 or Both-3? | | | 0 | | | | | 0 | | | | 0 | | | | 0 | | | | 0 | |
| | | Right Turns: FREE-1, NRTOR-2 or OLA-3? | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | NB-- 0 SB-- 0 | | NB-- 0 SB-- 0 | | NB-- 0 SB-- 0 | | NB-- 0 SB-- 0 | | NB-- 0 SB-- 0 | | NB-- 0 SB-- 0 | | NB-- 0 SB-- 0 | |
| | | ATSAC-1 or ATSAC+ATCS-2? | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | EB-- 0 WB-- 0 | | EB-- 0 WB-- 0 | | EB-- 0 WB-- 0 | | EB-- 0 WB-- 0 | | EB-- 0 WB-- 0 | | EB-- 0 WB-- 0 | | EB-- 0 WB-- 0 | |
| | | Override Capacity | | | 2 | | | | | 2 | | | | 2 | | | | 2 | | | | 2 | |
| | | | | | 0 | | | | | 0 | | | | 0 | | | | 0 | | | | 0 | |
| MOVEMENT | | EXISTING CONDITION | | | EXISTING PLUS PROJECT | | | FUTURE CONDITION W/O PROJECT | | | | FUTURE CONDITION W/ PROJECT | | | | FUTURE W/ PROJECT W/ MITIGATION | | | | | | | |
| | | Volume | No. of Lanes | Lane Volume | Project Traffic | Total Volume | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | | | | |
| NORTHBOUND | Left | 86 | 1 | 86 | 18 | 104 | 104 | 21 | 112 | 1 | 112 | 18 | 130 | 1 | 130 | -2 | 128 | 1 | 128 | | | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | |
| | Through | 427 | 1 | 240 | 38 | 465 | 263 | 159 | 612 | 1 | 392 | 38 | 650 | 1 | 416 | -4 | 646 | 1 | 413 | | | | |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | | | |
| | Right | 52 | 0 | 52 | 9 | 61 | 61 | 117 | 172 | 0 | 172 | 9 | 181 | 0 | 181 | -1 | 180 | 0 | 180 | | | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | |
| | Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | |
| SOUTHBOUND | Left | 53 | 1 | 53 | 0 | 53 | 53 | 142 | 198 | 1 | 198 | 0 | 198 | 1 | 198 | 0 | 198 | 1 | 198 | | | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | |
| | Through | 699 | 1 | 382 | 13 | 712 | 389 | 300 | 1042 | 1 | 556 | 13 | 1055 | 1 | 562 | -2 | 1053 | 1 | 561 | | | | |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | | | |
| | Right | 65 | 0 | 65 | 0 | 65 | 65 | 0 | 69 | 0 | 69 | 0 | 69 | 0 | 69 | 0 | 69 | 0 | 69 | | | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | |
| | Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | |
| EASTBOUND | Left | 78 | 1 | 78 | 0 | 78 | 78 | 0 | 83 | 1 | 83 | 0 | 83 | 1 | 83 | 0 | 83 | 1 | 83 | | | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | |
| | Through | 202 | 1 | 153 | 0 | 202 | 159 | 107 | 321 | 1 | 217 | 0 | 321 | 1 | 223 | 0 | 321 | 1 | 222 | | | | |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | | | |
| | Right | 104 | 0 | 104 | 11 | 115 | 115 | 3 | 113 | 0 | 113 | 11 | 124 | 0 | 124 | -1 | 123 | 0 | 123 | | | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | |
| | Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | |
| WESTBOUND | Left | 123 | 1 | 123 | 5 | 128 | 128 | 146 | 277 | 1 | 277 | 5 | 282 | 1 | 282 | -1 | 281 | 1 | 281 | | | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | |
| | Through | 687 | 1 | 409 | 0 | 687 | 409 | 188 | 917 | 1 | 592 | 0 | 917 | 1 | 592 | 0 | 917 | 1 | 592 | | | | |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | | | |
| | Right | 130 | 0 | 130 | 0 | 130 | 130 | 128 | 266 | 0 | 266 | 0 | 266 | 0 | 266 | 0 | 266 | 0 | 266 | | | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | |
| | Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | |
| CRITICAL VOLUMES | | North-South: 468 | | | 468 | | | North-South: 493 | | 493 | | North-South: 668 | | 668 | | North-South: 692 | | 692 | | North-South: 689 | | 689 | |
| | | East-West: 487 | | | 487 | | | East-West: 487 | | 487 | | East-West: 675 | | 675 | | East-West: 675 | | 675 | | East-West: 675 | | 675 | |
| | | SUM: 955 | | | 955 | | | SUM: 980 | | 980 | | SUM: 1343 | | 1343 | | SUM: 1367 | | 1367 | | SUM: 1364 | | 1364 | |
| VOLUME/CAPACITY (V/C) RATIO: | | | | | 0.670 | | | | | 0.688 | | | | 0.942 | | | | 0.959 | | | | 0.957 | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | | | | 0.570 | | | | | 0.588 | | | | 0.842 | | | | 0.859 | | | | 0.857 | |
| LEVEL OF SERVICE (LOS): | | | | | A | | | | | A | | | | D | | | | D | | | | D | |

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

| | | | |
|-------------------------------|-------|------------------------|-------|
| Change in v/c due to project: | 0.017 | Δv/c after mitigation: | 0.015 |
| Significant impacted? | NO | Fully mitigated? | N/A |

Level of Service Worksheet (Circular 212 Method)



| I/S #: | | North-South Street: | | | Mateo St | | | Year of Count: | | | 2016 | | Ambient Growth: (%): | | | 1 | | Conducted by: | | GTC | | Date: | | August 2017 | |
|--|--------------------|---------------------|---|-----|--------------------|--------------|-------------|-----------------------|--------------|-------------|------------------------------|--------------|----------------------|---------------|-----------------------------|--------------|---------------|---------------|---------------------------------|---------------|--------------|-------------|-----|---------------------------|--|
| 4 | | East-West Street: | | | 6th St | | | Projection Year: | | | 2022 | | Peak Hour: | | | AM | | Reviewed by: | | | | Project: | | 68 S Alameda St Mixed-Use | |
| No. of Phases | | | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | |
| Opposed Ø'ing: N/S-1, E/W-2 or Both-3? | | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| Right Turns: FREE-1, NRTOR-2 or OLA-3? | | | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | | | |
| ATSAC-1 or ATSAC+ATCS-2? | | | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | | | |
| Override Capacity | | | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | |
| | | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| MOVEMENT | | | | | EXISTING CONDITION | | | EXISTING PLUS PROJECT | | | FUTURE CONDITION W/O PROJECT | | | | FUTURE CONDITION W/ PROJECT | | | | FUTURE W/ PROJECT W/ MITIGATION | | | | | | |
| | | | | | Volume | No. of Lanes | Lane Volume | Project Traffic | Total Volume | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | | | |
| NORTHBOUND | Left | 47 | 0 | 47 | 0 | 47 | 47 | 29 | 79 | 0 | 79 | 0 | 79 | 0 | 79 | 0 | 79 | 0 | 79 | 0 | 79 | 0 | 79 | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | |
| | Through | 67 | 0 | 122 | 0 | 67 | 122 | 4 | 75 | 0 | 162 | 0 | 75 | 0 | 162 | 0 | 75 | 0 | 162 | 0 | 75 | 0 | 162 | | |
| | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | |
| | Right | 8 | 0 | 0 | 0 | 8 | 0 | 0 | 8 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 8 | 0 | 0 | | |
| | Left-Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | | 1 | | | |
| SOUTHBOUND | Left | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | |
| | Left-Through | 11 | 0 | 11 | 0 | 11 | 11 | 15 | 27 | 0 | 27 | 0 | 27 | 0 | 27 | 0 | 27 | 0 | 27 | 0 | 27 | 0 | 27 | | |
| | Through | 129 | 0 | 177 | 3 | 132 | 180 | 6 | 143 | 0 | 226 | 3 | 146 | 0 | 229 | 0 | 146 | 0 | 229 | 0 | 146 | 0 | 229 | | |
| | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | |
| | Right | 37 | 0 | 0 | 0 | 37 | 0 | 17 | 56 | 0 | 0 | 0 | 56 | 0 | 0 | 0 | 56 | 0 | 0 | 0 | 56 | 0 | 0 | | |
| | Left-Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | | 1 | | | |
| EASTBOUND | Left | 54 | 1 | 54 | 5 | 59 | 59 | 11 | 68 | 1 | 68 | 5 | 73 | 1 | 73 | -1 | 72 | 1 | 72 | -1 | 72 | 1 | 72 | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | |
| | Through | 171 | 1 | 136 | 9 | 180 | 141 | 85 | 267 | 1 | 204 | 9 | 276 | 1 | 208 | -1 | 275 | 1 | 208 | -1 | 275 | 1 | 208 | | |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | | 1 | | | |
| | Right | 101 | 0 | 101 | 0 | 101 | 101 | 33 | 140 | 0 | 140 | 0 | 140 | 0 | 140 | 0 | 140 | 0 | 140 | 0 | 140 | 0 | 140 | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | |
| WESTBOUND | Left | 59 | 1 | 59 | 0 | 59 | 59 | 0 | 63 | 1 | 63 | 0 | 63 | 1 | 63 | 0 | 63 | 1 | 63 | 0 | 63 | 1 | 63 | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | |
| | Through | 842 | 1 | 465 | 5 | 847 | 467 | 75 | 969 | 1 | 535 | 5 | 974 | 1 | 537 | -1 | 973 | 1 | 537 | -1 | 973 | 1 | 537 | | |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | | 1 | | | |
| | Right | 87 | 0 | 87 | 0 | 87 | 87 | 8 | 100 | 0 | 100 | 0 | 100 | 0 | 100 | 0 | 100 | 0 | 100 | 0 | 100 | 0 | 100 | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | |
| CRITICAL VOLUMES | | | | | North-South: 224 | | | North-South: 227 | | | North-South: 305 | | | | North-South: 308 | | | | North-South: 308 | | | | | | |
| | | | | | East-West: 519 | | | East-West: 526 | | | East-West: 603 | | | | East-West: 610 | | | | East-West: 609 | | | | | | |
| | | | | | SUM: 743 | | | SUM: 753 | | | SUM: 908 | | | | SUM: 918 | | | | SUM: 917 | | | | | | |
| VOLUME/CAPACITY (V/C) RATIO: | | | | | 0.495 | | | 0.502 | | | 0.605 | | | | 0.612 | | | | 0.611 | | | | | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | | | | 0.395 | | | 0.402 | | | 0.505 | | | | 0.512 | | | | 0.511 | | | | | | |
| LEVEL OF SERVICE (LOS): | | | | | A | | | A | | | A | | | | A | | | | A | | | | | | |

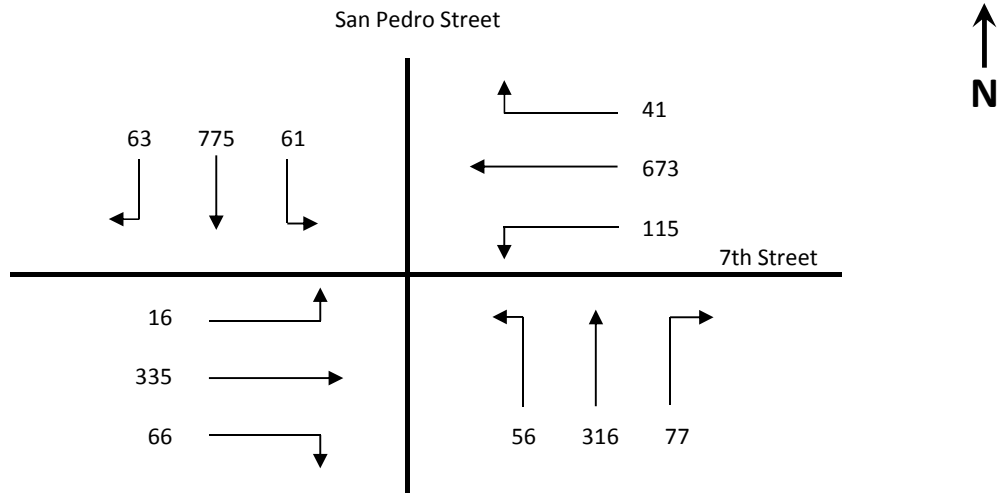
REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

| | | | |
|-------------------------------|-------|------------------------|-------|
| Change in v/c due to project: | 0.007 | Δv/c after mitigation: | 0.006 |
| Significant impacted? | NO | Fully mitigated? | N/A |

Intersection 5 - San Pedro Street & 7th Street
Existing Conditions (Year 2016) - AM Peak Hour



1) Critical volume calculation for eastbound/westbound traffic on 7th Street

Eastbound Left : 16 and

Westbound Left + Throughs + Right:

$$\frac{115 + 673 + 41}{2} = \frac{829}{2} = 415 \quad \text{or}$$

Westbound Left: 115 and

Eastbound Left + Throughs + Right:

$$\frac{16 + 335 + 66}{2} = \frac{417}{2} = 209$$

Critical Volume #1 (CV1): **431**

2) Critical volume calculation for northbound/southbound traffic on San Pedro Street

Northbound Left : 56 and

Southbound Throughs + Right:

$$\frac{775 + 63}{2} = \frac{838}{2} = 419 \quad \text{or}$$

Southbound Left: 61 and

Northbound Throughs + Right:

$$\frac{316 + 77}{2} = \frac{393}{2} = 197$$

Critical Volume #1 (CV1): **475**

$$\text{Critical Volume: } 431 + 475 = 906$$

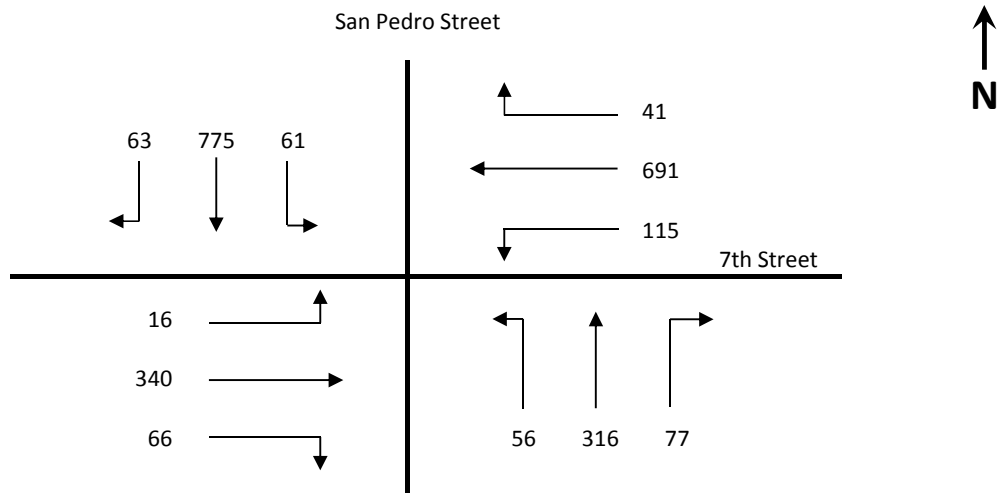
$$\text{Intersection V/C: } \frac{906}{1500} = 0.604$$

ATSAC/ATCS Credit: 0.10

Final intersection V/C: 0.504

Intersection LOS: A

Intersection 5 - San Pedro Street & 7th Street
Existing with Project Conditions (Year 2016) - AM Peak Hour



1) Critical volume calculation for eastbound/westbound traffic on 7th Street

Eastbound Left : 16 and

Westbound Left + Throughs + Right:

$$\frac{115 + 691 + 41}{2} = \frac{847}{2} = 424 \quad \text{or}$$

Westbound Left: 115 and

Eastbound Left + Throughs + Right:

$$\frac{16 + 340 + 66}{2} = \frac{422}{2} = 211$$

Critical Volume #1 (CV1): **440**

2) Critical volume calculation for northbound/southbound traffic on San Pedro Street

Northbound Left : 56 and

Southbound Throughs + Right:

$$\frac{775 + 63}{2} = \frac{838}{2} = 419 \quad \text{or}$$

Southbound Left: 61 and

Northbound Throughs + Right:

$$\frac{316 + 77}{2} = \frac{393}{2} = 197$$

Critical Volume #1 (CV1): **475**

$$\text{Critical Volume: } 440 + 475 = 915$$

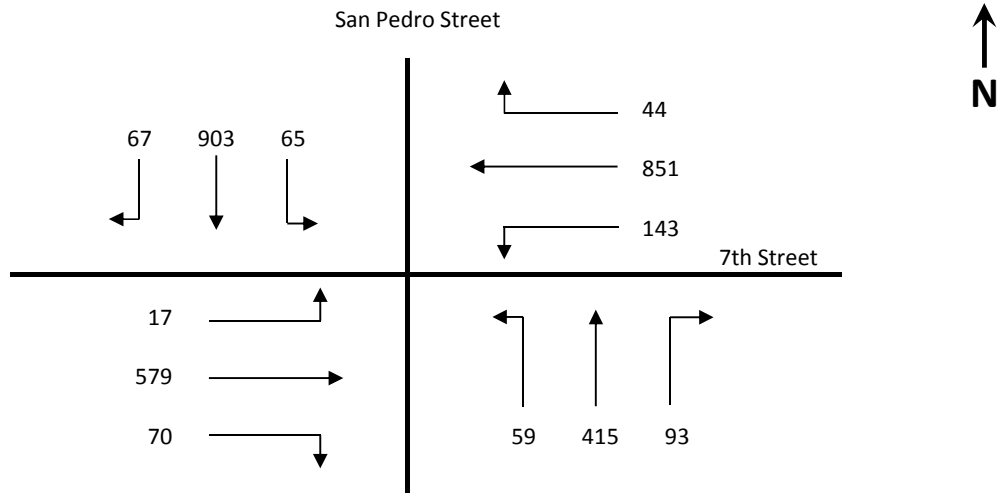
$$\text{Intersection V/C: } \frac{915}{1500} = 0.61$$

ATSAC/ATCS Credit: 0.10

Final intersection V/C: 0.510

Intersection LOS: A

Intersection 5 - San Pedro Street & 7th Street
Future without Project Conditions (Year 2022) - AM Peak Hour



1) Critical volume calculation for eastbound/westbound traffic on 7th Street

Eastbound Left : 17 and

Westbound Left + Throughs + Right:

$$\frac{143 + 851 + 44}{2} = \frac{1,038}{2} = 519 \quad \text{or}$$

Westbound Left: 143 and

Eastbound Left + Throughs + Right:

$$\frac{17 + 579 + 70}{2} = \frac{666}{2} = 333$$

Critical Volume #1 (CV1): **536**

2) Critical volume calculation for northbound/southbound traffic on San Pedro Street

Northbound Left : 59 and

Southbound Throughs + Right:

$$\frac{903 + 67}{2} = \frac{970}{2} = 485 \quad \text{or}$$

Southbound Left: 65 and

Northbound Throughs + Right:

$$\frac{415 + 93}{2} = \frac{508}{2} = 254$$

Critical Volume #1 (CV1): **544**

$$\text{Critical Volume: } 536 + 544 = \mathbf{1080}$$

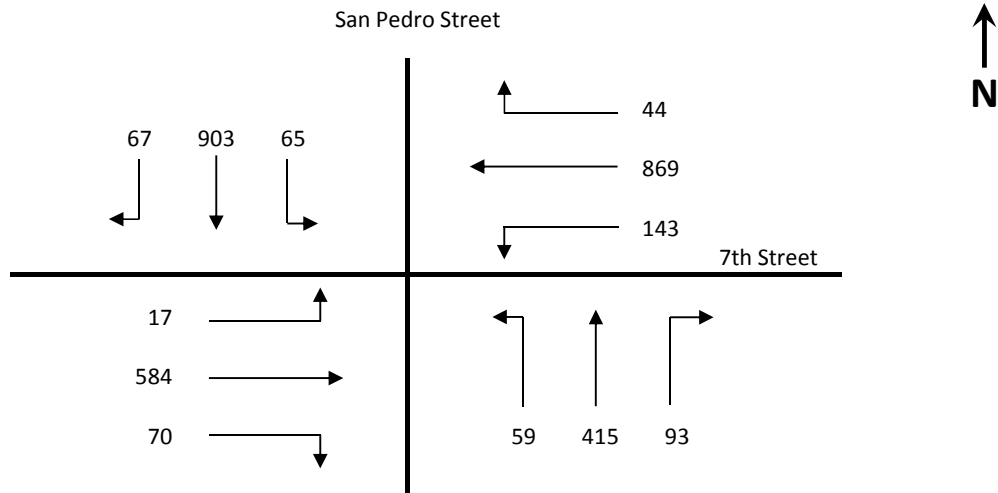
$$\text{Intersection V/C: } \frac{1080}{1500} = \mathbf{0.72}$$

ATSAC/ATCS Credit: 0.10

Final intersection V/C: 0.620

Intersection LOS: B

**Intersection 5 - San Pedro Street & 7th Street
Future with Project Conditions (Year 2022) - AM Peak Hour**



1) Critical volume calculation for eastbound/westbound traffic on 7th Street

Eastbound Left : 17 and

Westbound Left + Throughs + Right:

$$\frac{143 + 869 + 44}{2} = \frac{1,056}{2} = 528 \quad \text{or}$$

Westbound Left: 143 and

Eastbound Left + Throughs + Right:

$$\frac{17 + 584 + 70}{2} = \frac{671}{2} = 336$$

Critical Volume #1 (CV1): **545**

2) Critical volume calculation for northbound/southbound traffic on San Pedro Street

Northbound Left : 59 and

Southbound Throughs + Right:

$$\frac{903 + 67}{2} = \frac{970}{2} = 485 \quad \text{or}$$

Southbound Left: 65 and

Northbound Throughs + Right:

$$\frac{415 + 93}{2} = \frac{508}{2} = 254$$

Critical Volume #1 (CV1): **544**

$$\text{Critical Volume: } 545 + 544 = 1089$$

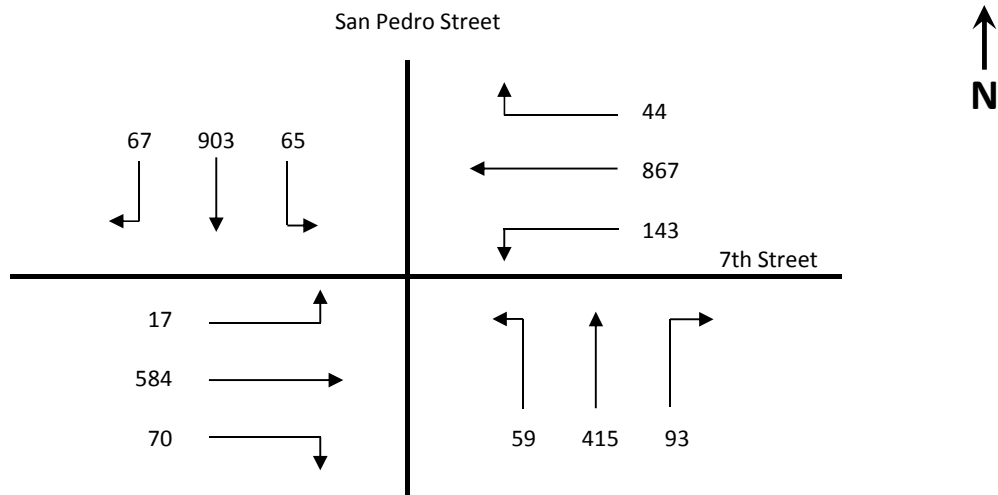
$$\text{Intersection V/C: } \frac{1089}{1500} = 0.726$$

ATSAC/ATCS Credit: 0.10

Final intersection V/C: 0.626

Intersection LOS: B

Intersection 5 - San Pedro Street & 7th Street
Future with Project with Mitigation Conditions (Year 2022) - AM Peak Hour



1) Critical volume calculation for eastbound/westbound traffic on 7th Street

Eastbound Left : 17 and

Westbound Left + Throughs + Right:

$$\frac{143 + 867 + 44}{2} = \frac{1,054}{2} = 527 \quad \text{or}$$

Westbound Left: 143 and

Eastbound Left + Throughs + Right:

$$\frac{17 + 584 + 70}{2} = \frac{671}{2} = 336$$

Critical Volume #1 (CV1): **544**

2) Critical volume calculation for northbound/southbound traffic on San Pedro Street

Northbound Left : 59 and

Southbound Throughs + Right:

$$\frac{903 + 67}{2} = \frac{970}{2} = 485 \quad \text{or}$$

Southbound Left: 65 and

Northbound Throughs + Right:

$$\frac{415 + 93}{2} = \frac{508}{2} = 254$$

Critical Volume #1 (CV1): **544**

$$\text{Critical Volume: } 544 + 544 = \mathbf{1088}$$

$$\text{Intersection V/C: } \frac{1088}{1500} = \mathbf{0.725}$$

ATSAC/ATCS Credit: 0.10

Final intersection V/C: 0.625

Intersection LOS: B

Level of Service Worksheet (Circular 212 Method)



| I/S #: | | North-South Street: Central Ave | | | Year of Count: 2016 | | Ambient Growth: (%): | | 1 | Conducted by: | | GTC | | Date: | August 2017 | | | | |
|---|--------------------|--|--------------|-------------|--|--------------|----------------------|---|---------------|---------------|-------------|---|--------------|--------------|----------------------------|---|--------------|--------------|-------------|
| 6 | | East-West Street: 7th St | | | Projection Year: 2022 | | Peak Hour: | | AM | Reviewed by: | | | | Project: | 668 S Alameda St Mixed-Use | | | | |
| <div>No. of Phases</div> <div>Opposed Ø'ing: N/S-1, E/W-2 or Both-3?</div> <div>Right Turns: FREE-1, NRTOR-2 or OLA-3?</div> <div>ATSAC-1 or ATSAC+ATCS-2?</div> <div>Override Capacity</div> | | | | | 2 | | | | 2 | | | | 2 | | | | 2 | | |
| | | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | |
| | | NB-- 0 SB-- 0 | | | 0 | | 0 | | NB-- 0 SB-- 0 | | 0 | | 0 | | NB-- 0 SB-- 0 | | 0 | | |
| | | EB-- 0 WB-- 0 | | | 0 | | 0 | | EB-- 0 WB-- 0 | | 0 | | 0 | | EB-- 0 WB-- 0 | | 0 | | |
| | | | | | 2 | | | | 2 | | | | 2 | | | | 2 | | |
| | | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | |
| MOVEMENT | | EXISTING CONDITION | | | EXISTING PLUS PROJECT | | | FUTURE CONDITION W/O PROJECT | | | | FUTURE CONDITION W/ PROJECT | | | | FUTURE W/ PROJECT W/ MITIGATION | | | |
| | | Volume | No. of Lanes | Lane Volume | Project Traffic | Total Volume | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume |
| NORTHBOUND | Left | 65 | 1 | 65 | 0 | 65 | 65 | 0 | 69 | 1 | 69 | 0 | 69 | 1 | 69 | 0 | 69 | 1 | 69 |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Through | 421 | 1 | 279 | 0 | 421 | 281 | 64 | 511 | 1 | 331 | 0 | 511 | 1 | 334 | 0 | 511 | 1 | 333 |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | |
| | Right | 136 | 0 | 136 | 5 | 141 | 141 | 7 | 151 | 0 | 151 | 5 | 156 | 0 | 156 | -1 | 155 | 0 | 155 |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | |
| SOUTHBOUND | Left | 34 | 0 | 34 | 0 | 34 | 34 | 93 | 129 | 0 | 129 | 0 | 129 | 0 | 129 | 0 | 129 | 0 | 129 |
| | Left-Through | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | |
| | Through | 701 | 0 | 457 | 0 | 701 | 457 | 84 | 828 | 0 | 753 | 0 | 828 | 0 | 753 | 0 | 828 | 0 | 753 |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | |
| | Right | 144 | 0 | 457 | 0 | 144 | 457 | 8 | 161 | 0 | 753 | 0 | 161 | 0 | 753 | 0 | 161 | 0 | 753 |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | |
| EASTBOUND | Left | 53 | 1 | 53 | 0 | 53 | 53 | 0 | 56 | 1 | 56 | 0 | 56 | 1 | 56 | 0 | 56 | 1 | 56 |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Through | 301 | 1 | 178 | 5 | 306 | 180 | 291 | 611 | 1 | 334 | 5 | 616 | 1 | 337 | -1 | 615 | 1 | 336 |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | |
| | Right | 54 | 0 | 54 | 0 | 54 | 54 | 0 | 57 | 0 | 57 | 0 | 57 | 0 | 57 | 0 | 57 | 0 | 57 |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | |
| WESTBOUND | Left | 175 | 1 | 175 | 27 | 202 | 202 | 19 | 205 | 1 | 205 | 27 | 232 | 1 | 232 | -3 | 229 | 1 | 229 |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Through | 725 | 1 | 405 | 18 | 743 | 414 | 333 | 1103 | 1 | 598 | 18 | 1121 | 1 | 607 | -2 | 1119 | 1 | 606 |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | |
| | Right | 85 | 0 | 85 | 0 | 85 | 85 | 2 | 92 | 0 | 92 | 0 | 92 | 0 | 92 | 0 | 92 | 0 | 92 |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | |
| CRITICAL VOLUMES | | North-South: 522
East-West: 458
SUM: 980 | | | North-South: 522
East-West: 467
SUM: 989 | | | North-South: 822
East-West: 654
SUM: 1476 | | | | North-South: 822
East-West: 663
SUM: 1485 | | | | North-South: 822
East-West: 662
SUM: 1484 | | | |
| VOLUME/CAPACITY (V/C) RATIO: | | 0.653 | | | 0.659 | | | 0.984 | | | | 0.990 | | | | 0.989 | | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | 0.553 | | | 0.559 | | | 0.884 | | | | 0.890 | | | | 0.889 | | | |
| LEVEL OF SERVICE (LOS): | | A | | | A | | | D | | | | D | | | | D | | | |

Level of Service Worksheet (Circular 212 Method)



| I/S #: | | North-South Street: | | | Alameda St | | | Year of Count: | | | 2016 | | Ambient Growth: (%) | | | 1 | | Conducted by: | | GTC | | Date: | | August 2017 | |
|--|--------------------|---------------------|---|-----|--------------------|--------------|-------------|-----------------------|--------------|-------------|------------------------------|--------------|---------------------|------------------|-----------------------------|--------------|------------------|---------------|---------------------------------|--------------|--------------|-------------|-----|----------------------------|--|
| 7 | | East-West Street: | | | 7th St | | | Projection Year: | | | 2022 | | Peak Hour: | | | AM | | Reviewed by: | | | | Project: | | 668 S Alameda St Mixed-Use | |
| No. of Phases | | | | | | | | | | | 3 | | | | | 3 | | | | | 3 | | | | |
| Opposed Ø'ing: N/S-1, E/W-2 or Both-3? | | | | | | | | | | | 0 | | | | | 0 | | | | | 0 | | | | |
| Right Turns: FREE-1, NRTOR-2 or OLA-3? | | | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | 0 | | NB-- 0 SB-- 0 | | | 0 | | NB-- 0 SB-- 0 | | | 0 | | 0 | | |
| ATSAC-1 or ATSAC+ATCS-2? | | | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | 0 | | EB-- 0 WB-- 0 | | | 0 | | EB-- 0 WB-- 0 | | | 0 | | 0 | | |
| Override Capacity | | | | | 2 | | | 2 | | | 2 | | 2 | | | 2 | | 2 | | | 2 | | 2 | | |
| | | | | | 0 | | | 0 | | | 0 | | 0 | | | 0 | | 0 | | | 0 | | 0 | | |
| MOVEMENT | | | | | EXISTING CONDITION | | | EXISTING PLUS PROJECT | | | FUTURE CONDITION W/O PROJECT | | | | FUTURE CONDITION W/ PROJECT | | | | FUTURE W/ PROJECT W/ MITIGATION | | | | | | |
| | | | | | Volume | No. of Lanes | Lane Volume | Project Traffic | Total Volume | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | | | |
| NORTHBOUND | Left | 108 | 1 | 108 | 0 | 108 | 108 | 0 | 115 | 1 | 115 | 0 | 115 | 1 | 115 | 0 | 115 | 1 | 115 | 0 | 115 | 1 | 115 | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | 0 | | | | |
| | Through | 615 | 1 | 354 | 28 | 643 | 368 | 154 | 807 | 1 | 506 | 28 | 835 | 1 | 520 | -4 | 831 | 1 | 518 | | | 518 | | | |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | | | | | |
| | Right | 92 | 0 | 92 | 0 | 92 | 92 | 106 | 204 | 0 | 204 | 0 | 204 | 0 | 204 | 0 | 204 | 0 | 204 | 0 | 204 | 0 | 204 | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | |
| Left-Right | | 0 | | | | | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | |
| SOUTHBOUND | Left | 125 | 1 | 125 | 0 | 125 | 125 | 82 | 215 | 1 | 215 | 0 | 215 | 1 | 215 | 0 | 215 | 1 | 215 | 0 | 215 | 1 | 215 | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | 0 | | | | |
| | Through | 862 | 1 | 514 | 18 | 880 | 527 | 167 | 1082 | 1 | 686 | 18 | 1100 | 1 | 700 | -2 | 1098 | 1 | 698 | | | 698 | | | |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | | | | | |
| | Right | 165 | 0 | 165 | 9 | 174 | 174 | 115 | 290 | 0 | 290 | 9 | 299 | 0 | 299 | -1 | 298 | 0 | 298 | 0 | 298 | 0 | 298 | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | |
| Left-Right | | 0 | | | | | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | |
| EASTBOUND | Left | 57 | 1 | 57 | 11 | 68 | 68 | 54 | 115 | 1 | 115 | 11 | 126 | 1 | 126 | -1 | 125 | 1 | 125 | | | 125 | | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| | Through | 306 | 1 | 194 | 0 | 306 | 194 | 336 | 661 | 1 | 374 | 0 | 661 | 1 | 374 | 0 | 661 | 1 | 374 | | | 374 | | | |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | | | | | |
| | Right | 81 | 0 | 81 | 0 | 81 | 81 | 0 | 86 | 0 | 86 | 0 | 86 | 0 | 86 | 0 | 86 | 0 | 86 | 0 | 86 | 0 | 86 | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | |
| Left-Right | | 0 | | | | | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | |
| WESTBOUND | Left | 117 | 1 | 117 | 5 | 122 | 122 | 79 | 203 | 1 | 203 | 5 | 208 | 1 | 208 | -1 | 207 | 1 | 207 | | | 207 | | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| | Through | 655 | 1 | 376 | 36 | 691 | 394 | 239 | 934 | 1 | 586 | 36 | 970 | 1 | 604 | -4 | 966 | 1 | 602 | | | 602 | | | |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | | | | | |
| | Right | 97 | 0 | 97 | 0 | 97 | 97 | 134 | 237 | 0 | 237 | 0 | 237 | 0 | 237 | 0 | 237 | 0 | 237 | 0 | 237 | 0 | 237 | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | |
| Left-Right | | 0 | | | | | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | |
| CRITICAL VOLUMES | | | | | North-South: 622 | | | North-South: 635 | | | North-South: 801 | | | North-South: 815 | | | North-South: 813 | | | | | | | | |
| | | | | | East-West: 433 | | | East-West: 462 | | | East-West: 701 | | | East-West: 730 | | | East-West: 727 | | | | | | | | |
| | | | | | SUM: 1055 | | | SUM: 1097 | | | SUM: 1502 | | | SUM: 1545 | | | SUM: 1540 | | | | | | | | |
| VOLUME/CAPACITY (V/C) RATIO: | | | | | 0.740 | | | 0.770 | | | 1.054 | | | 1.084 | | | 1.081 | | | | | | | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | | | | 0.640 | | | 0.670 | | | 0.954 | | | 0.984 | | | 0.981 | | | | | | | | |
| LEVEL OF SERVICE (LOS): | | | | | B | | | B | | | E | | | E | | | E | | | | | | | | |

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

| | | | |
|-------------------------------|-------|------------------------|-------|
| Change in v/c due to project: | 0.030 | Δv/c after mitigation: | 0.027 |
| Significant impacted? | YES | Fully mitigated? | NO |

Level of Service Worksheet (Circular 212 Method)



| I/S #: | | North-South Street: | | | Mateo St | | | Year of Count: | | | 2016 | | Ambient Growth: (%): | | | 1 | | Conducted by: | | GTC | | Date: | | August 2017 | |
|--|--------------------|---------------------|---|-----|--|--------------|-------------|--|--------------|-------------|--|--------------|----------------------|--|-----------------------------|--------------|--|---------------|---------------------------------|---------------|--------------|-------------|-----|---------------------------|--|
| 8 | | East-West Street: | | | 7th St | | | Projection Year: | | | 2022 | | Peak Hour: | | | AM | | Reviewed by: | | | | Project: | | 68 S Alameda St Mixed-Use | |
| No. of Phases | | | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | |
| Opposed Ø'ing: N/S-1, E/W-2 or Both-3? | | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| Right Turns: FREE-1, NRTOR-2 or OLA-3? | | | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | 0 | | |
| ATSAC-1 or ATSAC+ATCS-2? | | | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | 0 | | |
| Override Capacity | | | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | |
| | | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| MOVEMENT | | | | | EXISTING CONDITION | | | EXISTING PLUS PROJECT | | | FUTURE CONDITION W/O PROJECT | | | | FUTURE CONDITION W/ PROJECT | | | | FUTURE W/ PROJECT W/ MITIGATION | | | | | | |
| | | | | | Volume | No. of Lanes | Lane Volume | Project Traffic | Total Volume | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | | | |
| NORTHBOUND | Left | 69 | 0 | 69 | 0 | 69 | 69 | 573 | 646 | 0 | 646 | 0 | 646 | 0 | 646 | 0 | 646 | 0 | 646 | 0 | 646 | 0 | 646 | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | 0 | | | | |
| | Through | 84 | 0 | 186 | 18 | 102 | 204 | 10 | 99 | 0 | 1210 | 18 | 117 | 0 | 1228 | -2 | 115 | 0 | 1226 | | | | | | |
| | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | 0 | | | | |
| | Right | 33 | 0 | 0 | 0 | 33 | 0 | 430 | 465 | 0 | 0 | 0 | 465 | 0 | 0 | 0 | 465 | 0 | 0 | 0 | 465 | 0 | 0 | | |
| | Left-Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | 1 | | | | |
| | Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | 0 | | | | |
| SOUTHBOUND | Left | 41 | 0 | 41 | 0 | 41 | 41 | 33 | 77 | 0 | 77 | 0 | 77 | 0 | 77 | 0 | 77 | 0 | 77 | 0 | 77 | 0 | 77 | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | 0 | | | | |
| | Through | 165 | 0 | 256 | 0 | 165 | 256 | 5 | 180 | 0 | 310 | 0 | 180 | 0 | 310 | 0 | 180 | 0 | 310 | 0 | 180 | 0 | 310 | | |
| | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | 0 | | | | |
| | Right | 50 | 0 | 0 | 0 | 50 | 0 | 0 | 53 | 0 | 0 | 0 | 53 | 0 | 0 | 0 | 53 | 0 | 0 | 0 | 53 | 0 | 0 | | |
| | Left-Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | 1 | | | | |
| | Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | 0 | | | | |
| EASTBOUND | Left | 33 | 1 | 33 | 0 | 33 | 33 | 0 | 35 | 1 | 35 | 0 | 35 | 1 | 35 | 0 | 35 | 1 | 35 | 0 | 35 | 1 | 35 | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | 0 | | | | |
| | Through | 301 | 1 | 170 | 27 | 328 | 191 | 276 | 596 | 1 | 359 | 27 | 623 | 1 | 380 | -3 | 620 | 1 | 378 | | | | | | |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | 1 | | | | |
| | Right | 38 | 0 | 38 | 15 | 53 | 53 | 82 | 122 | 0 | 122 | 15 | 137 | 0 | 137 | -2 | 135 | 0 | 135 | 0 | 135 | 0 | 135 | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | 0 | | | | |
| | Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | 0 | | | | |
| WESTBOUND | Left | 113 | 1 | 113 | 0 | 113 | 113 | 178 | 298 | 1 | 298 | 0 | 298 | 1 | 298 | 0 | 298 | 1 | 298 | 0 | 298 | 1 | 298 | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | 0 | | | | |
| | Through | 523 | 1 | 281 | 18 | 541 | 290 | 248 | 803 | 1 | 436 | 18 | 821 | 1 | 445 | -2 | 819 | 1 | 444 | | | | | | |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | 1 | | | | |
| | Right | 39 | 0 | 39 | 0 | 39 | 39 | 27 | 68 | 0 | 68 | 0 | 68 | 0 | 68 | 0 | 68 | 0 | 68 | 0 | 68 | 0 | 68 | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | 0 | | | | |
| | Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | 0 | | | | |
| CRITICAL VOLUMES | | | | | North-South: 325
East-West: 314
SUM: 639 | | | North-South: 325
East-West: 323
SUM: 648 | | | North-South: 1287
East-West: 657
SUM: 1944 | | | North-South: 1305
East-West: 678
SUM: 1983 | | | North-South: 1303
East-West: 676
SUM: 1979 | | | | | | | | |
| VOLUME/CAPACITY (V/C) RATIO: | | | | | 0.426 | | | 0.432 | | | 1.296 | | | 1.322 | | | 1.319 | | | | | | | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | | | | 0.326 | | | 0.332 | | | 1.196 | | | 1.222 | | | 1.219 | | | | | | | | |
| LEVEL OF SERVICE (LOS): | | | | | A | | | A | | | F | | | F | | | F | | | | | | | | |

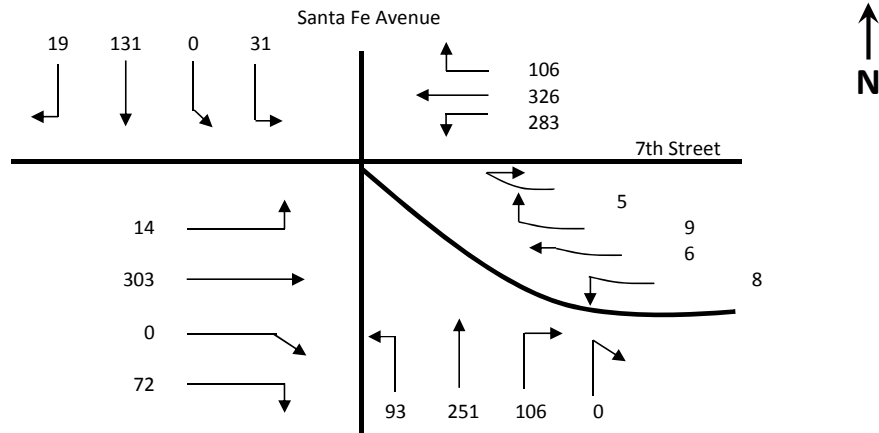
REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

| | | | |
|-------------------------------|-------|------------------------|-------|
| Change in v/c due to project: | 0.026 | Δv/c after mitigation: | 0.023 |
| Significant impacted? | YES | Fully mitigated? | NO |

**Intersection 9 - Santa Fe Avenue & 7th Street
Existing Conditions (Year 2016) - AM Peak Hour**



- 1) Critical volume calculation for eastbound/westbound traffic on 7th Street

Eastbound Left : 14 and

Westbound Throughs + Right:

$$\frac{326 + 106}{2} = \frac{432}{2} = 216$$
or

Westbound Left: 283 and

Eastbound Throughs + Right to 7th Street and Frontage Road:

$$\frac{303 + 0 + 72}{2} = \frac{375}{2} = 188$$

Critical Volume #1 (CV1): **471**

- 2) Critical volume calculation for northeastbound traffic on Frontage Road

Northeastbound Lefts + Throughs + Rights + Sharp Right:

$$5 + 9 + 6 + 8 = 28$$

Critical Volume #2 (CV2): **28**

- 3) Critical volume calculation for northbound/southbound traffic on Santa Fe Avenue

Southbound Left to 7th Street and Frontage Road:

$$31 + 0 = 31$$
and

Northbound Through: 251 *or*

Northbound Right to 7th Street and Frontage Road: or

$$106 + 0 - 283 = -177$$

Northbound Left: 93 and

Southbound Left + Left to Frontage Road + Through + Right:

$$19 + 131 + 0 + 31 = 181$$

Critical Volume #3 (CV3): **282**

Critical Volume: 471 + 28 + 282 = **781**

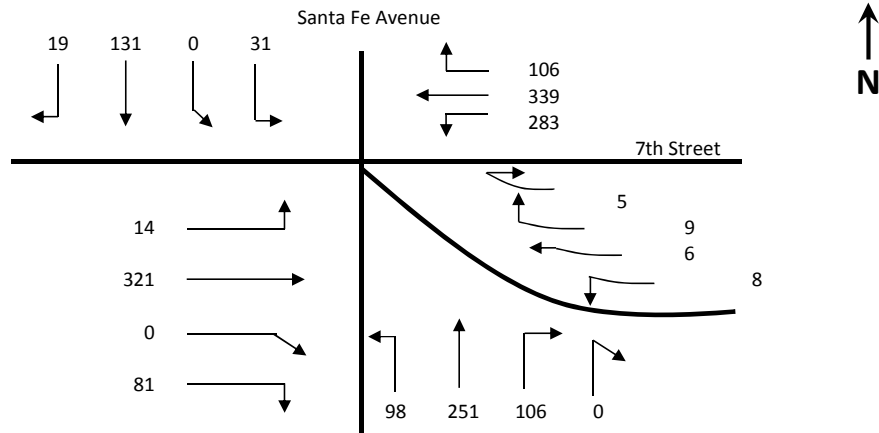
Intersection V/C:
$$\frac{781}{1375} = 0.568$$

ATSAC/ATCS Credit: 0.10

Final intersection V/C: 0.468

Intersection LOS: A

Intersection 9 - Santa Fe Avenue & 7th Street
Existing with Project Conditions (Year 2016) - AM Peak Hour



- 1) Critical volume calculation for eastbound/westbound traffic on 7th Street

Eastbound Left : 14 and

Westbound Throughs + Right:

$$\frac{339 + 106}{2} = \frac{445}{2} = 223$$
 or

Westbound Left: 283 and

Eastbound Throughs + Right to 7th Street and Frontage Road:

$$\frac{321 + 0 + 81}{2} = \frac{402}{2} = 201$$

Critical Volume #1 (CV1): **484**

- 2) Critical volume calculation for northeastbound traffic on Frontage Road

Northeastbound Lefts + Throughs + Rights + Sharp Right:

$$5 + 9 + 6 + 8 = 28$$

Critical Volume #2 (CV2): **28**

- 3) Critical volume calculation for northbound/southbound traffic on Santa Fe Avenue

Southbound Left to 7th Street and Frontage Road:

$$31 + 0 = 31$$
 and

Northbound Through: 251 *or*

Northbound Right to 7th Street and Frontage Road: or

$$106 + 0 - 283 = -177$$

Northbound Left: 98 and

Southbound Left + Left to Frontage Road + Through + Right:

$$19 + 131 + 0 + 31 = 181$$

Critical Volume #3 (CV3): **282**

Critical Volume: 484 + 28 + 282 = **794**

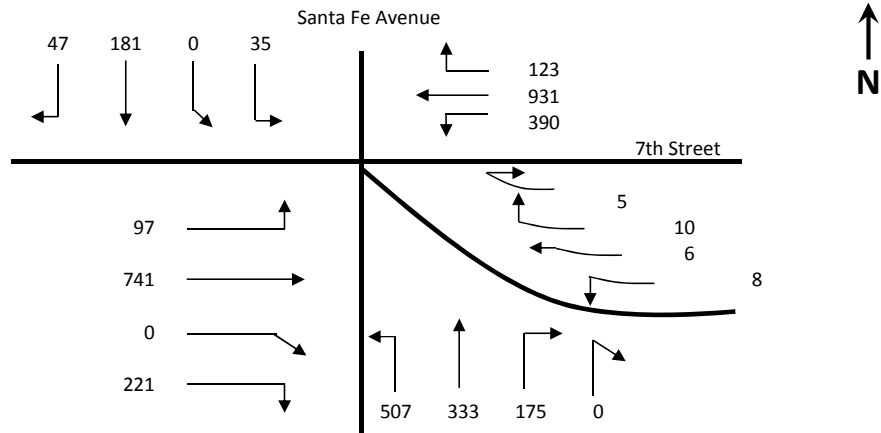
Intersection V/C:
$$\frac{794}{1375} = \mathbf{0.577}$$

ATSAC/ATCS Credit: 0.10

Final intersection V/C: 0.477

Intersection LOS: A

Intersection 9 - Santa Fe Avenue & 7th Street
Future without Project Conditions (Year 2022) - AM Peak Hour



- 1) Critical volume calculation for eastbound/westbound traffic on 7th Street

Eastbound Left : 97 and

Westbound Throughs + Right:

$$\frac{931 + 123}{2} = \frac{1054}{2} = 527$$
 or

Westbound Left: 390 and

Eastbound Throughs + Right to 7th Street and Frontage Road:

$$\frac{741 + 0 + 221}{2} = \frac{962}{2} = 481$$

Critical Volume #1 (CV1): **871**

- 2) Critical volume calculation for northeastbound traffic on Frontage Road

Northeastbound Lefts + Throughs + Rights + Sharp Right:

$$5 + 10 + 6 + 8 = 29$$

Critical Volume #2 (CV2): **29**

- 3) Critical volume calculation for northbound/southbound traffic on Santa Fe Avenue

Southbound Left to 7th Street and Frontage Road:

$$35 + 0 = 35$$
 and

Northbound Through: 333 or

Northbound Right to 7th Street and Frontage Road: or

$$175 + 0 - 390 = -215$$

Northbound Left: 507 and

Southbound Left + Left to Frontage Road + Through + Right:

$$47 + 181 + 0 + 35 = 263$$

Critical Volume #3 (CV3): **770**

Critical Volume: 871 + 29 + 770 = **1670**

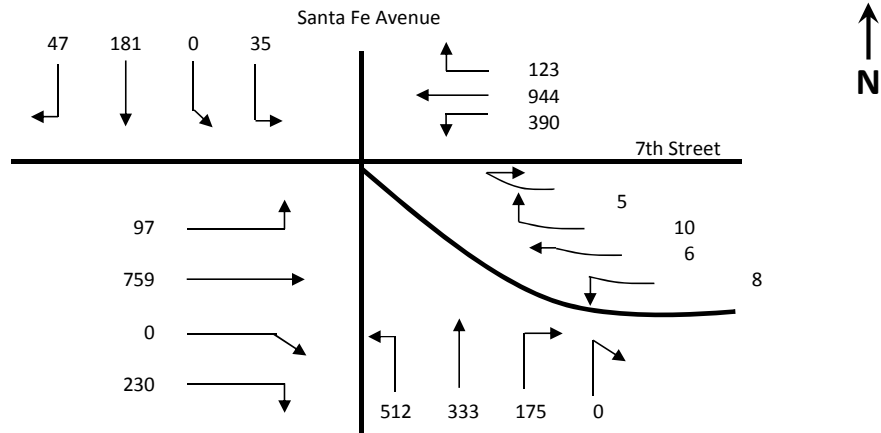
Intersection V/C:
$$\frac{1670}{1375} = \mathbf{1.215}$$

ATSAC/ATCS Credit: 0.10

Final intersection V/C: 1.115

Intersection LOS: F

Intersection 9 - Santa Fe Avenue & 7th Street
Future with Project Conditions (Year 2022) - AM Peak Hour



- 1) Critical volume calculation for eastbound/westbound traffic on 7th Street

Eastbound Left : 97 and

Westbound Throughs + Right:

$$\frac{944}{2} + \frac{123}{2} = \frac{1067}{2} = 534$$
 or

Westbound Left: 390 and

Eastbound Throughs + Right to 7th Street and Frontage Road:

$$\frac{759}{2} + \frac{0}{2} + \frac{230}{2} = \frac{989}{2} = 495$$

Critical Volume #1 (CV1): **885**

- 2) Critical volume calculation for northeastbound traffic on Frontage Road

Northeastbound Lefts + Throughs + Rights + Sharp Right:

$$5 + 10 + 6 + 8 = 29$$

Critical Volume #2 (CV2): **29**

- 3) Critical volume calculation for northbound/southbound traffic on Santa Fe Avenue

Southbound Left to 7th Street and Frontage Road:

$$35 + 0 = 35$$
 and

Northbound Through: 333 or

Northbound Right to 7th Street and Frontage Road:

$$175 + 0 - 390 = -215$$
 or

Northbound Left: 512 and

Southbound Left + Left to Frontage Road + Through + Right:

$$47 + 181 + 0 + 35 = 263$$

Critical Volume #3 (CV3): **775**

Critical Volume: 885 + 29 + 775 = **1689**

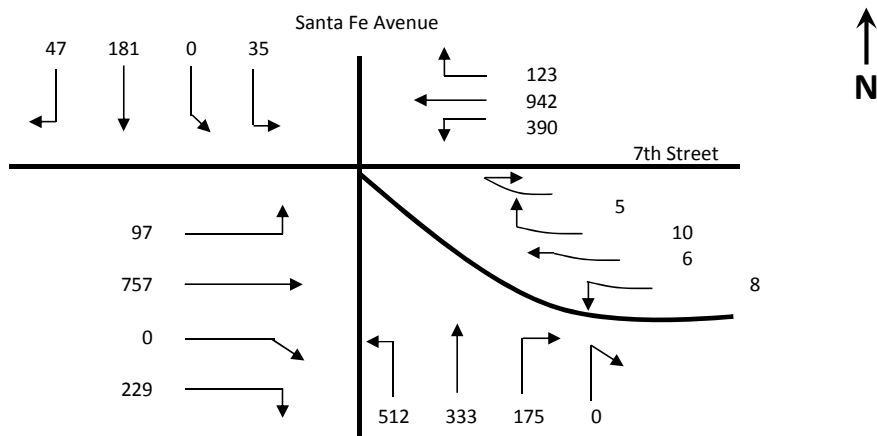
Intersection V/C:
$$\frac{1689}{1375} = 1.228$$

ATSAC/ATCS Credit: 0.10

Final intersection V/C: 1.128

Intersection LOS: F

Intersection 9 - Santa Fe Avenue & 7th Street
Future with Project with Mitigation Conditions (Year 2022) - AM Peak Hour



- 1) Critical volume calculation for eastbound/westbound traffic on 7th Street

Eastbound Left : 97 and

Westbound Throughs + Right:

$$\frac{942 + 123}{2} = \frac{1065}{2} = 533$$
 or

Westbound Left: 390 and

Eastbound Throughs + Right to 7th Street and Frontage Road:

$$\frac{757 + 0 + 229}{2} = \frac{986}{2} = 493$$

Critical Volume #1 (CV1): **883**

- 2) Critical volume calculation for northeastbound traffic on Frontage Road

Northeastbound Lefts + Throughs + Rights + Sharp Right:

$$5 + 10 + 6 + 8 = 29$$

Critical Volume #2 (CV2): **29**

- 3) Critical volume calculation for northbound/southbound traffic on Santa Fe Avenue

Southbound Left to 7th Street and Frontage Road:

$$35 + 0 = 35$$
 and

Northbound Through: 333 or

Northbound Right to 7th Street and Frontage Road: or

$$175 + 0 - 390 = -215$$

Northbound Left: 512 and

Southbound Left + Left to Frontage Road + Through + Right:

$$47 + 181 + 0 + 35 = 263$$

Critical Volume #3 (CV3): **775**

Critical Volume: 883 + 29 + 775 = **1687**

Intersection V/C:
$$\frac{1687}{1375} = 1.227$$

ATSAC/ATCS Credit: 0.10

Final intersection V/C: 1.127

Intersection LOS: F

Level of Service Worksheet (Circular 212 Method)



| I/S #: | | North-South Street: Anderson St | | | Year of Count: 2016 | | | Ambient Growth: (%): 1 | | | Conducted by: | | GTC | | Date: August 2017 | | | | |
|--|--------------------|--|--------------|-------------|--|--------------|-------------|--|--------------|--------------|---------------|--|---------------|--------------|------------------------------------|--|--------------|--------------|-------------|
| 10 | | East-West Street: 7th St | | | Projection Year: 2022 | | | Peak Hour: AM | | | Reviewed by: | | | | Project: 68 S Alameda St Mixed-Use | | | | |
| No. of Phases | | 2 | | | 2 | | | 2 | | | 2 | | 2 | | 2 | | | | |
| Opposed Ø'ing: N/S-1, E/W-2 or Both-3? | | 0 | | | 0 | | | 0 | | | 0 | | 0 | | 0 | | | | |
| Right Turns: FREE-1, NRTOR-2 or OLA-3? | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | NB-- 0 SB-- 0 | | NB-- 0 SB-- 0 | | | | |
| ATSAC-1 or ATSAC+ATCS-2? | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | EB-- 0 WB-- 0 | | EB-- 0 WB-- 0 | | | | |
| Override Capacity | | 2 | | | 2 | | | 2 | | | 2 | | 2 | | 2 | | | | |
| | | 0 | | | 0 | | | 0 | | | 0 | | 0 | | 0 | | | | |
| MOVEMENT | | EXISTING CONDITION | | | EXISTING PLUS PROJECT | | | FUTURE CONDITION W/O PROJECT | | | | FUTURE CONDITION W/ PROJECT | | | | FUTURE W/ PROJECT W/ MITIGATION | | | |
| | | Volume | No. of Lanes | Lane Volume | Project Traffic | Total Volume | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume |
| NORTHBOUND | Left | 12 | 0 | 12 | 0 | 12 | 12 | 0 | 13 | 0 | 13 | 0 | 13 | 0 | 13 | 0 | 13 | 0 | 13 |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Through | 2 | 0 | 21 | 0 | 2 | 21 | 0 | 2 | 0 | 22 | 0 | 2 | 0 | 22 | 0 | 2 | 0 | 22 |
| | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Right | 7 | 0 | 0 | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 7 | 0 | 0 |
| | Left-Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | |
| Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | |
| SOUTHBOUND | Left | 37 | 0 | 37 | 0 | 37 | 37 | 0 | 39 | 0 | 39 | 0 | 39 | 0 | 39 | 0 | 39 | 0 | 39 |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Through | 0 | 0 | 129 | 0 | 0 | 129 | 0 | 0 | 0 | 137 | 0 | 0 | 0 | 137 | 0 | 0 | 0 | 137 |
| | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Right | 92 | 0 | 0 | 0 | 92 | 0 | 0 | 98 | 0 | 0 | 0 | 98 | 0 | 0 | 0 | 98 | 0 | 0 |
| | Left-Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | |
| Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | |
| EASTBOUND | Left | 64 | 1 | 64 | 0 | 64 | 64 | 0 | 68 | 1 | 68 | 0 | 68 | 1 | 68 | 0 | 68 | 1 | 68 |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Through | 406 | 1 | 207 | 18 | 424 | 216 | 484 | 915 | 1 | 461 | 18 | 933 | 1 | 470 | -2 | 931 | 1 | 469 |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | |
| | Right | 7 | 0 | 7 | 0 | 7 | 7 | 0 | 7 | 0 | 7 | 0 | 7 | 0 | 7 | 0 | 7 | 0 | 7 |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | |
| WESTBOUND | Left | 9 | 1 | 9 | 0 | 9 | 9 | 0 | 10 | 1 | 10 | 0 | 10 | 1 | 10 | 0 | 10 | 1 | 10 |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Through | 1936 | 1 | 1115 | 13 | 1949 | 1122 | 684 | 2739 | 1 | 1526 | 13 | 2752 | 1 | 1532 | -2 | 2750 | 1 | 1531 |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | |
| | Right | 294 | 0 | 294 | 0 | 294 | 294 | 0 | 312 | 0 | 312 | 0 | 312 | 0 | 312 | 0 | 312 | 0 | 312 |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | |
| CRITICAL VOLUMES | | North-South: 141
East-West: 1179
SUM: 1320 | | | North-South: 141
East-West: 1186
SUM: 1327 | | | North-South: 150
East-West: 1594
SUM: 1744 | | | | North-South: 150
East-West: 1600
SUM: 1750 | | | | North-South: 150
East-West: 1599
SUM: 1749 | | | |
| VOLUME/CAPACITY (V/C) RATIO: | | 0.880 | | | 0.885 | | | 1.163 | | | | 1.167 | | | | 1.166 | | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | 0.780 | | | 0.785 | | | 1.063 | | | | 1.067 | | | | 1.066 | | | |
| LEVEL OF SERVICE (LOS): | | C | | | C | | | F | | | | F | | | | F | | | |

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

| | | | |
|-------------------------------|-------|------------------------|-------|
| Change in v/c due to project: | 0.004 | Δv/c after mitigation: | 0.003 |
| Significant impacted? | NO | Fully mitigated? | N/A |

Level of Service Worksheet (Circular 212 Method)



| | | | | | | | | | | | | | | | | | | | | |
|--|---------------------|-----------|--------------------------------|----------------|--------------------------------|-----------------------|--------------------------------|-------------|--------------------------------|---------------------------|--------------|-----------------------------|----------------|--------------|---------------------------------|----------------|--------------|--------------|--------------|-------------|
| I/S #: | North-South Street: | Boyle Ave | Year of Count: | 2016 | Ambient Growth: (%) | 1 | Conducted by: | GTC | Date: | August 2017 | | | | | | | | | | |
| 12 | East-West Street: | 7th St | Projection Year: | 2022 | Peak Hour: | AM | Reviewed by: | | Project: | 68 S Alameda St Mixed-Use | | | | | | | | | | |
| No. of Phases
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?
Right Turns: FREE-1, NRTOR-2 or OLA-3?
ATSAC-1 or ATSAC+ATCS-2?
Override Capacity | | | NB-- 0 SB-- 0
EB-- 0 WB-- 0 | | NB-- 0 SB-- 0
EB-- 0 WB-- 0 | | NB-- 0 SB-- 0
EB-- 0 WB-- 0 | | NB-- 0 SB-- 0
EB-- 0 WB-- 0 | | | | | | | | | | | |
| | | | 4 | | 4 | | 4 | | 4 | | | | | | | | | | | |
| | | | 0 | | 0 | | 0 | | 0 | | | | | | | | | | | |
| | | | 0 | | 0 | | 0 | | 0 | | | | | | | | | | | |
| | | | 0 | | 0 | | 0 | | 0 | | | | | | | | | | | |
| | | | 2 | | 2 | | 2 | | 2 | | | | | | | | | | | |
| | | | 0 | | 0 | | 0 | | 0 | | | | | | | | | | | |
| MOVEMENT | | | EXISTING CONDITION | | | EXISTING PLUS PROJECT | | | FUTURE CONDITION W/O PROJECT | | | FUTURE CONDITION W/ PROJECT | | | FUTURE W/ PROJECT W/ MITIGATION | | | | | |
| | | | Volume | No. of Lanes | Lane Volume | Project Traffic | Total Volume | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume |
| NORTHBOUND | Left | 204 | 1 | 204 | 0 | 204 | 204 | 0 | 217 | 1 | 217 | 0 | 217 | 1 | 217 | 0 | 217 | 1 | 217 | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | |
| | Through | 474 | 1 | 299 | 0 | 474 | 299 | 0 | 503 | 1 | 317 | 0 | 503 | 1 | 317 | 0 | 503 | 1 | 317 | |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | |
| | Right | 123 | 0 | 123 | 0 | 123 | 123 | 0 | 131 | 0 | 131 | 0 | 131 | 0 | 131 | 0 | 131 | 0 | 131 | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | |
| | Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | |
| SOUTHBOUND | Left | 64 | 1 | 64 | 0 | 64 | 64 | 0 | 68 | 1 | 68 | 0 | 68 | 1 | 68 | 0 | 68 | 1 | 68 | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | |
| | Through | 480 | 1 | 385 | 0 | 480 | 385 | 0 | 510 | 1 | 409 | 0 | 510 | 1 | 409 | 0 | 510 | 1 | 409 | |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | |
| | Right | 290 | 0 | 290 | 0 | 290 | 290 | 0 | 308 | 0 | 308 | 0 | 308 | 0 | 308 | 0 | 308 | 0 | 308 | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | |
| | Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | |
| EASTBOUND | Left | 56 | 1 | 56 | 0 | 56 | 56 | 0 | 59 | 1 | 59 | 0 | 59 | 1 | 59 | 0 | 59 | 1 | 59 | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | |
| | Through | 104 | 1 | 104 | 9 | 113 | 113 | 273 | 383 | 1 | 383 | 9 | 392 | 1 | 392 | -1 | 391 | 1 | 391 | |
| | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | |
| | Right | 171 | 1 | 69 | 0 | 171 | 69 | 0 | 182 | 1 | 74 | 0 | 182 | 1 | 74 | 0 | 182 | 1 | 74 | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | |
| | Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | |
| WESTBOUND | Left | 44 | 1 | 44 | 0 | 44 | 44 | 0 | 47 | 1 | 47 | 0 | 47 | 1 | 47 | 0 | 47 | 1 | 47 | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | |
| | Through | 226 | 0 | 288 | 2 | 228 | 290 | 79 | 319 | 0 | 385 | 2 | 321 | 0 | 387 | 0 | 321 | 0 | 387 | |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | |
| | Right | 62 | 0 | 0 | 0 | 62 | 0 | 0 | 66 | 0 | 0 | 0 | 66 | 0 | 0 | 0 | 66 | 0 | 0 | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | |
| | Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | |
| CRITICAL VOLUMES | | | North-South: 589 | East-West: 344 | SUM: 933 | North-South: 589 | East-West: 346 | SUM: 935 | North-South: 626 | East-West: 444 | SUM: 1070 | North-South: 626 | East-West: 446 | SUM: 1072 | North-South: 626 | East-West: 446 | SUM: 1072 | | | |
| VOLUME/CAPACITY (V/C) RATIO: | | | 0.679 | | | 0.680 | | | 0.778 | | | 0.780 | | | 0.780 | | | | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | | 0.579 | | | 0.580 | | | 0.678 | | | 0.680 | | | 0.680 | | | | | |
| LEVEL OF SERVICE (LOS): | | | A | | | A | | | B | | | B | | | B | | | | | |

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

| | | | |
|-------------------------------|-------|------------------------|-------|
| Change in v/c due to project: | 0.002 | Δv/c after mitigation: | 0.002 |
| Significant impacted? | NO | Fully mitigated? | N/A |

Level of Service Worksheet (Circular 212 Method)



| I/S #: | | North-South Street: | | | Santa Fe Ave | | | Year of Count: | | | 2016 | | Ambient Growth: (%): | | | 1 | | Conducted by: | | GTC | | Date: | | August 2017 | |
|--|--------------------|---------------------|---|------------------|--------------------|--------------|------------------|-----------------------|--------------|------------------|------------------------------|--------------|----------------------|---------------|-----------------------------|--------------|---------------|---------------|---------------------------------|--------------|--------------|-------------|-----|---------------------------|--|
| 14 | | East-West Street: | | | 8th St | | | Projection Year: | | | 2022 | | Peak Hour: | | | AM | | Reviewed by: | | | | Project: | | 68 S Alameda St Mixed-Use | |
| No. of Phases | | | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | | | |
| Opposed Ø'ing: N/S-1, E/W-2 or Both-3? | | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | | | |
| Right Turns: FREE-1, NRTOR-2 or OLA-3? | | | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | | | | | | |
| | | | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | | | | | | |
| ATSAC-1 or ATSAC+ATCS-2? | | | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | | | |
| Override Capacity | | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | | | |
| MOVEMENT | | | | | EXISTING CONDITION | | | EXISTING PLUS PROJECT | | | FUTURE CONDITION W/O PROJECT | | | | FUTURE CONDITION W/ PROJECT | | | | FUTURE W/ PROJECT W/ MITIGATION | | | | | | |
| | | | | | Volume | No. of Lanes | Lane Volume | Project Traffic | Total Volume | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | | | |
| NORTHBOUND | Left | 247 | 0 | 247 | 0 | 247 | 247 | 0 | 262 | 0 | 262 | 0 | 262 | 0 | 262 | 0 | 262 | 0 | 262 | 0 | 262 | 0 | 262 | | |
| | Left-Through | | 1 | | | | | | | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | | |
| | Through | 531 | 0 | 522 | 5 | 536 | 524 | 392 | 956 | 0 | 975 | 5 | 961 | 0 | 980 | -1 | 960 | 0 | 979 | | | 0 | | | |
| | Through-Right | | 1 | | | | | | | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | | |
| | Right | 18 | 0 | 522 | 0 | 18 | 524 | 0 | 19 | 0 | 0 | 0 | 19 | 0 | 0 | 0 | 19 | 0 | 0 | | | 0 | | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | |
| SOUTHBOUND | Left | 14 | 0 | 14 | 0 | 14 | 14 | 0 | 15 | 0 | 15 | 0 | 15 | 0 | 15 | 0 | 15 | 0 | 15 | 0 | 15 | 0 | 15 | | |
| | Left-Through | | 1 | | | | | | | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | | |
| | Through | 351 | 0 | 286 | 9 | 360 | 290 | 100 | 473 | 0 | 455 | 9 | 482 | 0 | 460 | -1 | 481 | 0 | 459 | | | 0 | | | |
| | Through-Right | | 1 | | | | | | | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | | |
| | Right | 192 | 0 | 286 | 0 | 192 | 290 | 173 | 377 | 0 | 455 | 0 | 377 | 0 | 460 | 0 | 377 | 0 | 459 | | | 0 | | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | |
| EASTBOUND | Left | 24 | 0 | 24 | 0 | 24 | 24 | 281 | 306 | 0 | 306 | 0 | 306 | 0 | 306 | 0 | 306 | 0 | 306 | 0 | 306 | 0 | 306 | | |
| | Left-Through | | 0 | | | | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | |
| | Through | 12 | 0 | 349 | 0 | 12 | 349 | 0 | 13 | 0 | 651 | 0 | 13 | 0 | 651 | 0 | 13 | 0 | 651 | | | 0 | | | |
| | Through-Right | | 0 | | | | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | |
| | Right | 313 | 0 | 0 | 0 | 313 | 0 | 0 | 332 | 0 | 0 | 0 | 332 | 0 | 0 | 0 | 332 | 0 | 0 | | | 0 | | | |
| | Left-Through-Right | | 1 | | | | | | | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | | |
| WESTBOUND | Left | 7 | 0 | 7 | 0 | 7 | 7 | 0 | 7 | 0 | 7 | 0 | 7 | 0 | 7 | 0 | 7 | 0 | 7 | 0 | 7 | 0 | 7 | | |
| | Left-Through | | 0 | | | | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | |
| | Through | 7 | 0 | 31 | 0 | 7 | 31 | 0 | 7 | 0 | 32 | 0 | 7 | 0 | 32 | 0 | 7 | 0 | 32 | | | 0 | | | |
| | Through-Right | | 0 | | | | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | |
| | Right | 17 | 0 | 0 | 0 | 17 | 0 | 0 | 18 | 0 | 0 | 0 | 18 | 0 | 0 | 0 | 18 | 0 | 0 | | | 0 | | | |
| | Left-Through-Right | | 1 | | | | | | | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | | |
| CRITICAL VOLUMES | North-South: 536 | | | North-South: 538 | | | North-South: 990 | | | North-South: 995 | | | North-South: 994 | | | | | | | | | | | | |
| | East-West: 356 | | | East-West: 356 | | | East-West: 658 | | | East-West: 658 | | | East-West: 658 | | | | | | | | | | | | |
| | SUM: 892 | | | SUM: 894 | | | SUM: 1648 | | | SUM: 1653 | | | SUM: 1652 | | | | | | | | | | | | |
| VOLUME/CAPACITY (V/C) RATIO: | | | | | 0.595 | | | 0.596 | | | 1.099 | | | 1.102 | | | 1.101 | | | | | | | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | | | | 0.495 | | | 0.496 | | | 0.999 | | | 1.002 | | | 1.001 | | | | | | | | |
| LEVEL OF SERVICE (LOS): | | | | | A | | | A | | | E | | | F | | | F | | | | | | | | |

Level of Service Worksheet (Circular 212 Method)



| I/S #: | | North-South Street: | | Santa Fe Ave | | Year of Count: | | 2016 | | Ambient Growth: (%): | | 1 | | Conducted by: | | GTC | | Date: | | August 2017 | |
|--|--------------------|---------------------|---|--------------------|--------------|------------------|-----------------------|---------------|-------------|------------------------------|--------------|----------------|-------------|-----------------------------|--------------|------------------|-------------|---------------------------------|--------------|---------------------------|-------------|
| 16 | | East-West Street: | | Porter St | | Projection Year: | | 2022 | | Peak Hour: | | AM | | Reviewed by: | | | | Project: | | 68 S Alameda St Mixed-Use | |
| No. of Phases | | | | | | 3 | | | | 3 | | | | 3 | | | | | | 3 | |
| Opposed Ø'ing: N/S-1, E/W-2 or Both-3? | | | | | | 0 | | | | 0 | | | | 0 | | | | | | 0 | |
| Right Turns: FREE-1, NRTOR-2 or OLA-3? | | | | NB-- 0 SB-- 0 | | 0 | | NB-- 0 SB-- 0 | | 0 | | NB-- 0 SB-- 0 | | 0 | | NB-- 0 SB-- 0 | | 0 | | 0 | |
| ATSAC-1 or ATSAC+ATCS-2? | | | | EB-- 3 WB-- 0 | | 0 | | EB-- 3 WB-- 0 | | 0 | | EB-- 3 WB-- 0 | | 0 | | EB-- 3 WB-- 0 | | 0 | | 0 | |
| Override Capacity | | | | | | 2 | | | | 2 | | | | 2 | | | | | | 2 | |
| | | | | | | 0 | | | | 0 | | | | 0 | | | | | | 0 | |
| MOVEMENT | | | | EXISTING CONDITION | | | EXISTING PLUS PROJECT | | | FUTURE CONDITION W/O PROJECT | | | | FUTURE CONDITION W/ PROJECT | | | | FUTURE W/ PROJECT W/ MITIGATION | | | |
| | | | | Volume | No. of Lanes | Lane Volume | Project Traffic | Total Volume | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume |
| NORTHBOUND | Left | 321 | 1 | 321 | 0 | 321 | 321 | 0 | 341 | 1 | 341 | 0 | 341 | 1 | 341 | 0 | 341 | 1 | 341 | | |
| | Left-Through | | 0 | | | | | | | 0 | | | 0 | | | | 0 | | | | |
| | Through | 657 | 1 | 340 | 5 | 662 | 343 | 121 | 818 | 1 | 421 | 5 | 823 | 1 | 424 | -1 | 822 | 1 | 423 | | |
| | Through-Right | | 1 | | | | | | | 1 | | | 1 | | | | 1 | | | | |
| | Right | 23 | 0 | 23 | 0 | 23 | 23 | 0 | 24 | 0 | 24 | 0 | 24 | 0 | 24 | 0 | 24 | 0 | 24 | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | 0 | | | | |
| Left-Right | | 0 | | | | | | | | 0 | | | 0 | | | | 0 | | | | |
| SOUTHBOUND | Left | 34 | 1 | 34 | 0 | 34 | 34 | 0 | 36 | 1 | 36 | 0 | 36 | 1 | 36 | 0 | 36 | 1 | 36 | | |
| | Left-Through | | 0 | | | | | | | 0 | | | 0 | | | | 0 | | | | |
| | Through | 658 | 1 | 351 | 9 | 667 | 356 | 169 | 867 | 1 | 473 | 9 | 876 | 1 | 477 | -1 | 875 | 1 | 477 | | |
| | Through-Right | | 1 | | | | | | | 1 | | | 1 | | | | 1 | | | | |
| | Right | 44 | 0 | 44 | 0 | 44 | 44 | 31 | 78 | 0 | 78 | 0 | 78 | 0 | 78 | 0 | 78 | 0 | 78 | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | 0 | | | | |
| Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | |
| EASTBOUND | Left | 99 | 0 | 99 | 0 | 99 | 99 | 271 | 376 | 0 | 376 | 0 | 376 | 0 | 376 | 0 | 376 | 0 | 376 | | |
| | Left-Through | | 1 | | | | | | | 1 | | | 1 | | | | 1 | | | | |
| | Through | 62 | 0 | 161 | 0 | 62 | 161 | 0 | 66 | 0 | 442 | 0 | 66 | 0 | 442 | 0 | 66 | 0 | 442 | | |
| | Through-Right | | 0 | | | | | | | 0 | | | 0 | | | | 0 | | | | |
| | Right | 530 | 1 | 209 | 0 | 530 | 209 | 0 | 563 | 1 | 222 | 0 | 563 | 1 | 222 | 0 | 563 | 1 | 222 | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | 0 | | | | |
| Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | |
| WESTBOUND | Left | 37 | 0 | 37 | 0 | 37 | 37 | 0 | 39 | 0 | 39 | 0 | 39 | 0 | 39 | 0 | 39 | 0 | 39 | | |
| | Left-Through | | 0 | | | | | | | 0 | | | 0 | | | | 0 | | | | |
| | Through | 43 | 0 | 134 | 0 | 43 | 134 | 0 | 46 | 0 | 142 | 0 | 46 | 0 | 142 | 0 | 46 | 0 | 142 | | |
| | Through-Right | | 0 | | | | | | | 0 | | | 0 | | | | 0 | | | | |
| | Right | 54 | 0 | 0 | 0 | 54 | 0 | 0 | 57 | 0 | 0 | 0 | 57 | 0 | 0 | 0 | 57 | 0 | 0 | | |
| | Left-Through-Right | | 1 | | | | | | | 1 | | | 1 | | | | 1 | | | | |
| Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | |
| CRITICAL VOLUMES | | | | North-South: 672 | | East-West: 246 | | SUM: 918 | | North-South: 677 | | East-West: 246 | | SUM: 923 | | North-South: 814 | | East-West: 518 | | SUM: 1332 | |
| | | | | North-South: 672 | | East-West: 246 | | SUM: 918 | | North-South: 677 | | East-West: 246 | | SUM: 923 | | North-South: 814 | | East-West: 518 | | SUM: 1332 | |
| | | | | North-South: 672 | | East-West: 246 | | SUM: 918 | | North-South: 677 | | East-West: 246 | | SUM: 923 | | North-South: 814 | | East-West: 518 | | SUM: 1332 | |
| VOLUME/CAPACITY (V/C) RATIO: | | | | | | 0.644 | | | | 0.648 | | | | 0.935 | | | | 0.938 | | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | | | | | 0.544 | | | | 0.548 | | | | 0.835 | | | | 0.838 | | | |
| LEVEL OF SERVICE (LOS): | | | | | | A | | | | A | | | | D | | | | D | | | |

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

| | | | |
|-------------------------------|-------|------------------------|-------|
| Change in v/c due to project: | 0.003 | Δv/c after mitigation: | 0.003 |
| Significant impacted? | NO | Fully mitigated? | N/A |

Level of Service Worksheet (Circular 212 Method)



| I/S #: | | North-South Street: Central Ave | | | Year of Count: 2016 | | | Ambient Growth: (%): 1 | | | Conducted by: | | GTC | | Date: August 2017 | | | | |
|---|--------------------|--|--------------|-------------|--|--------------|-------------|---|--------------|--------------|---------------|---|---------------|--------------|-------------------------------------|---|--------------|--------------|-------------|
| 17 | | East-West Street: Olympic Blvd | | | Projection Year: 2022 | | | Peak Hour: AM | | | Reviewed by: | | | | Project: 668 S Alameda St Mixed-Use | | | | |
| <div>No. of Phases
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?
Right Turns: FREE-1, NRTOR-2 or OLA-3?
ATSAC-1 or ATSAC+ATCS-2?
Override Capacity</div> | | | | | | | | | | | | | | | | | | | |
| | | 4 | | | 4 | | | 4 | | | 4 | | 4 | | | | | | |
| | | 0 | | | 0 | | | 0 | | | 0 | | 0 | | | | | | |
| | | 0 | | | 0 | | | 0 | | | 0 | | 0 | | | | | | |
| | | 3 | | | 3 | | | 3 | | | 3 | | 3 | | | | | | |
| | | NB-- 3 SB-- 0 | | | NB-- 3 SB-- 0 | | | NB-- 3 SB-- 0 | | | NB-- 3 SB-- 0 | | NB-- 3 SB-- 0 | | | | | | |
| | | EB-- 0 WB-- 3 | | | EB-- 0 WB-- 3 | | | EB-- 0 WB-- 3 | | | EB-- 0 WB-- 3 | | EB-- 0 WB-- 3 | | | | | | |
| | | 2 | | | 2 | | | 2 | | | 2 | | 2 | | | | | | |
| | | 0 | | | 0 | | | 0 | | | 0 | | 0 | | | | | | |
| MOVEMENT | | EXISTING CONDITION | | | EXISTING PLUS PROJECT | | | FUTURE CONDITION W/O PROJECT | | | | FUTURE CONDITION W/ PROJECT | | | | FUTURE W/ PROJECT W/ MITIGATION | | | |
| | | Volume | No. of Lanes | Lane Volume | Project Traffic | Total Volume | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume |
| NORTHBOUND | Left | 14 | 1 | 14 | 0 | 14 | 14 | 0 | 15 | 1 | 15 | 0 | 15 | 1 | 15 | 0 | 15 | 1 | 15 |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Through | 549 | 2 | 275 | 5 | 554 | 277 | 1 | 584 | 2 | 292 | 5 | 589 | 2 | 295 | -1 | 588 | 2 | 294 |
| | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Right | 98 | 1 | 0 | 0 | 98 | 0 | 0 | 104 | 1 | 0 | 0 | 104 | 1 | 0 | 0 | 104 | 1 | 0 |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| SOUTHBOUND | Left | 172 | 1 | 172 | 0 | 172 | 172 | 0 | 183 | 1 | 183 | 0 | 183 | 1 | 183 | 0 | 183 | 1 | 183 |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Through | 689 | 1 | 380 | 18 | 707 | 393 | 58 | 789 | 1 | 433 | 18 | 807 | 1 | 446 | -2 | 805 | 1 | 445 |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | |
| | Right | 70 | 0 | 70 | 9 | 79 | 79 | 2 | 76 | 0 | 76 | 9 | 85 | 0 | 85 | -1 | 84 | 0 | 84 |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| EASTBOUND | Left | 71 | 1 | 71 | 0 | 71 | 71 | 0 | 75 | 1 | 75 | 0 | 75 | 1 | 75 | 0 | 75 | 1 | 75 |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Through | 523 | 1 | 306 | 5 | 528 | 308 | 197 | 752 | 1 | 423 | 5 | 757 | 1 | 425 | -1 | 756 | 1 | 425 |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | |
| | Right | 88 | 0 | 88 | 0 | 88 | 88 | 0 | 93 | 0 | 93 | 0 | 93 | 0 | 93 | 0 | 93 | 0 | 93 |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| WESTBOUND | Left | 153 | 1 | 153 | 0 | 153 | 153 | 0 | 162 | 1 | 162 | 0 | 162 | 1 | 162 | 0 | 162 | 1 | 162 |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Through | 794 | 2 | 397 | 0 | 794 | 397 | 179 | 1022 | 2 | 511 | 0 | 1022 | 2 | 511 | 0 | 1022 | 2 | 511 |
| | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Right | 239 | 1 | 67 | 0 | 239 | 67 | 0 | 254 | 1 | 71 | 0 | 254 | 1 | 71 | 0 | 254 | 1 | 71 |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| CRITICAL VOLUMES | | North-South: 447
East-West: 468
SUM: 915 | | | North-South: 449
East-West: 468
SUM: 917 | | | North-South: 475
East-West: 586
SUM: 1061 | | | | North-South: 478
East-West: 587
SUM: 1065 | | | | North-South: 477
East-West: 587
SUM: 1064 | | | |
| VOLUME/CAPACITY (V/C) RATIO: | | 0.665 | | | 0.667 | | | 0.772 | | | | 0.775 | | | | 0.774 | | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | 0.565 | | | 0.567 | | | 0.672 | | | | 0.675 | | | | 0.674 | | | |
| LEVEL OF SERVICE (LOS): | | A | | | A | | | B | | | | B | | | | B | | | |

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

| | | | |
|-------------------------------|-------|------------------------|-------|
| Change in v/c due to project: | 0.003 | Δv/c after mitigation: | 0.002 |
| Significant impacted? | NO | Fully mitigated? | N/A |

Level of Service Worksheet (Circular 212 Method)



| I/S #: | | North-South Street: Alameda St | | | Year of Count: 2016 | | | Ambient Growth: (%): 1 | | | Conducted by: | | GTC | | Date: August 2017 | | | | |
|--|--------------------|---|--------------|-------------|---|--------------|-------------|---|--------------|--------------|---------------|---|---------------|--------------|-------------------------------------|---|--------------|--------------|-------------|
| 18 | | East-West Street: Olympic Blvd | | | Projection Year: 2022 | | | Peak Hour: AM | | | Reviewed by: | | | | Project: 668 S Alameda St Mixed-Use | | | | |
| No. of Phases | | 2 | | | 2 | | | 2 | | | 2 | | 2 | | 2 | | | | |
| Opposed Ø'ing: N/S-1, E/W-2 or Both-3? | | 0 | | | 0 | | | 0 | | | 0 | | 0 | | 0 | | | | |
| Right Turns: FREE-1, NRTOR-2 or OLA-3? | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | NB-- 0 SB-- 0 | | NB-- 0 SB-- 0 | | | | |
| ATSAC-1 or ATSAC+ATCS-2? | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | EB-- 0 WB-- 0 | | EB-- 0 WB-- 0 | | | | |
| Override Capacity | | 2 | | | 2 | | | 2 | | | 2 | | 2 | | 2 | | | | |
| | | 0 | | | 0 | | | 0 | | | 0 | | 0 | | 0 | | | | |
| MOVEMENT | | EXISTING CONDITION | | | EXISTING PLUS PROJECT | | | FUTURE CONDITION W/O PROJECT | | | | FUTURE CONDITION W/ PROJECT | | | | FUTURE W/ PROJECT W/ MITIGATION | | | |
| | | Volume | No. of Lanes | Lane Volume | Project Traffic | Total Volume | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume |
| NORTHBOUND | Left | 82 | 1 | 82 | 0 | 82 | 82 | 0 | 87 | 1 | 87 | 0 | 87 | 1 | 87 | 0 | 87 | 1 | 87 |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Through | 674 | 1 | 376 | 9 | 683 | 380 | 168 | 883 | 1 | 483 | 9 | 892 | 1 | 487 | -1 | 891 | 1 | 487 |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | |
| | Right | 77 | 0 | 77 | 0 | 77 | 77 | 0 | 82 | 0 | 82 | 0 | 82 | 0 | 82 | 0 | 82 | 0 | 82 |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | |
| SOUTHBOUND | Left | 121 | 1 | 121 | 9 | 130 | 130 | 57 | 185 | 1 | 185 | 9 | 194 | 1 | 194 | -1 | 193 | 1 | 193 |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Through | 762 | 2 | 381 | 15 | 777 | 389 | 179 | 988 | 2 | 494 | 15 | 1003 | 2 | 502 | -2 | 1001 | 2 | 501 |
| | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Right | 196 | 1 | 156 | 0 | 196 | 150 | 10 | 218 | 1 | 152 | 0 | 218 | 1 | 147 | 0 | 218 | 1 | 147 |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | |
| EASTBOUND | Left | 81 | 1 | 81 | 11 | 92 | 92 | 46 | 132 | 1 | 132 | 11 | 143 | 1 | 143 | -1 | 142 | 1 | 142 |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Through | 610 | 1 | 334 | 0 | 610 | 334 | 149 | 797 | 1 | 430 | 0 | 797 | 1 | 430 | 0 | 797 | 1 | 430 |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | |
| | Right | 58 | 0 | 58 | 0 | 58 | 58 | 0 | 62 | 0 | 62 | 0 | 62 | 0 | 62 | 0 | 62 | 0 | 62 |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | |
| WESTBOUND | Left | 110 | 1 | 110 | 0 | 110 | 110 | 0 | 117 | 1 | 117 | 0 | 117 | 1 | 117 | 0 | 117 | 1 | 117 |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Through | 1064 | 1 | 566 | 0 | 1064 | 567 | 224 | 1353 | 1 | 734 | 0 | 1353 | 1 | 736 | 0 | 1353 | 1 | 736 |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | |
| | Right | 67 | 0 | 67 | 3 | 70 | 70 | 44 | 115 | 0 | 115 | 3 | 118 | 0 | 118 | 0 | 118 | 0 | 118 |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | |
| CRITICAL VOLUMES | | North-South: 497
East-West: 647
SUM: 1144 | | | North-South: 510
East-West: 659
SUM: 1169 | | | North-South: 668
East-West: 866
SUM: 1534 | | | | North-South: 681
East-West: 879
SUM: 1560 | | | | North-South: 680
East-West: 878
SUM: 1558 | | | |
| VOLUME/CAPACITY (V/C) RATIO: | | 0.763 | | | 0.779 | | | 1.023 | | | | 1.040 | | | | 1.039 | | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | 0.663 | | | 0.679 | | | 0.923 | | | | 0.940 | | | | 0.939 | | | |
| LEVEL OF SERVICE (LOS): | | B | | | B | | | E | | | | E | | | | E | | | |

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

| | | | |
|-------------------------------|-------|------------------------|-------|
| Change in v/c due to project: | 0.017 | Δv/c after mitigation: | 0.016 |
| Significant impacted? | YES | Fully mitigated? | NO |

Level of Service Worksheet (Circular 212 Method)



| I/S #: | | North-South Street: | | Santa Fe Ave | | Year of Count: | | 2016 | | Ambient Growth: (%) | | 1 | | Conducted by: | | GTC | | Date: | | August 2017 | |
|--|--------------------|---------------------|---|--------------------|--------------|------------------|-----------------------|------------------|-------------|------------------------------|--------------|------------------|-------------|-----------------------------|--------------|------------------|-------------|---------------------------------|--------------|----------------------------|-------------|
| 19 | | East-West Street: | | Olympic Blvd | | Projection Year: | | 2022 | | Peak Hour: | | AM | | Reviewed by: | | | | Project: | | 668 S Alameda St Mixed-Use | |
| No. of Phases | | | | | | 3 | | | | 3 | | | | 4 | | | | 4 | | | |
| Opposed Ø'ing: N/S-1, E/W-2 or Both-3? | | | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | |
| Right Turns: FREE-1, NRTOR-2 or OLA-3? | | | | NB-- 0 SB-- 0 | | 0 | | NB-- 0 SB-- 0 | | 0 | | NB-- 0 SB-- 0 | | 0 | | NB-- 0 SB-- 0 | | 0 | | 0 | |
| ATSAC-1 or ATSAC+ATCS-2? | | | | EB-- 3 WB-- 0 | | 0 | | EB-- 3 WB-- 0 | | 0 | | EB-- 3 WB-- 0 | | 0 | | EB-- 3 WB-- 0 | | 0 | | 0 | |
| Override Capacity | | | | | | 2 | | | | 2 | | | | 2 | | | | 2 | | | |
| | | | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | |
| MOVEMENT | | | | EXISTING CONDITION | | | EXISTING PLUS PROJECT | | | FUTURE CONDITION W/O PROJECT | | | | FUTURE CONDITION W/ PROJECT | | | | FUTURE W/ PROJECT W/ MITIGATION | | | |
| | | | | Volume | No. of Lanes | Lane Volume | Project Traffic | Total Volume | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume |
| NORTHBOUND | Left | 183 | 1 | 183 | 0 | 183 | 183 | 0 | 194 | 1 | 194 | 0 | 194 | 1 | 194 | 0 | 194 | 1 | 194 | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | |
| | Through | 909 | 1 | 512 | 5 | 914 | 514 | 52 | 1017 | 1 | 569 | 5 | 1022 | 1 | 572 | -1 | 1021 | 1 | 571 | | |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | |
| | Right | 114 | 0 | 114 | 0 | 114 | 114 | 0 | 121 | 0 | 121 | 0 | 121 | 0 | 121 | 0 | 121 | 0 | 121 | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | |
| Left-Right | | 0 | | | | | | | | 0 | | | | 0 | | | 0 | | | | |
| SOUTHBOUND | Left | 136 | 1 | 136 | 0 | 136 | 136 | 128 | 272 | 1 | 272 | 0 | 272 | 1 | 272 | 0 | 272 | 1 | 272 | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | |
| | Through | 1044 | 1 | 536 | 9 | 1053 | 540 | 32 | 1140 | 1 | 590 | 9 | 1149 | 1 | 594 | -1 | 1148 | 1 | 594 | | |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | |
| | Right | 27 | 0 | 27 | 0 | 27 | 27 | 10 | 39 | 0 | 39 | 0 | 39 | 0 | 39 | 0 | 39 | 0 | 39 | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | |
| Left-Right | | 0 | | | | | | | | 0 | | | | 0 | | | 0 | | | | |
| EASTBOUND | Left | 44 | 1 | 44 | 0 | 44 | 44 | 17 | 64 | 1 | 64 | 0 | 64 | 1 | 64 | 0 | 64 | 1 | 64 | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | |
| | Through | 344 | 2 | 172 | 5 | 349 | 175 | 120 | 485 | 2 | 243 | 5 | 490 | 2 | 245 | -1 | 489 | 2 | 245 | | |
| | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | |
| | Right | 312 | 1 | 129 | 0 | 312 | 129 | 0 | 331 | 1 | 137 | 0 | 331 | 1 | 137 | 0 | 331 | 1 | 137 | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | |
| Left-Right | | 0 | | | | | | | | 0 | | | | 0 | | | 0 | | | | |
| WESTBOUND | Left | 183 | 1 | 183 | 0 | 183 | 183 | 0 | 194 | 1 | 194 | 0 | 194 | 1 | 194 | 0 | 194 | 1 | 194 | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | |
| | Through | 795 | 1 | 428 | 3 | 798 | 429 | 135 | 979 | 1 | 548 | 3 | 982 | 1 | 549 | 0 | 982 | 1 | 549 | | |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | |
| | Right | 60 | 0 | 60 | 0 | 60 | 60 | 52 | 116 | 0 | 116 | 0 | 116 | 0 | 116 | 0 | 116 | 0 | 116 | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | |
| Left-Right | | 0 | | | | | | | | 0 | | | | 0 | | | 0 | | | | |
| CRITICAL VOLUMES | | | | North-South: 719 | | 719 | | North-South: 723 | | 723 | | North-South: 841 | | 841 | | North-South: 844 | | 844 | | 843 | |
| | | | | East-West: 472 | | 472 | | East-West: 473 | | 473 | | East-West: 612 | | 612 | | East-West: 613 | | 613 | | 613 | |
| | | | | SUM: 1191 | | SUM: 1191 | | SUM: 1196 | | SUM: 1196 | | SUM: 1453 | | SUM: 1453 | | SUM: 1457 | | SUM: 1456 | | SUM: 1456 | |
| VOLUME/CAPACITY (V/C) RATIO: | | | | | | 0.836 | | | | 0.839 | | | | 1.057 | | | | 1.060 | | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | | | | | 0.736 | | | | 0.739 | | | | 0.957 | | | | 0.960 | | | |
| LEVEL OF SERVICE (LOS): | | | | | | C | | | | C | | | | E | | | | E | | | |

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

| | | | |
|-------------------------------|-------|------------------------|-------|
| Change in v/c due to project: | 0.003 | Δv/c after mitigation: | 0.002 |
| Significant impacted? | NO | Fully mitigated? | N/A |

Level of Service Worksheet (Circular 212 Method)



| I/S #: | | North-South Street: | | | Alameda St | | | Year of Count: | | | 2016 | | Ambient Growth: (%): | | | 1 | | Conducted by: | | GTC | | Date: | | August 2017 | | | |
|---|--------------------|---------------------|--------------|-------------|-----------------------|--------------|-------------|------------------------------|--------------|--------------|--------------|-----------------------------|----------------------|--------------|-------------|---------------------------------|--------------|---------------|-------------|-----|---|----------|---------------|----------------------------|---|---|--|
| 20 | | East-West Street: | | | 14th St | | | Projection Year: | | | 2022 | | Peak Hour: | | | AM | | Reviewed by: | | | | Project: | | 668 S Alameda St Mixed-Use | | | |
| <div>No. of Phases</div> <div>Opposed Ø'ing: N/S-1, E/W-2 or Both-3?</div> <div>Right Turns: FREE-1, NRTOR-2 or OLA-3?</div> <div>ATSAC-1 or ATSAC+ATCS-2?</div> <div>Override Capacity</div> | | | | | 3 | | | | | | 3 | | | | | 3 | | | | | 3 | | | | 3 | | |
| | | | | | 2 | | | | | | 2 | | | | | 2 | | | | | 2 | | | | 2 | | |
| | | NB-- 0 SB-- 0 | | | 0 | | | NB-- 0 SB-- 0 | | | 0 | | NB-- 0 SB-- 0 | | | 0 | | NB-- 0 SB-- 0 | | | 0 | | NB-- 0 SB-- 0 | | | | |
| | | EB-- 0 WB-- 0 | | | 0 | | | EB-- 0 WB-- 0 | | | 0 | | EB-- 0 WB-- 0 | | | 0 | | EB-- 0 WB-- 0 | | | 0 | | EB-- 0 WB-- 0 | | | | |
| | | | | | 2 | | | | | | 2 | | | | | 2 | | | | | 2 | | | | | 2 | |
| | | | | | 0 | | | | | | 0 | | | | | 0 | | | | | 0 | | | | | 0 | |
| MOVEMENT | | EXISTING CONDITION | | | EXISTING PLUS PROJECT | | | FUTURE CONDITION W/O PROJECT | | | | FUTURE CONDITION W/ PROJECT | | | | FUTURE W/ PROJECT W/ MITIGATION | | | | | | | | | | | |
| | | Volume | No. of Lanes | Lane Volume | Project Traffic | Total Volume | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | | | | | | | | |
| NORTHBOUND | Left | 28 | 1 | 28 | 0 | 28 | 28 | 0 | 30 | 1 | 30 | 0 | 30 | 1 | 30 | 0 | 30 | 1 | 30 | | | | | | | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | | | |
| | Through | 803 | 1 | 429 | 9 | 812 | 434 | 155 | 1007 | 1 | 533 | 9 | 1016 | 1 | 537 | -1 | 1015 | 1 | 537 | | | | | | | | |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | | | | | | | |
| | Right | 55 | 0 | 55 | 0 | 55 | 55 | 0 | 58 | 0 | 58 | 0 | 58 | 0 | 58 | 0 | 58 | 0 | 58 | | | | | | | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | | | |
| SOUTHBOUND | Left | 25 | 1 | 25 | 0 | 25 | 25 | 0 | 27 | 1 | 27 | 0 | 27 | 1 | 27 | 0 | 27 | 1 | 27 | | | | | | | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | | | |
| | Through | 868 | 1 | 452 | 15 | 883 | 459 | 208 | 1129 | 1 | 583 | 15 | 1144 | 1 | 591 | -2 | 1142 | 1 | 590 | | | | | | | | |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | | | | | | | |
| | Right | 35 | 0 | 35 | 0 | 35 | 35 | 0 | 37 | 0 | 37 | 0 | 37 | 0 | 37 | 0 | 37 | 0 | 37 | | | | | | | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | | | |
| EASTBOUND | Left | 30 | 0 | 30 | 0 | 30 | 30 | 0 | 32 | 0 | 32 | 0 | 32 | 0 | 32 | 0 | 32 | 0 | 32 | | | | | | | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | | | |
| | Through | 33 | 0 | 97 | 0 | 33 | 97 | 0 | 35 | 0 | 103 | 0 | 35 | 0 | 103 | 0 | 35 | 0 | 103 | | | | | | | | |
| | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | | | |
| | Right | 34 | 0 | 0 | 0 | 34 | 0 | 0 | 36 | 0 | 0 | 0 | 36 | 0 | 0 | 0 | 36 | 0 | 0 | | | | | | | | |
| | Left-Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | | | | | | | |
| WESTBOUND | Left | 609 | 1 | 408 | 0 | 609 | 408 | 0 | 646 | 1 | 433 | 0 | 646 | 1 | 433 | 0 | 646 | 1 | 433 | | | | | | | | |
| | Left-Through | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | | | | | | | |
| | Through | 207 | 0 | 408 | 0 | 207 | 408 | 0 | 220 | 0 | 433 | 0 | 220 | 0 | 433 | 0 | 220 | 0 | 433 | | | | | | | | |
| | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | | | |
| | Right | 96 | 1 | 84 | 0 | 96 | 84 | 17 | 119 | 1 | 106 | 0 | 119 | 1 | 106 | 0 | 119 | 1 | 106 | | | | | | | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | | | |
| CRITICAL VOLUMES | | North-South: | | 480 | North-South: | | 487 | North-South: | | 613 | North-South: | | 621 | North-South: | | 620 | | | | | | | | | | | |
| | | East-West: | | 505 | East-West: | | 505 | East-West: | | 536 | East-West: | | 536 | East-West: | | 536 | | | | | | | | | | | |
| | | SUM: | | 985 | SUM: | | 992 | SUM: | | 1149 | SUM: | | 1157 | SUM: | | 1156 | | | | | | | | | | | |
| VOLUME/CAPACITY (V/C) RATIO: | | | | 0.691 | | | 0.696 | | | 0.806 | | | 0.812 | | | 0.811 | | | | | | | | | | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | | | 0.591 | | | 0.596 | | | 0.706 | | | 0.712 | | | 0.711 | | | | | | | | | | | |
| LEVEL OF SERVICE (LOS): | | | | A | | | A | | | C | | | C | | | C | | | | | | | | | | | |

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

| | | | |
|-------------------------------|-------|------------------------|-------|
| Change in v/c due to project: | 0.006 | Δv/c after mitigation: | 0.005 |
| Significant impacted? | NO | Fully mitigated? | N/A |

Level of Service Worksheet (Circular 212 Method)



| I/S #: | | North-South Street: | | | Alameda St | | | Year of Count: | | | 2016 | | Ambient Growth: (%): | | | 1 | | Conducted by: | | GTC | | Date: | | August 2017 | |
|------------|--------------------|--|--------------|-------------|-----------------------|--------------|-------------|------------------------------|--------------|--------------|------------------|-----------------------------|----------------------|------------------|-------------|---------------------------------|------------------|---------------|-------------|---------------|--|----------|---|----------------------------|--|
| 21 | | East-West Street: | | | I-10 EB Ramps | | | Projection Year: | | | 2022 | | Peak Hour: | | | AM | | Reviewed by: | | | | Project: | | 668 S Alameda St Mixed-Use | |
| | | No. of Phases | | | 4 | | | 4 | | | 4 | | | 4 | | | 4 | | | 4 | | | 4 | | |
| | | Opposed Ø'ing: N/S-1, E/W-2 or Both-3? | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| | | Right Turns: FREE-1, NRTOR-2 or OLA-3? | | | NB-- 0 SB-- 3 | | | NB-- 0 SB-- 3 | | | NB-- 0 SB-- 3 | | | NB-- 0 SB-- 3 | | | NB-- 0 SB-- 3 | | | NB-- 0 SB-- 3 | | | | | |
| | | ATSAC-1 or ATSAC+ATCS-2? | | | EB-- 3 WB-- 0 | | | EB-- 3 WB-- 0 | | | EB-- 3 WB-- 0 | | | EB-- 3 WB-- 0 | | | EB-- 3 WB-- 0 | | | EB-- 3 WB-- 0 | | | | | |
| | | Override Capacity | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | |
| | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| MOVEMENT | | EXISTING CONDITION | | | EXISTING PLUS PROJECT | | | FUTURE CONDITION W/O PROJECT | | | | FUTURE CONDITION W/ PROJECT | | | | FUTURE W/ PROJECT W/ MITIGATION | | | | | | | | | |
| | | Volume | No. of Lanes | Lane Volume | Project Traffic | Total Volume | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | | | | | | |
| NORTHBOUND | Left | 368 | 1 | 368 | 0 | 368 | 368 | 0 | 391 | 1 | 391 | 0 | 391 | 1 | 391 | 0 | 391 | 1 | 391 | | | | | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| | Through | 1042 | 1 | 525 | 5 | 1047 | 528 | 93 | 1199 | 1 | 604 | 5 | 1204 | 1 | 606 | -1 | 1203 | 1 | 606 | | | | | | |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | | | | | |
| | Right | 8 | 0 | 8 | 0 | 8 | 8 | 0 | 8 | 0 | 8 | 0 | 8 | 0 | 8 | 0 | 8 | 0 | 8 | | | | | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| SOUTHBOUND | Left | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | | | | | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| | Through | 806 | 2 | 403 | 9 | 815 | 408 | 106 | 962 | 2 | 481 | 9 | 971 | 2 | 486 | -1 | 970 | 2 | 485 | | | | | | |
| | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| | Right | 424 | 1 | 149 | 0 | 424 | 146 | 54 | 504 | 1 | 150 | 0 | 504 | 1 | 147 | 0 | 504 | 1 | 147 | | | | | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| EASTBOUND | Left | 275 | 1 | 275 | 3 | 278 | 278 | 62 | 354 | 1 | 354 | 3 | 357 | 1 | 357 | 0 | 357 | 1 | 357 | | | | | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| | Through | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | |
| | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| | Right | 525 | 1 | 157 | 0 | 525 | 157 | 0 | 557 | 1 | 166 | 0 | 557 | 1 | 166 | 0 | 557 | 1 | 166 | | | | | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| WESTBOUND | Left | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| | Through | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | |
| | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| | Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| | | CRITICAL VOLUMES | | | North-South: 771 | | | North-South: 776 | | | North-South: 872 | | | North-South: 877 | | | North-South: 876 | | | | | | | | |
| | | East-West: 275 | | | East-West: 278 | | | East-West: 354 | | | East-West: 357 | | | East-West: 357 | | | East-West: 357 | | | | | | | | |
| | | SUM: 1046 | | | SUM: 1054 | | | SUM: 1226 | | | SUM: 1234 | | | SUM: 1234 | | | SUM: 1233 | | | | | | | | |
| | | VOLUME/CAPACITY (V/C) RATIO: | | | 0.761 | | | 0.767 | | | 0.892 | | | 0.897 | | | 0.897 | | | | | | | | |
| | | V/C LESS ATSAC/ATCS ADJUSTMENT: | | | 0.661 | | | 0.667 | | | 0.792 | | | 0.797 | | | 0.797 | | | | | | | | |
| | | LEVEL OF SERVICE (LOS): | | | B | | | B | | | C | | | C | | | C | | | | | | | | |

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

| | | | |
|-------------------------------|-------|------------------------|-------|
| Change in v/c due to project: | 0.005 | Δv/c after mitigation: | 0.005 |
| Significant impacted? | NO | Fully mitigated? | N/A |

Level of Service Worksheet (Circular 212 Method)



| I/S #: | | North-South Street: | | | Alameda St | | | Year of Count: | | | 2016 | | Ambient Growth: (%): | | | | 1 | | Conducted by: | | GTC | | Date: | | August 2017 | |
|--|--------------------|---------------------|---|-----|---|--------------|-------------|---|--------------|-------------|---|--------------|----------------------|-------------|---|--------------|---------------|-------------|---|--------------|---------------|-------------|----------|--|---------------------------|--|
| 1 | | East-West Street: | | | 4th St | | | Projection Year: | | | 2022 | | Peak Hour: | | | | PM | | Reviewed by: | | | | Project: | | 68 S Alameda St Mixed-Use | |
| No. of Phases | | | | | 2 | | | 2 | | | 2 | | | | 2 | | 2 | | 2 | | 2 | | 2 | | | |
| Opposed Ø'ing: N/S-1, E/W-2 or Both-3? | | | | | 0 | | | 0 | | | 0 | | | | 0 | | 0 | | 0 | | 0 | | 0 | | | |
| Right Turns: FREE-1, NRTOR-2 or OLA-3? | | | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | | NB-- 0 SB-- 0 | | NB-- 0 SB-- 0 | | NB-- 0 SB-- 0 | | NB-- 0 SB-- 0 | | | | | |
| ATSAC-1 or ATSAC+ATCS-2? | | | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | | EB-- 0 WB-- 0 | | EB-- 0 WB-- 0 | | EB-- 0 WB-- 0 | | EB-- 0 WB-- 0 | | | | | |
| Override Capacity | | | | | 2 | | | 2 | | | 2 | | | | 2 | | 2 | | 2 | | 2 | | 2 | | | |
| | | | | | 0 | | | 0 | | | 0 | | | | 0 | | 0 | | 0 | | 0 | | 0 | | | |
| MOVEMENT | | | | | EXISTING CONDITION | | | EXISTING PLUS PROJECT | | | FUTURE CONDITION W/O PROJECT | | | | FUTURE CONDITION W/ PROJECT | | | | FUTURE W/ PROJECT W/ MITIGATION | | | | | | | |
| | | | | | Volume | No. of Lanes | Lane Volume | Project Traffic | Total Volume | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | | | | |
| NORTHBOUND | Left | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| | Left-Through | | 0 | | | | | | | | | | | | | | | | | | | | | | | |
| | Through | 926 | 1 | 517 | 19 | 945 | 530 | 387 | 1370 | 1 | 830 | 19 | 1389 | 1 | 843 | -2 | 1387 | 1 | 842 | | | | | | | |
| | Through-Right | | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| | Right | 108 | 0 | 108 | 7 | 115 | 115 | 175 | 290 | 0 | 290 | 7 | 297 | 0 | 297 | -1 | 296 | 0 | 296 | | | | | | | |
| | Left-Through-Right | | 0 | | | | | | | | | | | | | | | | | | | | | | | |
| Left-Right | | 0 | | | | | | | | | | | | | | | | | | | | | | | | |
| SOUTHBOUND | Left | 100 | 1 | 100 | 0 | 100 | 100 | 16 | 122 | 1 | 122 | 0 | 122 | 1 | 122 | 0 | 122 | 1 | 122 | | | | | | | |
| | Left-Through | | 0 | | | | | | | | | | | | | | | | | | | | | | | |
| | Through | 663 | 2 | 332 | 26 | 689 | 345 | 455 | 1159 | 2 | 580 | 26 | 1185 | 2 | 593 | -3 | 1182 | 2 | 591 | | | | | | | |
| | Through-Right | | 0 | | | | | | | | | | | | | | | | | | | | | | | |
| | Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| | Left-Through-Right | | 0 | | | | | | | | | | | | | | | | | | | | | | | |
| Left-Right | | 0 | | | | | | | | | | | | | | | | | | | | | | | | |
| EASTBOUND | Left | 167 | 0 | 167 | 0 | 167 | 167 | 38 | 215 | 0 | 215 | 0 | 215 | 0 | 215 | 0 | 215 | 0 | 215 | | | | | | | |
| | Left-Through | | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| | Through | 1252 | 2 | 473 | 0 | 1252 | 473 | 199 | 1528 | 2 | 581 | 0 | 1528 | 2 | 581 | 0 | 1528 | 2 | 581 | | | | | | | |
| | Through-Right | | 0 | | | | | | | | | | | | | | | | | | | | | | | |
| | Right | 151 | 1 | 151 | 0 | 151 | 151 | 137 | 297 | 1 | 297 | 0 | 297 | 1 | 297 | 0 | 297 | 1 | 297 | | | | | | | |
| | Left-Through-Right | | 0 | | | | | | | | | | | | | | | | | | | | | | | |
| Left-Right | | 0 | | | | | | | | | | | | | | | | | | | | | | | | |
| WESTBOUND | Left | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| | Left-Through | | 0 | | | | | | | | | | | | | | | | | | | | | | | |
| | Through | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| | Through-Right | | 0 | | | | | | | | | | | | | | | | | | | | | | | |
| | Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| | Left-Through-Right | | 0 | | | | | | | | | | | | | | | | | | | | | | | |
| Left-Right | | 0 | | | | | | | | | | | | | | | | | | | | | | | | |
| CRITICAL VOLUMES | | | | | North-South: 617
East-West: 473
SUM: 1090 | | | North-South: 630
East-West: 473
SUM: 1103 | | | North-South: 952
East-West: 581
SUM: 1533 | | | | North-South: 965
East-West: 581
SUM: 1546 | | | | North-South: 964
East-West: 581
SUM: 1545 | | | | | | | |
| VOLUME/CAPACITY (V/C) RATIO: | | | | | 0.727 | | | 0.735 | | | 1.022 | | | | 1.031 | | | | 1.030 | | | | | | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | | | | 0.627 | | | 0.635 | | | 0.922 | | | | 0.931 | | | | 0.930 | | | | | | | |
| LEVEL OF SERVICE (LOS): | | | | | B | | | B | | | E | | | | E | | | | E | | | | | | | |

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

| | | | |
|-------------------------------|-------|------------------------|-------|
| Change in v/c due to project: | 0.009 | Δv/c after mitigation: | 0.008 |
| Significant impacted? | NO | Fully mitigated? | N/A |

Level of Service Worksheet (Circular 212 Method)



| I/S #: | | North-South Street: | | Central Ave | | Year of Count: | | 2016 | | Ambient Growth: (%): | | 1 | | Conducted by: | | GTC | | Date: | | August 2017 | |
|--|--------------------|---------------------|---|--------------------|--------------|------------------|-----------------------|------------------|-------------|------------------------------|--------------|------------------|-------------|-----------------------------|--------------|------------------|-------------|---------------------------------|--------------|----------------------------|-------------|
| 2 | | East-West Street: | | 6th St | | Projection Year: | | 2022 | | Peak Hour: | | PM | | Reviewed by: | | | | Project: | | 668 S Alameda St Mixed-Use | |
| No. of Phases | | | | | | 4 | | | | 4 | | | | 4 | | | | | | 4 | |
| Opposed Ø'ing: N/S-1, E/W-2 or Both-3? | | | | | | 0 | | | | 0 | | | | 0 | | | | | | 0 | |
| Right Turns: FREE-1, NRTOR-2 or OLA-3? | | | | NB-- 0 SB-- 0 | | 0 | | NB-- 0 SB-- 0 | | 0 | | NB-- 0 SB-- 0 | | 0 | | NB-- 0 SB-- 0 | | 0 | | 0 | |
| ATSAC-1 or ATSAC+ATCS-2? | | | | EB-- 0 WB-- 0 | | 2 | | EB-- 0 WB-- 0 | | 2 | | EB-- 0 WB-- 0 | | 2 | | EB-- 0 WB-- 0 | | 2 | | 0 | |
| Override Capacity | | | | | | 0 | | | | 0 | | | | 0 | | | | | | 0 | |
| MOVEMENT | | | | EXISTING CONDITION | | | EXISTING PLUS PROJECT | | | FUTURE CONDITION W/O PROJECT | | | | FUTURE CONDITION W/ PROJECT | | | | FUTURE W/ PROJECT W/ MITIGATION | | | |
| | | | | Volume | No. of Lanes | Lane Volume | Project Traffic | Total Volume | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume |
| NORTHBOUND | Left | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | |
| | Through | 758 | 1 | 468 | 0 | 758 | 468 | 52 | 857 | 1 | 545 | 0 | 857 | 1 | 545 | 0 | 857 | 1 | 545 | | |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | |
| | Right | 178 | 0 | 178 | 0 | 178 | 178 | 43 | 232 | 0 | 232 | 0 | 232 | 0 | 232 | 0 | 232 | 0 | 232 | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | |
| SOUTHBOUND | Left | 27 | 1 | 27 | 0 | 27 | 27 | 4 | 33 | 1 | 33 | 0 | 33 | 1 | 33 | 0 | 33 | 1 | 33 | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | |
| | Through | 328 | 2 | 164 | 0 | 328 | 164 | 0 | 348 | 2 | 174 | 0 | 348 | 2 | 174 | 0 | 348 | 2 | 174 | | |
| | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | |
| | Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | |
| EASTBOUND | Left | 126 | 1 | 126 | 0 | 126 | 126 | 31 | 165 | 1 | 165 | 0 | 165 | 1 | 165 | 0 | 165 | 1 | 165 | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | |
| | Through | 726 | 2 | 363 | 22 | 748 | 374 | 293 | 1064 | 2 | 532 | 22 | 1086 | 2 | 543 | -2 | 1084 | 2 | 542 | | |
| | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | |
| | Right | 128 | 1 | 128 | 0 | 128 | 128 | 187 | 323 | 1 | 323 | 0 | 323 | 1 | 323 | 0 | 323 | 1 | 323 | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | |
| WESTBOUND | Left | 177 | 1 | 177 | 0 | 177 | 177 | 114 | 302 | 1 | 302 | 0 | 302 | 1 | 302 | 0 | 302 | 1 | 302 | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | |
| | Through | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | |
| | Right | 310 | 2 | 158 | 15 | 325 | 166 | 133 | 462 | 2 | 238 | 15 | 477 | 2 | 246 | -2 | 475 | 2 | 245 | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | |
| CRITICAL VOLUMES | | | | North-South: 495 | | North-South: 495 | | North-South: 578 | | | | North-South: 578 | | | | North-South: 578 | | | | | |
| | | | | East-West: 540 | | East-West: 551 | | East-West: 834 | | | | East-West: 845 | | | | East-West: 844 | | | | | |
| | | | | SUM: 1035 | | SUM: 1046 | | SUM: 1412 | | | | SUM: 1423 | | | | SUM: 1422 | | | | | |
| VOLUME/CAPACITY (V/C) RATIO: | | | | | | 0.753 | | | | 0.761 | | | | 1.027 | | | | 1.034 | | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | | | | | 0.653 | | | | 0.661 | | | | 0.927 | | | | 0.934 | | | |
| LEVEL OF SERVICE (LOS): | | | | | | B | | | | B | | | | E | | | | E | | | |

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

| | | | |
|-------------------------------|-------|------------------------|-------|
| Change in v/c due to project: | 0.008 | Δv/c after mitigation: | 0.007 |
| Significant impacted? | NO | Fully mitigated? | N/A |

Level of Service Worksheet (Circular 212 Method)



| I/S #: | | North-South Street: | | | Alameda St | | | Year of Count: | | | 2016 | | Ambient Growth: (%) | | | 1 | | Conducted by: | | GTC | | Date: | | August 2017 | |
|---------------------------------|--------------------|--|--------------|-------------|-----------------------|--------------|-------------|------------------------------|--------------|--------------|-------------------|-----------------------------|---------------------|-------------------|-------------|---------------------------------|---------------|---------------|-------------|---------------|--|----------|---|---------------------------|--|
| 3 | | East-West Street: | | | 6th St | | | Projection Year: | | | 2022 | | Peak Hour: | | | PM | | Reviewed by: | | | | Project: | | 68 S Alameda St Mixed-Use | |
| | | No. of Phases | | | 3 | | | 3 | | | 3 | | | 3 | | | 3 | | | 3 | | | 3 | | |
| | | Opposed Ø'ing: N/S-1, E/W-2 or Both-3? | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| | | Right Turns: FREE-1, NRTOR-2 or OLA-3? | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | 0 | | |
| | | ATSAC-1 or ATSAC+ATCS-2? | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | 0 | | |
| | | Override Capacity | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | |
| | | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| MOVEMENT | | EXISTING CONDITION | | | EXISTING PLUS PROJECT | | | FUTURE CONDITION W/O PROJECT | | | | FUTURE CONDITION W/ PROJECT | | | | FUTURE W/ PROJECT W/ MITIGATION | | | | | | | | | |
| | | Volume | No. of Lanes | Lane Volume | Project Traffic | Total Volume | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | | | | | | |
| NORTHBOUND | Left | 110 | 1 | 110 | 15 | 125 | 125 | 59 | 176 | 1 | 176 | 15 | 191 | 1 | 191 | -2 | 189 | 1 | 189 | | | | | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| | Through | 815 | 1 | 455 | 30 | 845 | 474 | 356 | 1221 | 1 | 745 | 30 | 1251 | 1 | 764 | -4 | 1247 | 1 | 761 | | | | | | |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | | | | | |
| | Right | 95 | 0 | 95 | 7 | 102 | 102 | 168 | 269 | 0 | 269 | 7 | 276 | 0 | 276 | -1 | 275 | 0 | 275 | | | | | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| | Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| SOUTHBOUND | Left | 111 | 1 | 111 | 0 | 111 | 111 | 207 | 325 | 1 | 325 | 0 | 325 | 1 | 325 | 0 | 325 | 1 | 325 | | | | | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| | Through | 847 | 1 | 474 | 26 | 873 | 487 | 238 | 1137 | 1 | 622 | 26 | 1163 | 1 | 635 | -3 | 1160 | 1 | 634 | | | | | | |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | | | | | |
| | Right | 101 | 0 | 101 | 0 | 101 | 101 | 0 | 107 | 0 | 107 | 0 | 107 | 0 | 107 | 0 | 107 | 0 | 107 | | | | | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| | Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| EASTBOUND | Left | 100 | 1 | 100 | 0 | 100 | 100 | 0 | 106 | 1 | 106 | 0 | 106 | 1 | 106 | 0 | 106 | 1 | 106 | | | | | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| | Through | 664 | 1 | 374 | 0 | 664 | 385 | 171 | 876 | 1 | 485 | 0 | 876 | 1 | 496 | 0 | 876 | 1 | 495 | | | | | | |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | | | | | |
| | Right | 84 | 0 | 84 | 22 | 106 | 106 | 4 | 93 | 0 | 93 | 22 | 115 | 0 | 115 | -2 | 113 | 0 | 113 | | | | | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| | Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| WESTBOUND | Left | 56 | 1 | 56 | 11 | 67 | 67 | 159 | 218 | 1 | 218 | 11 | 229 | 1 | 229 | -1 | 228 | 1 | 228 | | | | | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| | Through | 298 | 1 | 179 | 0 | 298 | 179 | 216 | 532 | 1 | 367 | 0 | 532 | 1 | 367 | 0 | 532 | 1 | 367 | | | | | | |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | | | | | |
| | Right | 59 | 0 | 59 | 0 | 59 | 59 | 138 | 201 | 0 | 201 | 0 | 201 | 0 | 201 | 0 | 201 | 0 | 201 | | | | | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| | Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| CRITICAL VOLUMES | | North-South: 584 | | | North-South: 612 | | | North-South: 1070 | | | North-South: 1089 | | | North-South: 1086 | | | | | | | | | | | |
| | | East-West: 430 | | | East-West: 452 | | | East-West: 703 | | | East-West: 725 | | | East-West: 723 | | | | | | | | | | | |
| | | SUM: 1014 | | | SUM: 1064 | | | SUM: 1773 | | | SUM: 1814 | | | SUM: 1809 | | | | | | | | | | | |
| VOLUME/CAPACITY (V/C) RATIO: | | 0.712 | | | 0.747 | | | 1.244 | | | 1.273 | | | 1.269 | | | | | | | | | | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | 0.612 | | | 0.647 | | | 1.144 | | | 1.173 | | | 1.169 | | | | | | | | | | | |
| LEVEL OF SERVICE (LOS): | | B | | | B | | | F | | | F | | | F | | | | | | | | | | | |

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

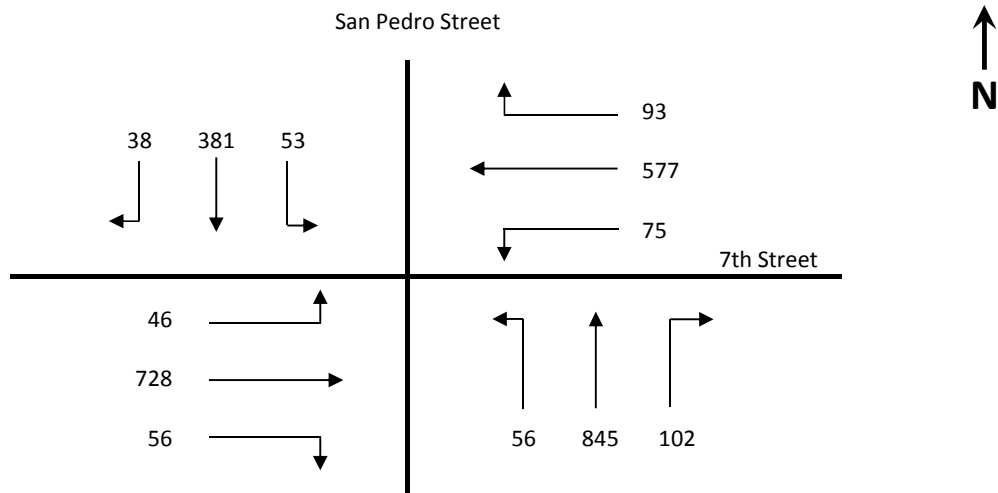
| | | | |
|-------------------------------|-------|------------------------|-------|
| Change in v/c due to project: | 0.029 | Δv/c after mitigation: | 0.025 |
| Significant impacted? | YES | Fully mitigated? | NO |

Level of Service Worksheet (Circular 212 Method)



| I/S #: | | North-South Street: Mateo St | | | Year of Count: 2016 | | | Ambient Growth: (%): 1 | | | | Conducted by: | | GTC | | Date: August 2017 | | | |
|---|--------------------|--|--------------|-------------|--|--------------|-------------|---|--------------|--------------|-------------|---|--------------|--------------|-------------|---|--------------|--------------|-------------|
| 4 | | East-West Street: 6th St | | | Projection Year: 2022 | | | Peak Hour: PM | | | | Reviewed by: | | | | Project: 68 S Alameda St Mixed-Use | | | |
| <div>No. of Phases
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?
Right Turns: FREE-1, NRTOR-2 or OLA-3?
ATSAC-1 or ATSAC+ATCS-2?
Override Capacity</div> | | | | | | | | | | | | | | | | | | | |
| | | 2 | | | 2 | | | 2 | | | | 2 | | 2 | | 2 | | | |
| | | 0 | | | 0 | | | 0 | | | | 0 | | 0 | | 0 | | | |
| | | 0 | | | 0 | | | 0 | | | | 0 | | 0 | | 0 | | | |
| | | 0 | | | 0 | | | 0 | | | | 0 | | 0 | | 0 | | | |
| | | 0 | | | 0 | | | 0 | | | | 0 | | 0 | | 0 | | | |
| | | 2 | | | 2 | | | 2 | | | | 2 | | 2 | | 2 | | | |
| | | 0 | | | 0 | | | 0 | | | | 0 | | 0 | | 0 | | | |
| MOVEMENT | | EXISTING CONDITION | | | EXISTING PLUS PROJECT | | | FUTURE CONDITION W/O PROJECT | | | | FUTURE CONDITION W/ PROJECT | | | | FUTURE W/ PROJECT W/ MITIGATION | | | |
| | | Volume | No. of Lanes | Lane Volume | Project Traffic | Total Volume | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume |
| NORTHBOUND | Left | 60 | 0 | 60 | 0 | 60 | 60 | 41 | 105 | 0 | 105 | 0 | 105 | 0 | 105 | 0 | 105 | 0 | 105 |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Through | 153 | 0 | 270 | 0 | 153 | 270 | 20 | 182 | 0 | 348 | 0 | 182 | 0 | 348 | 0 | 182 | 0 | 348 |
| | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Right | 57 | 0 | 0 | 0 | 57 | 0 | 0 | 61 | 0 | 0 | 0 | 61 | 0 | 0 | 0 | 61 | 0 | 0 |
| | Left-Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | |
| SOUTHBOUND | Left | 39 | 0 | 39 | 0 | 39 | 39 | 20 | 61 | 0 | 61 | 0 | 61 | 0 | 61 | 0 | 61 | 0 | 61 |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Through | 99 | 0 | 182 | 6 | 105 | 188 | 19 | 124 | 0 | 257 | 6 | 130 | 0 | 263 | -1 | 129 | 0 | 262 |
| | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Right | 44 | 0 | 0 | 0 | 44 | 0 | 25 | 72 | 0 | 0 | 0 | 72 | 0 | 0 | 0 | 72 | 0 | 0 |
| | Left-Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | |
| EASTBOUND | Left | 84 | 1 | 84 | 4 | 88 | 88 | 35 | 124 | 1 | 124 | 4 | 128 | 1 | 128 | -1 | 127 | 1 | 127 |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Through | 901 | 1 | 487 | 7 | 908 | 491 | 101 | 1057 | 1 | 585 | 7 | 1064 | 1 | 589 | -1 | 1063 | 1 | 588 |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | |
| | Right | 73 | 0 | 73 | 0 | 73 | 73 | 36 | 113 | 0 | 113 | 0 | 113 | 0 | 113 | 0 | 113 | 0 | 113 |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| WESTBOUND | Left | 17 | 1 | 17 | 0 | 17 | 17 | 0 | 18 | 1 | 18 | 0 | 18 | 1 | 18 | 0 | 18 | 1 | 18 |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Through | 329 | 1 | 177 | 11 | 340 | 182 | 101 | 450 | 1 | 251 | 11 | 461 | 1 | 257 | -1 | 460 | 1 | 256 |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | |
| | Right | 24 | 0 | 24 | 0 | 24 | 24 | 27 | 52 | 0 | 52 | 0 | 52 | 0 | 52 | 0 | 52 | 0 | 52 |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| CRITICAL VOLUMES | | North-South: 309
East-West: 504
SUM: 813 | | | North-South: 309
East-West: 508
SUM: 817 | | | North-South: 409
East-West: 603
SUM: 1012 | | | | North-South: 409
East-West: 607
SUM: 1016 | | | | North-South: 409
East-West: 606
SUM: 1015 | | | |
| VOLUME/CAPACITY (V/C) RATIO:
V/C LESS ATSAC/ATCS ADJUSTMENT:
LEVEL OF SERVICE (LOS): | | 0.542
0.442
A | | | 0.545
0.445
A | | | 0.675
0.575
A | | | | 0.677
0.577
A | | | | 0.677
0.577
A | | | |

Intersection 5 - San Pedro Street & 7th Street
Existing Conditions (Year 2016) - PM Peak Hour



1) Critical volume calculation for eastbound/westbound traffic on 7th Street

Eastbound Left : 46 and

Westbound Left + Throughs + Right:

$$\frac{75 + 577 + 93}{2} = \frac{745}{2} = 373 \quad \text{or}$$

Westbound Left: 75 and

Eastbound Left + Throughs + Right:

$$\frac{46 + 728 + 56}{2} = \frac{830}{2} = 415$$

Critical Volume #1 (CV1): **490**

2) Critical volume calculation for northbound/southbound traffic on San Pedro Street

Northbound Left : 56 and

Southbound Throughs + Right:

$$\frac{381 + 38}{2} = \frac{419}{2} = 210 \quad \text{or}$$

Southbound Left: 53 and

Northbound Throughs + Right:

$$\frac{845 + 102}{2} = \frac{947}{2} = 474$$

Critical Volume #1 (CV1): **527**

$$\text{Critical Volume: } 490 + 527 = 1017$$

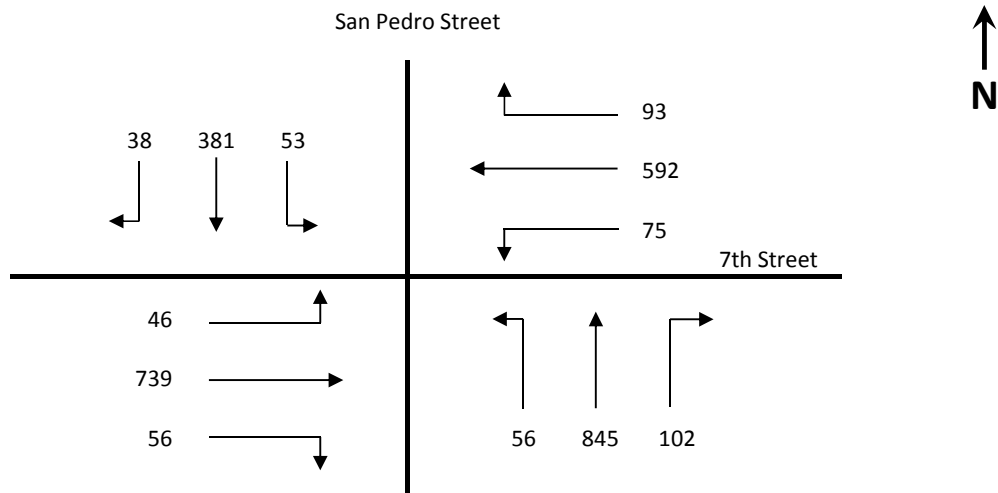
$$\text{Intersection V/C: } \frac{1017}{1500} = 0.678$$

ATSAC/ATCS Credit: 0.10

Final intersection V/C: 0.578

Intersection LOS: A

Intersection 5 - San Pedro Street & 7th Street
Existing with Project Conditions (Year 2016) - PM Peak Hour



1) Critical volume calculation for eastbound/westbound traffic on 7th Street

Eastbound Left : 46 and

Westbound Left + Throughs + Right:

$$\frac{75 + 592 + 93}{2} = \frac{760}{2} = 380 \quad \text{or}$$

Westbound Left: 75 and

Eastbound Left + Throughs + Right:

$$\frac{46 + 739 + 56}{2} = \frac{841}{2} = 421$$

Critical Volume #1 (CV1): **496**

2) Critical volume calculation for northbound/southbound traffic on San Pedro Street

Northbound Left : 56 and

Southbound Throughs + Right:

$$\frac{381 + 38}{2} = \frac{419}{2} = 210 \quad \text{or}$$

Southbound Left: 53 and

Northbound Throughs + Right:

$$\frac{845 + 102}{2} = \frac{947}{2} = 474$$

Critical Volume #1 (CV1): **527**

$$\text{Critical Volume: } 496 + 527 = \mathbf{1023}$$

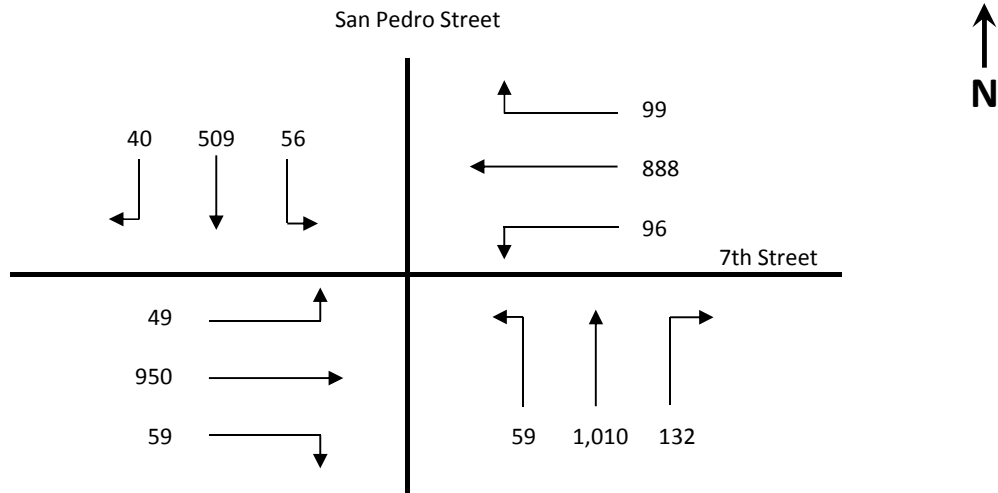
$$\text{Intersection V/C: } \frac{1023}{1500} = \mathbf{0.682}$$

ATSAC/ATCS Credit: 0.10

Final intersection V/C: 0.582

Intersection LOS: A

Intersection 5 - San Pedro Street & 7th Street
Future without Project Conditions (Year 2022) - PM Peak Hour



1) Critical volume calculation for eastbound/westbound traffic on 7th Street

Eastbound Left : 49 and

Westbound Left + Throughs + Right:

$$\frac{96 + 888 + 99}{2} = \frac{1,083}{2} = 542 \quad \text{or}$$

Westbound Left: 96 and

Eastbound Left + Throughs + Right:

$$\frac{49 + 950 + 59}{2} = \frac{1,058}{2} = 529$$

Critical Volume #1 (CV1): **625**

2) Critical volume calculation for northbound/southbound traffic on San Pedro Street

Northbound Left : 59 and

Southbound Throughs + Right:

$$\frac{509 + 40}{2} = \frac{549}{2} = 275 \quad \text{or}$$

Southbound Left: 56 and

Northbound Throughs + Right:

$$\frac{1,010 + 132}{2} = \frac{1,142}{2} = 571$$

Critical Volume #1 (CV1): **627**

$$\text{Critical Volume: } 625 + 627 = 1252$$

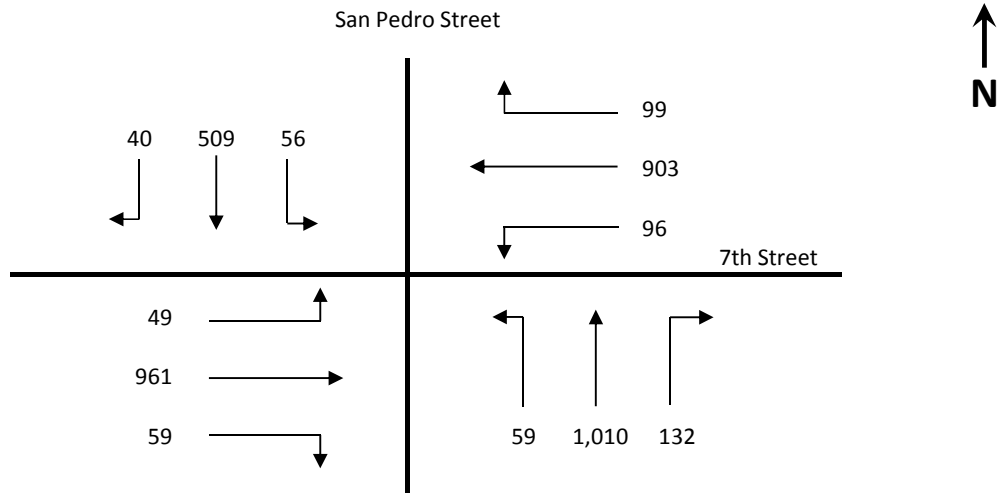
$$\text{Intersection V/C: } \frac{1252}{1500} = 0.835$$

ATSAC/ATCS Credit: 0.10

Final intersection V/C: 0.735

Intersection LOS: C

**Intersection 5 - San Pedro Street & 7th Street
Future with Project Conditions (Year 2022) - PM Peak Hour**



1) Critical volume calculation for eastbound/westbound traffic on 7th Street

Eastbound Left : 49 and

Westbound Left + Throughs + Right:

$$\frac{96 + 903 + 99}{2} = \frac{1,098}{2} = 549 \quad \text{or}$$

Westbound Left: 96 and

Eastbound Left + Throughs + Right:

$$\frac{49 + 961 + 59}{2} = \frac{1,069}{2} = 535$$

Critical Volume #1 (CV1): **631**

2) Critical volume calculation for northbound/southbound traffic on San Pedro Street

Northbound Left : 59 and

Southbound Throughs + Right:

$$\frac{509 + 40}{2} = \frac{549}{2} = 275 \quad \text{or}$$

Southbound Left: 56 and

Northbound Throughs + Right:

$$\frac{1,010 + 132}{2} = \frac{1,142}{2} = 571$$

Critical Volume #1 (CV1): **627**

$$\text{Critical Volume: } 631 + 627 = 1258$$

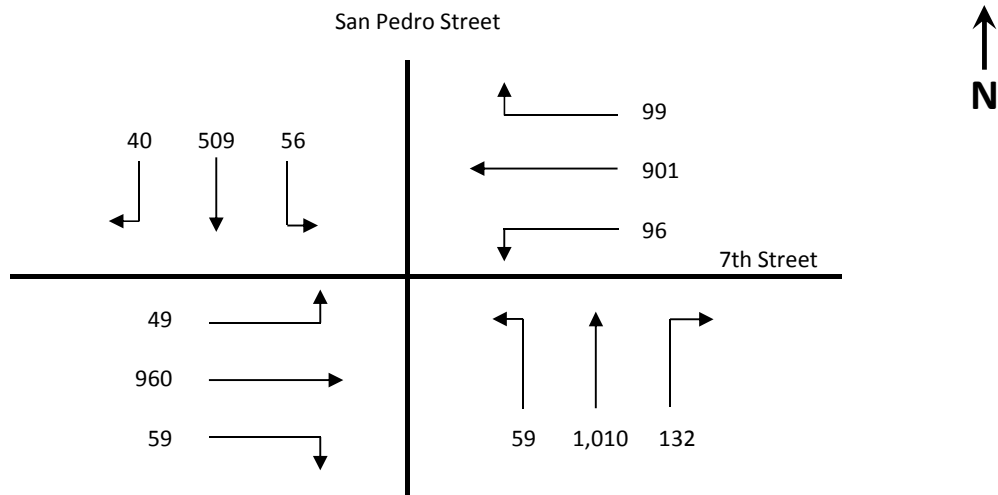
$$\text{Intersection V/C: } \frac{1258}{1500} = 0.839$$

ATSAC/ATCS Credit: 0.10

Final intersection V/C: 0.739

Intersection LOS: C

Intersection 5 - San Pedro Street & 7th Street
Future with Project with Mitigation Conditions (Year 2022) - PM Peak Hour



1) Critical volume calculation for eastbound/westbound traffic on 7th Street

Eastbound Left : 49 and

Westbound Left + Throughs + Right:

$$\frac{96 + 901 + 99}{2} = \frac{1,096}{2} = 548 \quad \text{or}$$

Westbound Left: 96 and

Eastbound Left + Throughs + Right:

$$\frac{49 + 960 + 59}{2} = \frac{1,068}{2} = 534$$

Critical Volume #1 (CV1): **630**

2) Critical volume calculation for northbound/southbound traffic on San Pedro Street

Northbound Left : 59 and

Southbound Throughs + Right:

$$\frac{509 + 40}{2} = \frac{549}{2} = 275 \quad \text{or}$$

Southbound Left: 56 and

Northbound Throughs + Right:

$$\frac{1,010 + 132}{2} = \frac{1,142}{2} = 571$$

Critical Volume #1 (CV1): **627**

$$\text{Critical Volume: } 630 + 627 = 1257$$

$$\text{Intersection V/C: } \frac{1257}{1500} = 0.838$$

ATSAC/ATCS Credit: 0.10

Final intersection V/C: 0.738

Intersection LOS: C

Level of Service Worksheet (Circular 212 Method)



| I/S #: | | North-South Street: | | | Central Ave | | | Year of Count: | | | 2016 | | Ambient Growth: (%) | | | 1 | | Conducted by: | | GTC | | Date: | | August 2017 | |
|--|--------------------|---------------------|---|-----|--------------------|--------------|-------------|-----------------------|--------------|-------------|------------------------------|--------------|---------------------|------------------|-----------------------------|--------------|------------------|---------------|---------------------------------|---------------|--------------|-------------|---|---------------------------|--|
| 6 | | East-West Street: | | | 7th St | | | Projection Year: | | | 2022 | | Peak Hour: | | | PM | | Reviewed by: | | | | Project: | | 68 S Alameda St Mixed-Use | |
| No. of Phases | | | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | |
| Opposed Ø'ing: N/S-1, E/W-2 or Both-3? | | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| Right Turns: FREE-1, NRTOR-2 or OLA-3? | | | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | | | |
| ATSAC-1 or ATSAC+ATCS-2? | | | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | | | |
| Override Capacity | | | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | |
| | | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| MOVEMENT | | | | | EXISTING CONDITION | | | EXISTING PLUS PROJECT | | | FUTURE CONDITION W/O PROJECT | | | | FUTURE CONDITION W/ PROJECT | | | | FUTURE W/ PROJECT W/ MITIGATION | | | | | | |
| | | | | | Volume | No. of Lanes | Lane Volume | Project Traffic | Total Volume | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | | | |
| NORTHBOUND | Left | 58 | 1 | 58 | 0 | 58 | 58 | 0 | 62 | 1 | 62 | 0 | 62 | 1 | 62 | 0 | 62 | 1 | 62 | | | | | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| | Through | 801 | 1 | 469 | 0 | 801 | 475 | 89 | 939 | 1 | 549 | 0 | 939 | 1 | 554 | 0 | 939 | 1 | 554 | | | | | | |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | | | | | |
| | Right | 137 | 0 | 137 | 11 | 148 | 148 | 13 | 158 | 0 | 158 | 11 | 169 | 0 | 169 | -1 | 168 | 0 | 168 | | | | | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | | |
| SOUTHBOUND | Left | 42 | 0 | 42 | 0 | 42 | 42 | 187 | 232 | 0 | 232 | 0 | 232 | 0 | 232 | 0 | 232 | 0 | 232 | | | | | | |
| | Left-Through | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | | | | | |
| | Through | 536 | 0 | 383 | 0 | 536 | 383 | 93 | 662 | 0 | 748 | 0 | 662 | 0 | 748 | 0 | 662 | 0 | 748 | | | | | | |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | | | | | |
| | Right | 61 | 0 | 383 | 0 | 61 | 383 | 21 | 86 | 0 | 0 | 0 | 86 | 0 | 0 | 0 | 86 | 0 | 0 | | | | | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | | |
| EASTBOUND | Left | 94 | 1 | 94 | 0 | 94 | 94 | 0 | 100 | 1 | 100 | 0 | 100 | 1 | 100 | 0 | 100 | 1 | 100 | | | | | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| | Through | 795 | 1 | 434 | 11 | 806 | 439 | 300 | 1144 | 1 | 610 | 11 | 1155 | 1 | 616 | -1 | 1154 | 1 | 615 | | | | | | |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | | | | | |
| | Right | 72 | 0 | 72 | 0 | 72 | 72 | 0 | 76 | 0 | 76 | 0 | 76 | 0 | 76 | 0 | 76 | 0 | 76 | | | | | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | | |
| WESTBOUND | Left | 97 | 1 | 97 | 22 | 119 | 119 | 17 | 120 | 1 | 120 | 22 | 142 | 1 | 142 | -3 | 139 | 1 | 139 | | | | | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| | Through | 464 | 1 | 263 | 15 | 479 | 271 | 494 | 987 | 1 | 530 | 15 | 1002 | 1 | 538 | -2 | 1000 | 1 | 537 | | | | | | |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | | | | | |
| | Right | 62 | 0 | 62 | 0 | 62 | 62 | 7 | 73 | 0 | 73 | 0 | 73 | 0 | 73 | 0 | 73 | 0 | 73 | | | | | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | | |
| CRITICAL VOLUMES | | | | | North-South: 511 | | | North-South: 517 | | | North-South: 810 | | | North-South: 810 | | | North-South: 810 | | | | | | | | |
| | | | | | East-West: 531 | | | East-West: 558 | | | East-West: 730 | | | East-West: 758 | | | East-West: 754 | | | | | | | | |
| | | | | | SUM: 1042 | | | SUM: 1075 | | | SUM: 1540 | | | SUM: 1568 | | | SUM: 1564 | | | | | | | | |
| VOLUME/CAPACITY (V/C) RATIO: | | | | | 0.695 | | | 0.717 | | | 1.027 | | | 1.045 | | | 1.043 | | | | | | | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | | | | 0.595 | | | 0.617 | | | 0.927 | | | 0.945 | | | 0.943 | | | | | | | | |
| LEVEL OF SERVICE (LOS): | | | | | A | | | B | | | E | | | E | | | E | | | | | | | | |

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

| | | | |
|-------------------------------|-------|------------------------|-------|
| Change in v/c due to project: | 0.018 | Δv/c after mitigation: | 0.016 |
| Significant impacted? | YES | Fully mitigated? | NO |

Level of Service Worksheet (Circular 212 Method)



| I/S #: | | North-South Street: | | | Alameda St | | | Year of Count: | | | 2016 | | Ambient Growth: (%) | | | 1 | | Conducted by: | | GTC | | Date: | | August 2017 | |
|--|--------------------|---------------------|---|-----|--------------------|--------------|-------------|-----------------------|--------------|-------------|------------------------------|--------------|---------------------|---------------|-----------------------------|--------------|---------------|---------------|---------------------------------|--------------|--------------|-------------|-----|----------------------------|--|
| 7 | | East-West Street: | | | 7th St | | | Projection Year: | | | 2022 | | Peak Hour: | | | PM | | Reviewed by: | | | | Project: | | 668 S Alameda St Mixed-Use | |
| No. of Phases | | | | | 3 | | | 3 | | | 3 | | | 3 | | | 3 | | | 3 | | | | | |
| Opposed Ø'ing: N/S-1, E/W-2 or Both-3? | | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | | | |
| Right Turns: FREE-1, NRTOR-2 or OLA-3? | | | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | | | | | | |
| ATSAC-1 or ATSAC+ATCS-2? | | | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | | | | | | |
| Override Capacity | | | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | | | |
| | | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | | | |
| MOVEMENT | | | | | EXISTING CONDITION | | | EXISTING PLUS PROJECT | | | FUTURE CONDITION W/O PROJECT | | | | FUTURE CONDITION W/ PROJECT | | | | FUTURE W/ PROJECT W/ MITIGATION | | | | | | |
| | | | | | Volume | No. of Lanes | Lane Volume | Project Traffic | Total Volume | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | | | |
| NORTHBOUND | Left | 108 | 1 | 108 | 0 | 108 | 108 | 0 | 115 | 1 | 115 | 0 | 115 | 1 | 115 | 0 | 115 | 1 | 115 | 0 | 115 | 1 | 115 | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | 0 | | | | |
| | Through | 754 | 1 | 434 | 56 | 810 | 462 | 219 | 1019 | 1 | 623 | 56 | 1075 | 1 | 651 | -6 | 1069 | 1 | 648 | | | 648 | | | |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | 1 | | | | |
| | Right | 114 | 0 | 114 | 0 | 114 | 114 | 106 | 227 | 0 | 227 | 0 | 227 | 0 | 227 | 0 | 227 | 0 | 227 | 0 | 227 | 0 | 227 | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | 0 | | 0 | | |
| Left-Right | | 0 | | | | | | | | 0 | | | | 0 | | | | 0 | | | 0 | | | | |
| SOUTHBOUND | Left | 104 | 1 | 104 | 0 | 104 | 104 | 92 | 202 | 1 | 202 | 0 | 202 | 1 | 202 | 0 | 202 | 1 | 202 | 0 | 202 | 1 | 202 | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | 0 | | | | |
| | Through | 707 | 1 | 375 | 15 | 722 | 386 | 220 | 970 | 1 | 568 | 15 | 985 | 1 | 579 | -2 | 983 | 1 | 578 | | | 578 | | | |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | 1 | | | | |
| | Right | 43 | 0 | 43 | 7 | 50 | 50 | 120 | 166 | 0 | 166 | 7 | 173 | 0 | 173 | -1 | 172 | 0 | 172 | 0 | 172 | 0 | 172 | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | 0 | | 0 | | |
| Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | 0 | | 0 | | | |
| EASTBOUND | Left | 97 | 1 | 97 | 22 | 119 | 119 | 81 | 184 | 1 | 184 | 22 | 206 | 1 | 206 | -2 | 204 | 1 | 204 | | | 204 | | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | 0 | | | | |
| | Through | 750 | 1 | 431 | 0 | 750 | 431 | 419 | 1215 | 1 | 667 | 0 | 1215 | 1 | 667 | 0 | 1215 | 1 | 667 | 0 | 1215 | 1 | 667 | | |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | 1 | | | | |
| | Right | 111 | 0 | 111 | 0 | 111 | 111 | 0 | 118 | 0 | 118 | 0 | 118 | 0 | 118 | 0 | 118 | 0 | 118 | 0 | 118 | 0 | 118 | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | 0 | | 0 | | |
| Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | 0 | | 0 | | | |
| WESTBOUND | Left | 79 | 1 | 79 | 4 | 83 | 83 | 129 | 213 | 1 | 213 | 4 | 217 | 1 | 217 | -1 | 216 | 1 | 216 | | | 216 | | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | 0 | | | | |
| | Through | 416 | 1 | 268 | 29 | 445 | 283 | 396 | 838 | 1 | 584 | 29 | 867 | 1 | 599 | -3 | 864 | 1 | 597 | | | 597 | | | |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | 1 | | | | |
| | Right | 120 | 0 | 120 | 0 | 120 | 120 | 203 | 330 | 0 | 330 | 0 | 330 | 0 | 330 | 0 | 330 | 0 | 330 | 0 | 330 | 0 | 330 | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | 0 | | 0 | | |
| Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | 0 | | 0 | | | |
| CRITICAL VOLUMES | | | | | North-South: 538 | | | North-South: 566 | | | North-South: 825 | | | | North-South: 853 | | | | North-South: 850 | | | | | | |
| | | | | | East-West: 510 | | | East-West: 514 | | | East-West: 880 | | | | East-West: 884 | | | | East-West: 883 | | | | | | |
| | | | | | SUM: 1048 | | | SUM: 1080 | | | SUM: 1705 | | | | SUM: 1737 | | | | SUM: 1733 | | | | | | |
| VOLUME/CAPACITY (V/C) RATIO: | | | | | 0.735 | | | 0.758 | | | 1.196 | | | | 1.219 | | | | 1.216 | | | | | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | | | | 0.635 | | | 0.658 | | | 1.096 | | | | 1.119 | | | | 1.116 | | | | | | |
| LEVEL OF SERVICE (LOS): | | | | | B | | | B | | | F | | | | F | | | | F | | | | | | |

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

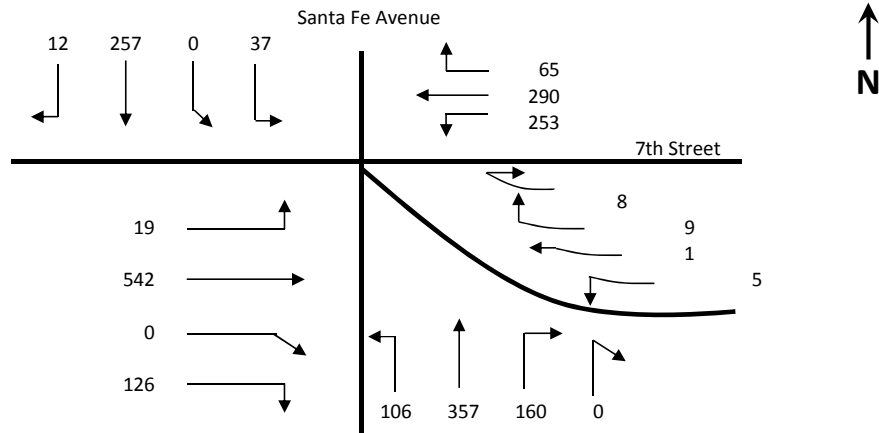
| | | | |
|-------------------------------|-------|------------------------|-------|
| Change in v/c due to project: | 0.023 | Δv/c after mitigation: | 0.020 |
| Significant impacted? | YES | Fully mitigated? | NO |

Level of Service Worksheet (Circular 212 Method)



| I/S #: | | North-South Street: | | | Mateo St | | | Year of Count: | | | 2016 | | Ambient Growth: (%): | | | 1 | | Conducted by: | | GTC | | Date: | | August 2017 | |
|--|--------------------|---------------------|---|-----|--------------------|--------------|-------------|-----------------------|--------------|-------------|------------------------------|--------------|----------------------|---------------|-----------------------------|--------------|---------------|---------------|---------------------------------|--------------|--------------|-------------|-----|----------------------------|--|
| 8 | | East-West Street: | | | 7th St | | | Projection Year: | | | 2022 | | Peak Hour: | | | PM | | Reviewed by: | | | | Project: | | 668 S Alameda St Mixed-Use | |
| No. of Phases | | | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | | | |
| Opposed Ø'ing: N/S-1, E/W-2 or Both-3? | | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | | | |
| Right Turns: FREE-1, NRTOR-2 or OLA-3? | | | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | | | | | | |
| ATSAC-1 or ATSAC+ATCS-2? | | | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | | | | | | |
| Override Capacity | | | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | | | |
| | | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | | | |
| MOVEMENT | | | | | EXISTING CONDITION | | | EXISTING PLUS PROJECT | | | FUTURE CONDITION W/O PROJECT | | | | FUTURE CONDITION W/ PROJECT | | | | FUTURE W/ PROJECT W/ MITIGATION | | | | | | |
| | | | | | Volume | No. of Lanes | Lane Volume | Project Traffic | Total Volume | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | | | |
| NORTHBOUND | Left | 132 | 0 | 132 | 0 | 132 | 132 | 203 | 343 | 0 | 343 | 0 | 343 | 0 | 343 | 0 | 343 | 0 | 343 | 0 | 343 | 0 | 343 | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | 0 | | 0 | | | |
| | Through | 175 | 0 | 357 | 37 | 212 | 394 | 29 | 215 | 0 | 971 | 37 | 252 | 0 | 1008 | -4 | 248 | 0 | 1004 | | | | | | |
| | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | 0 | | 0 | | | |
| | Right | 50 | 0 | 0 | 0 | 50 | 0 | 360 | 413 | 0 | 0 | 0 | 413 | 0 | 0 | 0 | 413 | 0 | 0 | 0 | 413 | 0 | 0 | | |
| | Left-Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | 1 | | 1 | | | |
| | Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | 0 | | 0 | | | |
| SOUTHBOUND | Left | 34 | 0 | 34 | 0 | 34 | 34 | 36 | 72 | 0 | 72 | 0 | 72 | 0 | 72 | 0 | 72 | 0 | 72 | 0 | 72 | 0 | 72 | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | 0 | | 0 | | | |
| | Through | 109 | 0 | 171 | 0 | 109 | 171 | 18 | 134 | 0 | 236 | 0 | 134 | 0 | 236 | 0 | 134 | 0 | 236 | 0 | 134 | 0 | 236 | | |
| | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | 0 | | 0 | | | |
| | Right | 28 | 0 | 0 | 0 | 28 | 0 | 0 | 30 | 0 | 0 | 0 | 30 | 0 | 0 | 0 | 30 | 0 | 0 | 0 | 30 | 0 | 0 | | |
| | Left-Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | 1 | | 1 | | | |
| | Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | 0 | | 0 | | | |
| EASTBOUND | Left | 74 | 1 | 74 | 0 | 74 | 74 | 0 | 79 | 1 | 79 | 0 | 79 | 1 | 79 | 0 | 79 | 1 | 79 | 0 | 79 | 1 | 79 | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | 0 | | 0 | | | |
| | Through | 575 | 1 | 327 | 22 | 597 | 344 | 547 | 1157 | 1 | 774 | 22 | 1179 | 1 | 791 | -3 | 1176 | 1 | 789 | | | | | | |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | 1 | | 1 | | | |
| | Right | 79 | 0 | 79 | 12 | 91 | 91 | 307 | 391 | 0 | 391 | 12 | 403 | 0 | 403 | -1 | 402 | 0 | 402 | 0 | 402 | 0 | 402 | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | 0 | | 0 | | | |
| | Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | 0 | | 0 | | | |
| WESTBOUND | Left | 53 | 1 | 53 | 0 | 53 | 53 | 393 | 449 | 1 | 449 | 0 | 449 | 1 | 449 | 0 | 449 | 1 | 449 | 0 | 449 | 1 | 449 | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | 0 | | 0 | | | |
| | Through | 298 | 1 | 164 | 37 | 335 | 183 | 245 | 561 | 1 | 316 | 37 | 598 | 1 | 335 | -4 | 594 | 1 | 333 | | | | | | |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | 1 | | 1 | | | |
| | Right | 30 | 0 | 30 | 0 | 30 | 30 | 39 | 71 | 0 | 71 | 0 | 71 | 0 | 71 | 0 | 71 | 0 | 71 | 0 | 71 | 0 | 71 | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | 0 | | 0 | | | |
| | Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | 0 | | 0 | | | |
| CRITICAL VOLUMES | | | | | North-South: 391 | | | North-South: 428 | | | North-South: 1043 | | | | North-South: 1080 | | | | North-South: 1076 | | | | | | |
| | | | | | East-West: 380 | | | East-West: 397 | | | East-West: 1223 | | | | East-West: 1240 | | | | East-West: 1238 | | | | | | |
| | | | | | SUM: 771 | | | SUM: 825 | | | SUM: 2266 | | | | SUM: 2320 | | | | SUM: 2314 | | | | | | |
| VOLUME/CAPACITY (V/C) RATIO: | | | | | 0.514 | | | 0.550 | | | 1.511 | | | | 1.547 | | | | 1.543 | | | | | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | | | | 0.414 | | | 0.450 | | | 1.411 | | | | 1.447 | | | | 1.443 | | | | | | |
| LEVEL OF SERVICE (LOS): | | | | | A | | | A | | | F | | | | F | | | | F | | | | | | |

**Intersection 9 - Santa Fe Avenue & 7th Street
Existing Conditions (Year 2016) - PM Peak Hour**



- 1) Critical volume calculation for eastbound/westbound traffic on 7th Street

Eastbound Left : 19 and

Westbound Throughs + Right:

$$\frac{290 + 65}{2} = \frac{355}{2} = 178$$
or

Westbound Left: 253 and

Eastbound Throughs + Right to 7th Street and Frontage Road:

$$\frac{542 + 0 + 126}{2} = \frac{668}{2} = 334$$

Critical Volume #1 (CV1): **587**

- 2) Critical volume calculation for northeastbound traffic on Frontage Road

Northeastbound Lefts + Throughs + Rights + Sharp Right:

$$8 + 9 + 1 + 5 = 23$$

Critical Volume #2 (CV2): **23**

- 3) Critical volume calculation for northbound/southbound traffic on Santa Fe Avenue

Southbound Left to 7th Street and Frontage Road:

$$37 + 0 = 37$$
and

Northbound Through: 357 or

Northbound Right to 7th Street and Frontage Road:

$$160 + 0 - 253 = -93$$
or

Northbound Left: 106 and

Southbound Left + Left to Frontage Road + Through + Right:

$$12 + 257 + 0 + 37 = 306$$

Critical Volume #3 (CV3): **412**

Critical Volume: 587 + 23 + 412 = **1022**

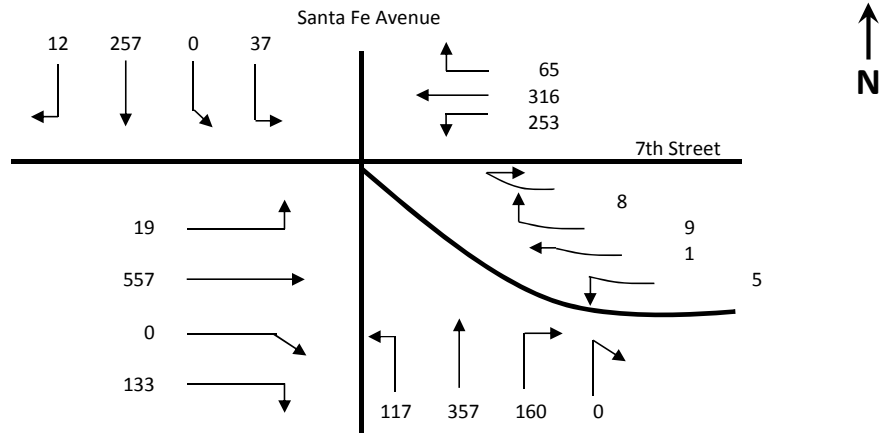
Intersection V/C: $\frac{1022}{1375} = \mathbf{0.743}$

ATSAC/ATCS Credit: 0.10

Final intersection V/C: 0.643

Intersection LOS: B

Intersection 9 - Santa Fe Avenue & 7th Street
Existing with Project Conditions (Year 2016) - PM Peak Hour



- 1) Critical volume calculation for eastbound/westbound traffic on 7th Street

Eastbound Left : 19 and

Westbound Throughs + Right:

$$\frac{316 + 65}{2} = \frac{381}{2} = 191 \quad \text{or}$$

Westbound Left: 253 and

Eastbound Throughs + Right to 7th Street and Frontage Road:

$$\frac{557 + 0 + 133}{2} = \frac{690}{2} = 345$$

Critical Volume #1 (CV1): **598**

- 2) Critical volume calculation for northeastbound traffic on Frontage Road

Northeastbound Lefts + Throughs + Rights + Sharp Right:

$$8 + 9 + 1 + 5 = 23$$

Critical Volume #2 (CV2): **23**

- 3) Critical volume calculation for northbound/southbound traffic on Santa Fe Avenue

Southbound Left to 7th Street and Frontage Road:

$$37 + 0 = 37 \quad \text{and}$$

Northbound Through: 357 or

Northbound Right to 7th Street and Frontage Road:

$$160 + 0 - 253 = -93 \quad \text{or}$$

Northbound Left: 117 and

Southbound Left + Left to Frontage Road + Through + Right:

$$12 + 257 + 0 + 37 = 306$$

Critical Volume #3 (CV3): **423**

Critical Volume: 598 + 23 + 423 = **1044**

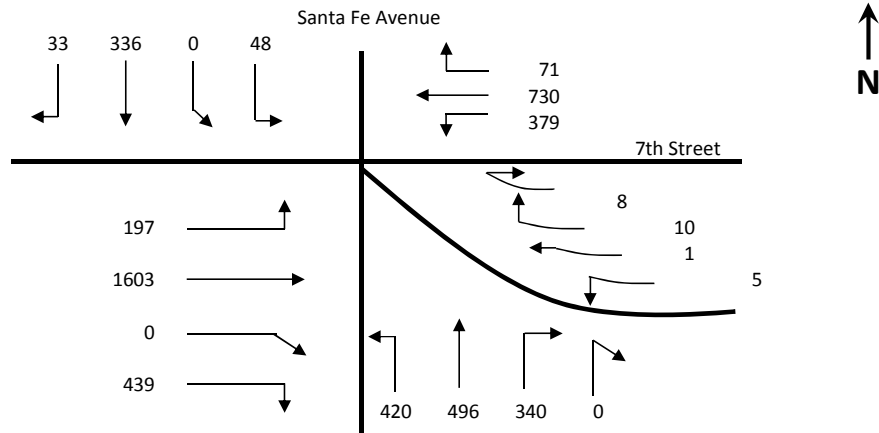
Intersection V/C: $\frac{1044}{1375} = \mathbf{0.759}$

ATSAC/ATCS Credit: 0.10

Final intersection V/C: 0.659

Intersection LOS: B

Intersection 9 - Santa Fe Avenue & 7th Street
Future without Project Conditions (Year 2022) - PM Peak Hour



- 1) Critical volume calculation for eastbound/westbound traffic on 7th Street

Eastbound Left : 197 and

Westbound Throughs + Right:

$$\frac{730 + 71}{2} = \frac{801}{2} = 401 \quad \text{or}$$

Westbound Left: 379 and

Eastbound Throughs + Right to 7th Street and Frontage Road:

$$\frac{1603 + 0 + 439}{2} = \frac{2,042}{2} = 1021$$

Critical Volume #1 (CV1): **1,400**

- 2) Critical volume calculation for northeastbound traffic on Frontage Road

Northeastbound Lefts + Throughs + Rights + Sharp Right:

$$8 + 10 + 1 + 5 = 24$$

Critical Volume #2 (CV2): **24**

- 3) Critical volume calculation for northbound/southbound traffic on Santa Fe Avenue

Southbound Left to 7th Street and Frontage Road:

$$48 + 0 = 48 \quad \text{and}$$

Northbound Through: 496 or

Northbound Right to 7th Street and Frontage Road:

$$340 + 0 - 379 = -39 \quad \text{or}$$

Northbound Left: 420 and

Southbound Left + Left to Frontage Road + Through + Right:

$$33 + 336 + 0 + 48 = 417$$

Critical Volume #3 (CV3): **837**

$$\text{Critical Volume: } 1400 + 24 + 837 = \mathbf{2261}$$

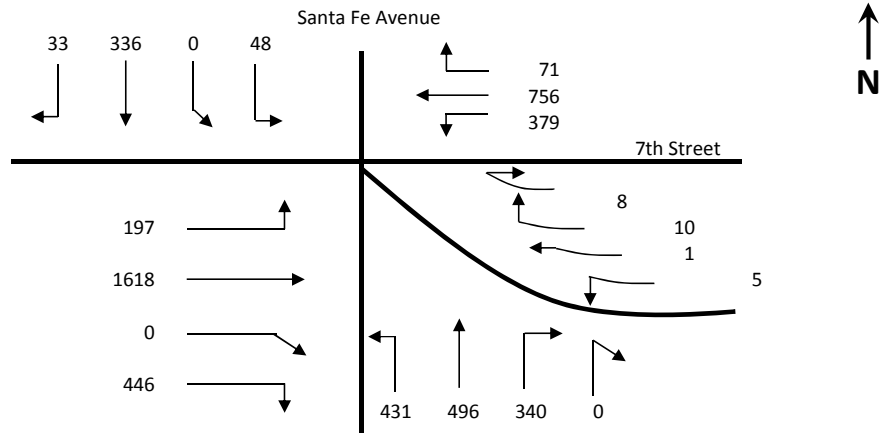
$$\text{Intersection V/C: } \frac{2261}{1375} = \mathbf{1.644}$$

ATSAC/ATCS Credit: 0.10

Final intersection V/C: 1.544

Intersection LOS: F

Intersection 9 - Santa Fe Avenue & 7th Street
Future with Project Conditions (Year 2022) - PM Peak Hour



- 1) Critical volume calculation for eastbound/westbound traffic on 7th Street

Eastbound Left : 197 and

Westbound Throughs + Right:

$$\frac{756 + 71}{2} = \frac{827}{2} = 414 \quad \text{or}$$

Westbound Left: 379 and

Eastbound Throughs + Right to 7th Street and Frontage Road:

$$\frac{1618 + 0 + 446}{2} = \frac{2,064}{2} = 1032$$

Critical Volume #1 (CV1): **1,411**

- 2) Critical volume calculation for northeastbound traffic on Frontage Road

Northeastbound Lefts + Throughs + Rights + Sharp Right:

$$8 + 10 + 1 + 5 = 24$$

Critical Volume #2 (CV2): **24**

- 3) Critical volume calculation for northbound/southbound traffic on Santa Fe Avenue

Southbound Left to 7th Street and Frontage Road:

$$48 + 0 = 48 \quad \text{and}$$

Northbound Through: 496 or

Northbound Right to 7th Street and Frontage Road:

$$340 + 0 - 379 = -39 \quad \text{or}$$

Northbound Left: 431 and

Southbound Left + Left to Frontage Road + Through + Right:

$$33 + 336 + 0 + 48 = 417$$

Critical Volume #3 (CV3): **848**

$$\text{Critical Volume: } 1411 + 24 + 848 = \mathbf{2283}$$

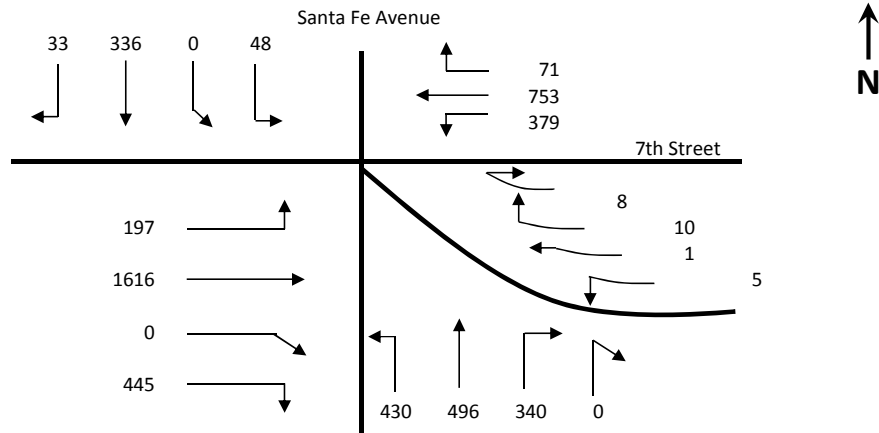
$$\text{Intersection V/C: } \frac{2283}{1375} = \mathbf{1.66}$$

ATSAC/ATCS Credit: 0.10

Final intersection V/C: 1.560

Intersection LOS: F

Intersection 9 - Santa Fe Avenue & 7th Street
Future with Project with Mitigation Conditions (Year 2022) - PM Peak Hour



- 1) Critical volume calculation for eastbound/westbound traffic on 7th Street

Eastbound Left : 197 and

Westbound Throughs + Right:

$$\frac{753 + 71}{2} = \frac{824}{2} = 412$$
 or

Westbound Left: 379 and

Eastbound Throughs + Right to 7th Street and Frontage Road:

$$\frac{1616 + 0 + 445}{2} = \frac{2,061}{2} = 1031$$

Critical Volume #1 (CV1): **1,410**

- 2) Critical volume calculation for northeastbound traffic on Frontage Road

Northeastbound Lefts + Throughs + Rights + Sharp Right:

$$8 + 10 + 1 + 5 = 24$$

Critical Volume #2 (CV2): **24**

- 3) Critical volume calculation for northbound/southbound traffic on Santa Fe Avenue

Southbound Left to 7th Street and Frontage Road:

$$48 + 0 = 48$$
 and

Northbound Through: 496 or

Northbound Right to 7th Street and Frontage Road:

$$340 + 0 - 379 = -39$$
 or

Northbound Left: 430 and

Southbound Left + Left to Frontage Road + Through + Right:

$$33 + 336 + 0 + 48 = 417$$

Critical Volume #3 (CV3): **847**

Critical Volume: 1410 + 24 + 847 = **2281**

Intersection V/C:
$$\frac{2281}{1375} = 1.659$$

ATSAC/ATCS Credit: 0.10

Final intersection V/C: 1.559

Intersection LOS: F

Level of Service Worksheet (Circular 212 Method)



| I/S #: | | North-South Street: | | | Anderson St | | | Year of Count: | | | 2016 | | Ambient Growth: (%): | | | 1 | | Conducted by: | | GTC | | Date: | | August 2017 | | | | |
|--|--------------------|---------------------|---|-----|--------------------|--------------|-------------|-----------------------|--------------|-------------|------------------------------|--------------|----------------------|---------------|-----------------------------|--------------|---------------|---------------|---------------------------------|---------------|--------------|-------------|---------------|---------------------------|--|---|--|--|
| 10 | | East-West Street: | | | 7th St | | | Projection Year: | | | 2022 | | Peak Hour: | | | PM | | Reviewed by: | | | | Project: | | 68 S Alameda St Mixed-Use | | | | |
| No. of Phases | | | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | | | |
| Opposed Ø'ing: N/S-1, E/W-2 or Both-3? | | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | | | |
| Right Turns: FREE-1, NRTOR-2 or OLA-3? | | | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | | | |
| ATSAC-1 or ATSAC+ATCS-2? | | | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | | | |
| Override Capacity | | | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | |
| | | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| MOVEMENT | | | | | EXISTING CONDITION | | | EXISTING PLUS PROJECT | | | FUTURE CONDITION W/O PROJECT | | | | FUTURE CONDITION W/ PROJECT | | | | FUTURE W/ PROJECT W/ MITIGATION | | | | | | | | | |
| | | | | | Volume | No. of Lanes | Lane Volume | Project Traffic | Total Volume | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | | | | | | |
| NORTHBOUND | Left | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | | 0 | | | | | 0 | | | 0 | | | | | |
| | Through | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | | | | | |
| | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | 0 | | | 0 | | | | | |
| | Right | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | | | | | |
| | Left-Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | 1 | | | 1 | | | | | |
| SOUTHBOUND | Left | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | 0 | | | | | |
| | Left-Through | 112 | 0 | 112 | 0 | 112 | 112 | 0 | 119 | 0 | 119 | 0 | 119 | 0 | 119 | 0 | 119 | 0 | 119 | 0 | 119 | 0 | 119 | | | | | |
| | Through | 0 | 0 | 233 | 0 | 0 | 233 | 0 | 0 | 0 | 247 | 0 | 0 | 0 | 247 | 0 | 0 | 0 | 247 | 0 | 0 | 0 | 247 | | | | | |
| | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | 0 | | | 0 | | | | | |
| | Right | 121 | 0 | 0 | 0 | 121 | 0 | 128 | 0 | 0 | 0 | 128 | 0 | 0 | 0 | 128 | 0 | 0 | 0 | 128 | 0 | 0 | 0 | | | | | |
| | Left-Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | 1 | | | 1 | | | | | |
| EASTBOUND | Left | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | | | 1 | | | | | |
| | Left-Through | 121 | 0 | 121 | 0 | 121 | 121 | 0 | 128 | 0 | 128 | 0 | 128 | 0 | 128 | 0 | 128 | 0 | 128 | 0 | 128 | 0 | 128 | | | | | |
| | Through | 1034 | 1 | 517 | 15 | 1049 | 525 | 1207 | 2305 | 1 | 1153 | 15 | 2320 | 1 | 1160 | -2 | 2318 | 1 | 1159 | -2 | 2318 | 1 | 1159 | | | | | |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | 1 | | | 1 | | | | | |
| | Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | 0 | | | 0 | | | | | |
| WESTBOUND | Left | 2 | 1 | 2 | 0 | 2 | 2 | 0 | 2 | 1 | 2 | 0 | 2 | 1 | 2 | 0 | 2 | 1 | 2 | 0 | 2 | 1 | 2 | | | | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | 0 | | | | | |
| | Through | 677 | 1 | 398 | 26 | 703 | 411 | 534 | 1253 | 1 | 690 | 26 | 1279 | 1 | 703 | -3 | 1276 | 1 | 701 | -3 | 1276 | 1 | 701 | | | | | |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | | | 1 | | | | | |
| | Right | 119 | 0 | 119 | 0 | 119 | 119 | 0 | 126 | 0 | 126 | 0 | 126 | 0 | 126 | 0 | 126 | 0 | 126 | 0 | 126 | 0 | 126 | | | | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | 0 | | | | | |
| CRITICAL VOLUMES | | | | | North-South: 233 | | | North-South: 233 | | | North-South: 247 | | | | North-South: 247 | | | | North-South: 247 | | | | | | | | | |
| | | | | | East-West: 519 | | | East-West: 532 | | | East-West: 1155 | | | | East-West: 1162 | | | | East-West: 1161 | | | | | | | | | |
| | | | | | SUM: 752 | | | SUM: 765 | | | SUM: 1402 | | | | SUM: 1409 | | | | SUM: 1408 | | | | | | | | | |
| VOLUME/CAPACITY (V/C) RATIO: | | | | | 0.501 | | | 0.510 | | | 0.935 | | | | 0.939 | | | | 0.939 | | | | | | | | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | | | | 0.401 | | | 0.410 | | | 0.835 | | | | 0.839 | | | | 0.839 | | | | | | | | | |
| LEVEL OF SERVICE (LOS): | | | | | A | | | A | | | D | | | | D | | | | D | | | | | | | | | |

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

| | | | |
|-------------------------------|-------|------------------------|-------|
| Change in v/c due to project: | 0.004 | Δv/c after mitigation: | 0.004 |
| Significant impacted? | NO | Fully mitigated? | N/A |

Level of Service Worksheet (Circular 212 Method)



| I/S #: | | North-South Street: | | | Boyle Ave | | | Year of Count: | | | 2016 | | Ambient Growth: (%): | | | 1 | | Conducted by: | | GTC | | Date: | | August 2017 | |
|---------------------------------|--------------------|--|--------------|-------------|-----------------------|--------------|-------------|------------------------------|--------------|--------------|---------------|-----------------------------|----------------------|------------------|-------------|---------------------------------|---------------|---------------|-------------|------------------|--|----------|-------|----------------------------|--|
| 12 | | East-West Street: | | | 7th St | | | Projection Year: | | | 2022 | | Peak Hour: | | | PM | | Reviewed by: | | | | Project: | | 668 S Alameda St Mixed-Use | |
| | | No. of Phases | | | 4 | | | 4 | | | 4 | | | 4 | | | 4 | | | 4 | | | 4 | | |
| | | Opposed Ø'ing: N/S-1, E/W-2 or Both-3? | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| | | Right Turns: FREE-1, NRTOR-2 or OLA-3? | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | | | |
| | | ATSAC-1 or ATSAC+ATCS-2? | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | | | |
| | | Override Capacity | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | |
| | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| MOVEMENT | | EXISTING CONDITION | | | EXISTING PLUS PROJECT | | | FUTURE CONDITION W/O PROJECT | | | | FUTURE CONDITION W/ PROJECT | | | | FUTURE W/ PROJECT W/ MITIGATION | | | | | | | | | |
| | | Volume | No. of Lanes | Lane Volume | Project Traffic | Total Volume | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | | | | | | |
| NORTHBOUND | Left | 142 | 1 | 142 | 0 | 142 | 142 | 0 | 151 | 1 | 151 | 0 | 151 | 1 | 151 | 0 | 151 | 1 | 151 | | | | | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| | Through | 536 | 1 | 342 | 0 | 536 | 342 | 0 | 569 | 1 | 363 | 0 | 569 | 1 | 363 | 0 | 569 | 1 | 363 | | | | | | |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | | | | | |
| | Right | 147 | 0 | 147 | 0 | 147 | 147 | 0 | 156 | 0 | 156 | 0 | 156 | 0 | 156 | 0 | 156 | 0 | 156 | | | | | | |
| SOUTHBOUND | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| | Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| | Left | 45 | 1 | 45 | 0 | 45 | 45 | 0 | 48 | 1 | 48 | 0 | 48 | 1 | 48 | 0 | 48 | 1 | 48 | | | | | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| | Through | 372 | 1 | 228 | 0 | 372 | 228 | 0 | 395 | 1 | 242 | 0 | 395 | 1 | 242 | 0 | 395 | 1 | 242 | | | | | | |
| EASTBOUND | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | | | | | |
| | Right | 84 | 0 | 84 | 0 | 84 | 84 | 0 | 89 | 0 | 89 | 0 | 89 | 0 | 89 | 0 | 89 | 0 | 89 | | | | | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| | Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| | Left | 260 | 1 | 260 | 0 | 260 | 260 | 0 | 276 | 1 | 276 | 0 | 276 | 1 | 276 | 0 | 276 | 1 | 276 | | | | | | |
| WESTBOUND | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| | Through | 309 | 1 | 309 | 7 | 316 | 316 | 706 | 1034 | 1 | 1034 | 7 | 1041 | 1 | 1041 | -1 | 1040 | 1 | 1040 | | | | | | |
| | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| | Right | 317 | 1 | 246 | 0 | 317 | 246 | 0 | 337 | 1 | 262 | 0 | 337 | 1 | 262 | 0 | 337 | 1 | 262 | | | | | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| CRITICAL VOLUMES | Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| | Left | 11 | 1 | 11 | 0 | 11 | 11 | 0 | 12 | 1 | 12 | 0 | 12 | 1 | 12 | 0 | 12 | 1 | 12 | | | | | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| | Through | 100 | 0 | 177 | 4 | 104 | 181 | 76 | 182 | 0 | 264 | 4 | 186 | 0 | 268 | 0 | 186 | 0 | 268 | | | | | | |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | | | | | |
| VOLUME/CAPACITY (V/C) RATIO: | Right | 77 | 0 | 0 | 0 | 77 | 0 | 0 | 82 | 0 | 0 | 0 | 82 | 0 | 0 | 0 | 82 | 0 | 0 | | | | | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| | Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| | Left | | | | | | | | | | | | | | | | | | | | | | | | |
| | Left-Through | | | | | | | | | | | | | | | | | | | | | | | | |
| CRITICAL VOLUMES | | North-South: 387 | | | 387 | | | North-South: 387 | | | 387 | | | North-South: 411 | | | 411 | | | North-South: 411 | | | 411 | | |
| | | East-West: 437 | | | 441 | | | East-West: 437 | | | 441 | | | East-West: 1046 | | | 1053 | | | East-West: 1046 | | | 1052 | | |
| | | SUM: 824 | | | 828 | | | SUM: 824 | | | 828 | | | SUM: 1457 | | | 1464 | | | SUM: 1457 | | | 1463 | | |
| VOLUME/CAPACITY (V/C) RATIO: | | | | | 0.599 | | | | | | 0.602 | | | | | | 1.060 | | | | | | 1.064 | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | | | | 0.499 | | | | | | 0.502 | | | | | | 0.960 | | | | | | 0.964 | | |
| LEVEL OF SERVICE (LOS): | | | | | A | | | | | | A | | | | | | E | | | | | | E | | |

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

| | | | |
|-------------------------------|-------|------------------------|-------|
| Change in v/c due to project: | 0.005 | Δv/c after mitigation: | 0.004 |
| Significant impacted? | NO | Fully mitigated? | N/A |

Level of Service Worksheet (Circular 212 Method)



| I/S #: | | North-South Street: | | | Santa Fe Ave | | | Year of Count: | | | 2016 | | Ambient Growth: (%): | | | 1 | | Conducted by: | | GTC | | Date: | | August 2017 | |
|---------------------------------|--------------------|--|--------------|-------------|-----------------------|--------------|-------------|------------------------------|--------------|--------------|---------------|-----------------------------|----------------------|------------------|-------------|---------------------------------|---------------|---------------|-------------|---------------|-----|----------|---------------|---------------------------|--|
| 14 | | East-West Street: | | | 8th St | | | Projection Year: | | | 2022 | | Peak Hour: | | | PM | | Reviewed by: | | | | Project: | | 68 S Alameda St Mixed-Use | |
| | | No. of Phases | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | |
| | | Opposed Ø'ing: N/S-1, E/W-2 or Both-3? | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| | | Right Turns: FREE-1, NRTOR-2 or OLA-3? | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | |
| | | ATSAC-1 or ATSAC+ATCS-2? | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | |
| | | Override Capacity | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | |
| | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | |
| MOVEMENT | | EXISTING CONDITION | | | EXISTING PLUS PROJECT | | | FUTURE CONDITION W/O PROJECT | | | | FUTURE CONDITION W/ PROJECT | | | | FUTURE W/ PROJECT W/ MITIGATION | | | | | | | | | |
| | | Volume | No. of Lanes | Lane Volume | Project Traffic | Total Volume | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | | | | | | |
| NORTHBOUND | Left | 222 | 0 | 222 | 0 | 222 | 222 | 0 | 236 | 0 | 236 | 0 | 236 | 0 | 236 | 0 | 236 | 0 | 236 | 0 | 236 | 0 | 236 | | |
| | Left-Through | | 1 | | | | | | | 1 | | | 1 | | 1 | | 1 | | 1 | | 1 | | 1 | | |
| | Through | 487 | 0 | 496 | 11 | 498 | 507 | 357 | 874 | 0 | 884 | 11 | 885 | 0 | 895 | -1 | 884 | 0 | 894 | | | | 894 | | |
| | Through-Right | | 1 | | | | | | | 1 | | | 1 | | 1 | | 1 | | 1 | | 1 | | 1 | | |
| | Right | 9 | 0 | 0 | 0 | 9 | 0 | 0 | 10 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 10 | 0 | 0 | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | |
| Left-Right | | 0 | | | | | | | 0 | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | | |
| SOUTHBOUND | Left | 9 | 0 | 9 | 0 | 9 | 9 | 0 | 10 | 0 | 10 | 0 | 10 | 0 | 10 | 0 | 10 | 0 | 10 | 0 | 10 | 0 | 10 | | |
| | Left-Through | | 1 | | | | | | | 1 | | | 1 | | 1 | | 1 | | 1 | | 1 | | 1 | | |
| | Through | 519 | 0 | 358 | 7 | 526 | 362 | 253 | 804 | 0 | 705 | 7 | 811 | 0 | 709 | -1 | 810 | 0 | 708 | | | | 708 | | |
| | Through-Right | | 1 | | | | | | | 1 | | | 1 | | 1 | | 1 | | 1 | | 1 | | 1 | | |
| | Right | 179 | 0 | 358 | 0 | 179 | 362 | 376 | 566 | 0 | 705 | 0 | 566 | 0 | 709 | 0 | 566 | 0 | 708 | | | | 708 | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | |
| Left-Right | | 0 | | | | | | | 0 | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | | |
| EASTBOUND | Left | 55 | 0 | 55 | 0 | 55 | 55 | 263 | 321 | 0 | 321 | 0 | 321 | 0 | 321 | 0 | 321 | 0 | 321 | 0 | 321 | 0 | 321 | | |
| | Left-Through | | 0 | | | | | | | 0 | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | |
| | Through | 12 | 0 | 437 | 0 | 12 | 437 | 0 | 13 | 0 | 727 | 0 | 13 | 0 | 727 | 0 | 13 | 0 | 727 | 0 | 13 | 0 | 727 | | |
| | Through-Right | | 0 | | | | | | | 0 | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | |
| | Right | 370 | 0 | 0 | 0 | 370 | 0 | 0 | 393 | 0 | 0 | 0 | 393 | 0 | 0 | 0 | 393 | 0 | 0 | 0 | 393 | 0 | 0 | | |
| | Left-Through-Right | | 1 | | | | | | | 1 | | | 1 | | 1 | | 1 | | 1 | | 1 | | 1 | | |
| Left-Right | | 0 | | | | | | | 0 | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | | |
| WESTBOUND | Left | 9 | 0 | 9 | 0 | 9 | 9 | 0 | 10 | 0 | 10 | 0 | 10 | 0 | 10 | 0 | 10 | 0 | 10 | 0 | 10 | 0 | 10 | | |
| | Left-Through | | 0 | | | | | | | 0 | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | |
| | Through | 3 | 0 | 26 | 0 | 3 | 26 | 0 | 3 | 0 | 28 | 0 | 3 | 0 | 28 | 0 | 3 | 0 | 28 | 0 | 3 | 0 | 28 | | |
| | Through-Right | | 0 | | | | | | | 0 | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | |
| | Right | 14 | 0 | 0 | 0 | 14 | 0 | 0 | 15 | 0 | 0 | 0 | 15 | 0 | 0 | 0 | 15 | 0 | 0 | 0 | 15 | 0 | 0 | | |
| | Left-Through-Right | | 1 | | | | | | | 1 | | | 1 | | 1 | | 1 | | 1 | | 1 | | 1 | | |
| Left-Right | | 0 | | | | | | | 0 | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | | |
| CRITICAL VOLUMES | | North-South: 580 | | | 584 | | | North-South: 584 | | | 941 | | | North-South: 945 | | | 944 | | | | | | | | |
| | | East-West: 446 | | | 446 | | | East-West: 446 | | | 737 | | | East-West: 737 | | | 737 | | | | | | | | |
| | | SUM: 1026 | | | 1030 | | | SUM: 1030 | | | 1678 | | | SUM: 1682 | | | SUM: 1681 | | | | | | | | |
| VOLUME/CAPACITY (V/C) RATIO: | | 0.684 | | | 0.687 | | | 1.119 | | | 1.121 | | | 1.121 | | | | | | | | | | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | 0.584 | | | 0.587 | | | 1.019 | | | 1.021 | | | 1.021 | | | | | | | | | | | |
| LEVEL OF SERVICE (LOS): | | A | | | A | | | F | | | F | | | F | | | | | | | | | | | |

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

| | | | |
|-------------------------------|-------|------------------------|-------|
| Change in v/c due to project: | 0.002 | Δv/c after mitigation: | 0.002 |
| Significant impacted? | NO | Fully mitigated? | N/A |

Level of Service Worksheet (Circular 212 Method)



| I/S #: | | North-South Street: | | | Santa Fe Ave | | | Year of Count: | | | 2016 | | Ambient Growth: (%): | | | 1 | | Conducted by: | | GTC | | Date: | | August 2017 | |
|--|--------------------|---------------------|---|-----|--------------------|--------------|-------------|-----------------------|--------------|-------------|------------------------------|--------------|----------------------|---------------|-----------------------------|--------------|---------------|---------------|---------------------------------|--------------|--------------|-------------|--|---------------------------|--|
| 16 | | East-West Street: | | | Porter St | | | Projection Year: | | | 2022 | | Peak Hour: | | | PM | | Reviewed by: | | | | Project: | | 68 S Alameda St Mixed-Use | |
| No. of Phases | | | | | 3 | | | 3 | | | 3 | | | 3 | | | 3 | | | 3 | | | | | |
| Opposed Ø'ing: N/S-1, E/W-2 or Both-3? | | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | | | |
| Right Turns: FREE-1, NRTOR-2 or OLA-3? | | | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | | | | | | |
| ATSAC-1 or ATSAC+ATCS-2? | | | | | EB-- 3 WB-- 0 | | | EB-- 3 WB-- 0 | | | EB-- 3 WB-- 0 | | | EB-- 3 WB-- 0 | | | EB-- 3 WB-- 0 | | | | | | | | |
| Override Capacity | | | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | | | |
| | | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | | | |
| MOVEMENT | | | | | EXISTING CONDITION | | | EXISTING PLUS PROJECT | | | FUTURE CONDITION W/O PROJECT | | | | FUTURE CONDITION W/ PROJECT | | | | FUTURE W/ PROJECT W/ MITIGATION | | | | | | |
| | | | | | Volume | No. of Lanes | Lane Volume | Project Traffic | Total Volume | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | | | |
| NORTHBOUND | Left | 411 | 1 | 411 | 0 | 411 | 411 | 0 | 436 | 1 | 436 | 0 | 436 | 1 | 436 | 0 | 436 | 1 | 436 | | | | | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| | Through | 612 | 1 | 315 | 11 | 623 | 321 | 123 | 773 | 1 | 396 | 11 | 784 | 1 | 402 | -1 | 783 | 1 | 401 | | | | | | |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | | | | | |
| | Right | 18 | 0 | 18 | 0 | 18 | 18 | 0 | 19 | 0 | 19 | 0 | 19 | 0 | 19 | 0 | 19 | 0 | 19 | | | | | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | | |
| SOUTHBOUND | Left | 27 | 1 | 27 | 0 | 27 | 27 | 0 | 29 | 1 | 29 | 0 | 29 | 1 | 29 | 0 | 29 | 1 | 29 | | | | | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| | Through | 799 | 1 | 446 | 7 | 806 | 449 | 331 | 1179 | 1 | 685 | 7 | 1186 | 1 | 688 | -1 | 1185 | 1 | 688 | | | | | | |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | | | | | |
| | Right | 92 | 0 | 92 | 0 | 92 | 92 | 92 | 190 | 0 | 190 | 0 | 190 | 0 | 190 | 0 | 190 | 0 | 190 | | | | | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | | |
| EASTBOUND | Left | 34 | 0 | 34 | 0 | 34 | 34 | 234 | 270 | 0 | 270 | 0 | 270 | 0 | 270 | 0 | 270 | 0 | 270 | | | | | | |
| | Left-Through | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | | | | | |
| | Through | 26 | 0 | 60 | 0 | 26 | 60 | 0 | 28 | 0 | 298 | 0 | 28 | 0 | 298 | 0 | 28 | 0 | 298 | | | | | | |
| | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| | Right | 220 | 1 | 0 | 0 | 220 | 0 | 0 | 234 | 1 | 0 | 0 | 234 | 1 | 0 | 0 | 234 | 1 | 0 | | | | | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | | |
| WESTBOUND | Left | 52 | 0 | 52 | 0 | 52 | 52 | 0 | 55 | 0 | 55 | 0 | 55 | 0 | 55 | 0 | 55 | 0 | 55 | | | | | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| | Through | 72 | 0 | 178 | 0 | 72 | 178 | 0 | 76 | 0 | 188 | 0 | 76 | 0 | 188 | 0 | 76 | 0 | 188 | | | | | | |
| | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | |
| | Right | 54 | 0 | 0 | 0 | 54 | 0 | 0 | 57 | 0 | 0 | 0 | 57 | 0 | 0 | 0 | 57 | 0 | 0 | | | | | | |
| | Left-Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | | | | | |
| Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | | |
| CRITICAL VOLUMES | | | | | North-South: 857 | | | North-South: 860 | | | North-South: 1121 | | | | North-South: 1124 | | | | North-South: 1124 | | | | | | |
| | | | | | East-West: 212 | | | East-West: 212 | | | East-West: 458 | | | | East-West: 458 | | | | East-West: 458 | | | | | | |
| | | | | | SUM: 1069 | | | SUM: 1072 | | | SUM: 1579 | | | | SUM: 1582 | | | | SUM: 1582 | | | | | | |
| VOLUME/CAPACITY (V/C) RATIO: | | | | | 0.750 | | | 0.752 | | | 1.108 | | | | 1.110 | | | | 1.110 | | | | | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | | | | 0.650 | | | 0.652 | | | 1.008 | | | | 1.010 | | | | 1.010 | | | | | | |
| LEVEL OF SERVICE (LOS): | | | | | B | | | B | | | F | | | | F | | | | F | | | | | | |

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

| | | | |
|-------------------------------|-------|------------------------|-------|
| Change in v/c due to project: | 0.002 | Δv/c after mitigation: | 0.002 |
| Significant impacted? | NO | Fully mitigated? | N/A |

Level of Service Worksheet (Circular 212 Method)



| I/S #: | | North-South Street: Central Ave | | | Year of Count: 2016 | | | Ambient Growth: (%): 1 | | | Conducted by: | | GTC | | Date: August 2017 | | | | |
|--|--------------------|---|--------------|-------------|---|--------------|-------------|---|--------------|--------------|---------------|---|---------------|--------------|------------------------------------|---|--------------|--------------|-------------|
| 17 | | East-West Street: Olympic Blvd | | | Projection Year: 2022 | | | Peak Hour: PM | | | Reviewed by: | | | | Project: 68 S Alameda St Mixed-Use | | | | |
| No. of Phases | | 4 | | | 4 | | | 4 | | | 4 | | 4 | | 4 | | | | |
| Opposed Ø'ing: N/S-1, E/W-2 or Both-3? | | 0 | | | 0 | | | 0 | | | 0 | | 0 | | 0 | | | | |
| Right Turns: FREE-1, NRTOR-2 or OLA-3? | | NB-- 3 SB-- 0 | | | NB-- 3 SB-- 0 | | | NB-- 3 SB-- 0 | | | NB-- 3 SB-- 0 | | NB-- 3 SB-- 0 | | NB-- 3 SB-- 0 | | | | |
| ATSAC-1 or ATSAC+ATCS-2? | | EB-- 0 WB-- 3 | | | EB-- 0 WB-- 3 | | | EB-- 0 WB-- 3 | | | EB-- 0 WB-- 3 | | EB-- 0 WB-- 3 | | EB-- 0 WB-- 3 | | | | |
| Override Capacity | | 2 | | | 2 | | | 2 | | | 2 | | 2 | | 2 | | | | |
| | | 0 | | | 0 | | | 0 | | | 0 | | 0 | | 0 | | | | |
| MOVEMENT | | EXISTING CONDITION | | | EXISTING PLUS PROJECT | | | FUTURE CONDITION W/O PROJECT | | | | FUTURE CONDITION W/ PROJECT | | | | FUTURE W/ PROJECT W/ MITIGATION | | | |
| | | Volume | No. of Lanes | Lane Volume | Project Traffic | Total Volume | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume |
| NORTHBOUND | Left | 75 | 1 | 75 | 0 | 75 | 75 | 0 | 80 | 1 | 80 | 0 | 80 | 1 | 80 | 0 | 80 | 1 | 80 |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Through | 675 | 2 | 338 | 11 | 686 | 343 | 2 | 719 | 2 | 360 | 11 | 730 | 2 | 365 | -1 | 729 | 2 | 365 |
| | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Right | 203 | 1 | 100 | 0 | 203 | 100 | 0 | 215 | 1 | 106 | 0 | 215 | 1 | 106 | 0 | 215 | 1 | 106 |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| SOUTHBOUND | Left | 169 | 1 | 169 | 0 | 169 | 169 | 0 | 179 | 1 | 179 | 0 | 179 | 1 | 179 | 0 | 179 | 1 | 179 |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Through | 696 | 1 | 374 | 15 | 711 | 385 | 36 | 775 | 1 | 416 | 15 | 790 | 1 | 427 | -2 | 788 | 1 | 425 |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | |
| | Right | 51 | 0 | 51 | 7 | 58 | 58 | 2 | 56 | 0 | 56 | 7 | 63 | 0 | 63 | -1 | 62 | 0 | 62 |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| EASTBOUND | Left | 74 | 1 | 74 | 0 | 74 | 74 | 0 | 79 | 1 | 79 | 0 | 79 | 1 | 79 | 0 | 79 | 1 | 79 |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Through | 1148 | 1 | 642 | 11 | 1159 | 647 | 245 | 1464 | 1 | 804 | 11 | 1475 | 1 | 809 | -1 | 1474 | 1 | 809 |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | |
| | Right | 135 | 0 | 135 | 0 | 135 | 135 | 0 | 143 | 0 | 143 | 0 | 143 | 0 | 143 | 0 | 143 | 0 | 143 |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| WESTBOUND | Left | 103 | 1 | 103 | 0 | 103 | 103 | 0 | 109 | 1 | 109 | 0 | 109 | 1 | 109 | 0 | 109 | 1 | 109 |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Through | 626 | 2 | 313 | 0 | 626 | 313 | 259 | 924 | 2 | 462 | 0 | 924 | 2 | 462 | 0 | 924 | 2 | 462 |
| | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Right | 151 | 1 | 0 | 0 | 151 | 0 | 0 | 160 | 1 | 0 | 0 | 160 | 1 | 0 | 0 | 160 | 1 | 0 |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| CRITICAL VOLUMES | | North-South: 507
East-West: 745
SUM: 1252 | | | North-South: 512
East-West: 750
SUM: 1262 | | | North-South: 539
East-West: 913
SUM: 1452 | | | | North-South: 544
East-West: 918
SUM: 1462 | | | | North-South: 544
East-West: 918
SUM: 1462 | | | |
| VOLUME/CAPACITY (V/C) RATIO: | | 0.911 | | | 0.918 | | | 1.056 | | | | 1.063 | | | | 1.063 | | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | 0.811 | | | 0.818 | | | 0.956 | | | | 0.963 | | | | 0.963 | | | |
| LEVEL OF SERVICE (LOS): | | D | | | D | | | E | | | | E | | | | E | | | |

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

| | | | |
|-------------------------------|-------|------------------------|-------|
| Change in v/c due to project: | 0.007 | Δv/c after mitigation: | 0.007 |
| Significant impacted? | NO | Fully mitigated? | N/A |

Level of Service Worksheet (Circular 212 Method)



| I/S #: | | North-South Street: Alameda St | | | Year of Count: 2016 | | | Ambient Growth: (%): 1 | | | Conducted by: | | GTC | | Date: August 2017 | | | | |
|---|--------------------|---|--------------|-------------|---|--------------|-------------|---|--------------|--------------|---------------|---|--------------|--------------|------------------------------------|---|--------------|--------------|-------------|
| 18 | | East-West Street: Olympic Blvd | | | Projection Year: 2022 | | | Peak Hour: PM | | | Reviewed by: | | | | Project: 68 S Alameda St Mixed-Use | | | | |
| <div>No. of Phases
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?
Right Turns: FREE-1, NRTOR-2 or OLA-3?
ATSAC-1 or ATSAC+ATCS-2?
Override Capacity</div> | | | | | | | | | | | | | | | | | | | |
| | | 2 | | | 2 | | | 2 | | | 2 | | 2 | | | | | | |
| | | 0 | | | 0 | | | 0 | | | 0 | | 0 | | | | | | |
| | | 0 | | | 0 | | | 0 | | | 0 | | 0 | | | | | | |
| | | 0 | | | 0 | | | 0 | | | 0 | | 0 | | | | | | |
| | | 0 | | | 0 | | | 0 | | | 0 | | 0 | | | | | | |
| | | 2 | | | 2 | | | 2 | | | 2 | | 2 | | | | | | |
| | | 0 | | | 0 | | | 0 | | | 0 | | 0 | | | | | | |
| MOVEMENT | | EXISTING CONDITION | | | EXISTING PLUS PROJECT | | | FUTURE CONDITION W/O PROJECT | | | | FUTURE CONDITION W/ PROJECT | | | | FUTURE W/ PROJECT W/ MITIGATION | | | |
| | | Volume | No. of Lanes | Lane Volume | Project Traffic | Total Volume | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume |
| NORTHBOUND | Left | 75 | 1 | 75 | 0 | 75 | 75 | 4 | 84 | 1 | 84 | 0 | 84 | 1 | 84 | 0 | 84 | 1 | 84 |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Through | 781 | 1 | 482 | 17 | 798 | 491 | 246 | 1075 | 1 | 635 | 17 | 1092 | 1 | 643 | -2 | 1090 | 1 | 642 |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | |
| | Right | 183 | 0 | 183 | 0 | 183 | 183 | 0 | 194 | 0 | 194 | 0 | 194 | 0 | 194 | 0 | 194 | 0 | 194 |
| SOUTHBOUND | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Left | 99 | 1 | 99 | 7 | 106 | 106 | 91 | 196 | 1 | 196 | 7 | 203 | 1 | 203 | -1 | 202 | 1 | 202 |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Through | 874 | 2 | 437 | 12 | 886 | 443 | 220 | 1148 | 2 | 574 | 12 | 1160 | 2 | 580 | -1 | 1159 | 2 | 580 |
| EASTBOUND | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Right | 127 | 1 | 96 | 0 | 127 | 85 | 39 | 174 | 1 | 125 | 0 | 174 | 1 | 114 | 0 | 174 | 1 | 115 |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Left | 62 | 1 | 62 | 22 | 84 | 84 | 32 | 98 | 1 | 98 | 22 | 120 | 1 | 120 | -2 | 118 | 1 | 118 |
| WESTBOUND | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Through | 951 | 1 | 502 | 0 | 951 | 502 | 241 | 1251 | 1 | 656 | 0 | 1251 | 1 | 656 | 0 | 1251 | 1 | 656 |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | |
| | Right | 53 | 0 | 53 | 0 | 53 | 53 | 5 | 61 | 0 | 61 | 0 | 61 | 0 | 61 | 0 | 61 | 0 | 61 |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| CRITICAL VOLUMES | Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Left | 76 | 1 | 76 | 0 | 76 | 76 | 0 | 81 | 1 | 81 | 0 | 81 | 1 | 81 | 0 | 81 | 1 | 81 |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Through | 900 | 1 | 469 | 0 | 900 | 472 | 194 | 1149 | 1 | 617 | 0 | 1149 | 1 | 620 | 0 | 1149 | 1 | 619 |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | |
| VOLUME/CAPACITY (V/C) RATIO:
V/C LESS ATSAC/ATCS ADJUSTMENT:
LEVEL OF SERVICE (LOS): | Right | 38 | 0 | 38 | 6 | 44 | 44 | 44 | 84 | 0 | 84 | 6 | 90 | 0 | 90 | -1 | 89 | 0 | 89 |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Left | | | | | | | | | | | | | | | | | | |
| | Left-Through | | | | | | | | | | | | | | | | | | |
| CRITICAL VOLUMES | | North-South: 581
East-West: 578
SUM: 1159 | | | North-South: 597
East-West: 578
SUM: 1175 | | | North-South: 831
East-West: 737
SUM: 1568 | | | | North-South: 846
East-West: 740
SUM: 1586 | | | | North-South: 844
East-West: 737
SUM: 1581 | | | |
| VOLUME/CAPACITY (V/C) RATIO: | | | | | | | | | | | | | | | | | | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | | | | | | | | | | | | | | | | | | |
| LEVEL OF SERVICE (LOS): | | | | | | | | | | | | | | | | | | | |

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

| | | | |
|-------------------------------|-------|------------------------|-------|
| Change in v/c due to project: | 0.012 | Δv/c after mitigation: | 0.009 |
| Significant impacted? | YES | Fully mitigated? | YES |

Level of Service Worksheet (Circular 212 Method)



| I/S #: | | North-South Street: | | | Santa Fe Ave | | | Year of Count: | | | 2016 | | Ambient Growth: (%): | | | 1 | | Conducted by: | | GTC | | Date: | | August 2017 | | | | | |
|---------------------------------|--------------------|--|--------------|-------------|-----------------------|--------------|-------------|------------------------------|--------------|--------------|---------------|-----------------------------|----------------------|---------------|-------------|---------------------------------|---------------|---------------|-------------|---------------|--|----------|---------------|---------------------------|---|--|--|---|--|
| 19 | | East-West Street: | | | Olympic Blvd | | | Projection Year: | | | 2022 | | Peak Hour: | | | PM | | Reviewed by: | | | | Project: | | 68 S Alameda St Mixed-Use | | | | | |
| | | No. of Phases | | | 3 | | | 3 | | | 4 | | | 4 | | | 4 | | | 4 | | | | | 4 | | | | |
| | | Opposed Ø'ing: N/S-1, E/W-2 or Both-3? | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | | | 0 | |
| | | Right Turns: FREE-1, NRTOR-2 or OLA-3? | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | | | 0 | |
| | | ATSAC-1 or ATSAC+ATCS-2? | | | EB-- 3 WB-- 0 | | | EB-- 3 WB-- 0 | | | EB-- 3 WB-- 0 | | | EB-- 3 WB-- 0 | | | EB-- 3 WB-- 0 | | | EB-- 3 WB-- 0 | | | EB-- 3 WB-- 0 | | | | | 0 | |
| | | Override Capacity | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | | | 2 | |
| | | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | | | 0 | |
| MOVEMENT | | EXISTING CONDITION | | | EXISTING PLUS PROJECT | | | FUTURE CONDITION W/O PROJECT | | | | FUTURE CONDITION W/ PROJECT | | | | FUTURE W/ PROJECT W/ MITIGATION | | | | | | | | | | | | | |
| | | Volume | No. of Lanes | Lane Volume | Project Traffic | Total Volume | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | | | | | | | | | | |
| NORTHBOUND | Left | 102 | 1 | 102 | 0 | 102 | 102 | 0 | 108 | 1 | 108 | 0 | 108 | 1 | 108 | 0 | 108 | 1 | 108 | | | | | | | | | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | | | | | |
| | Through | 910 | 1 | 535 | 11 | 921 | 540 | 57 | 1023 | 1 | 596 | 11 | 1034 | 1 | 602 | -1 | 1033 | 1 | 601 | | | | | | | | | | |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | | | | | | | | | |
| | Right | 159 | 0 | 159 | 0 | 159 | 159 | 0 | 169 | 0 | 169 | 0 | 169 | 0 | 169 | 0 | 169 | 0 | 169 | | | | | | | | | | |
| SOUTHBOUND | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | | | | | |
| | Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | | | | | |
| | Left | 88 | 1 | 88 | 0 | 88 | 88 | 233 | 326 | 1 | 326 | 0 | 326 | 1 | 326 | 0 | 326 | 1 | 326 | | | | | | | | | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | | | | | |
| | Through | 964 | 1 | 495 | 7 | 971 | 499 | 71 | 1094 | 1 | 575 | 7 | 1101 | 1 | 578 | -1 | 1100 | 1 | 578 | | | | | | | | | | |
| EASTBOUND | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | | | | | | | | | |
| | Right | 26 | 0 | 26 | 0 | 26 | 26 | 27 | 55 | 0 | 55 | 0 | 55 | 0 | 55 | 0 | 55 | 0 | 55 | | | | | | | | | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | | | | | |
| | Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | | | | | |
| | Left | 32 | 1 | 32 | 0 | 32 | 32 | 20 | 54 | 1 | 54 | 0 | 54 | 1 | 54 | 0 | 54 | 1 | 54 | | | | | | | | | | |
| WESTBOUND | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | | | | | |
| | Through | 898 | 2 | 449 | 4 | 902 | 451 | 173 | 1126 | 2 | 563 | 4 | 1130 | 2 | 565 | -1 | 1129 | 2 | 565 | | | | | | | | | | |
| | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | | | | | |
| | Right | 295 | 1 | 193 | 0 | 295 | 193 | 0 | 313 | 1 | 205 | 0 | 313 | 1 | 205 | 0 | 313 | 1 | 205 | | | | | | | | | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | | | | | |
| CRITICAL VOLUMES | Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | | | | | |
| | Left | 88 | 1 | 88 | 0 | 88 | 88 | 0 | 93 | 1 | 93 | 0 | 93 | 1 | 93 | 0 | 93 | 1 | 93 | | | | | | | | | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | | | | | |
| | Through | 639 | 1 | 353 | 6 | 645 | 356 | 165 | 843 | 1 | 479 | 6 | 849 | 1 | 482 | -1 | 848 | 1 | 482 | | | | | | | | | | |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | | | | | | | | | |
| VOLUME/CAPACITY (V/C) RATIO: | Right | 66 | 0 | 66 | 0 | 66 | 66 | 45 | 115 | 0 | 115 | 0 | 115 | 0 | 115 | 0 | 115 | 0 | 115 | | | | | | | | | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | | | | | |
| | Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | | | | | | | | |
| | Left | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Left-Through | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CRITICAL VOLUMES | | North-South: 623 | | | North-South: 628 | | | North-South: 922 | | | | North-South: 928 | | | | North-South: 927 | | | | | | | | | | | | | |
| | | East-West: 537 | | | East-West: 539 | | | East-West: 656 | | | | East-West: 658 | | | | East-West: 658 | | | | | | | | | | | | | |
| | | SUM: 1160 | | | SUM: 1167 | | | SUM: 1578 | | | | SUM: 1586 | | | | SUM: 1585 | | | | | | | | | | | | | |
| VOLUME/CAPACITY (V/C) RATIO: | | | | | 0.814 | | | | | | | 1.153 | | | | | | | | | | | | | | | | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | | | | 0.714 | | | | | | | 1.053 | | | | | | | | | | | | | | | | | |
| LEVEL OF SERVICE (LOS): | | | | | C | | | | | | | F | | | | | | | | | | | | | | | | | |

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

| | | | |
|-------------------------------|-------|------------------------|-------|
| Change in v/c due to project: | 0.005 | Δv/c after mitigation: | 0.005 |
| Significant impacted? | NO | Fully mitigated? | N/A |

Level of Service Worksheet (Circular 212 Method)



| I/S #: | | North-South Street: | | | Alameda St | | | Year of Count: | | | 2016 | | Ambient Growth: (%): | | | 1 | | Conducted by: | | GTC | | Date: | | August 2017 | |
|--|--------------------|---------------------|---|-----|---|--------------|-------------|---|--------------|-------------|---|--------------|----------------------|---------------|---|--------------|---------------|---------------|---|---------------|--------------|-------------|-----|---------------------------|--|
| 20 | | East-West Street: | | | 14th St | | | Projection Year: | | | 2022 | | Peak Hour: | | | PM | | Reviewed by: | | | | Project: | | 68 S Alameda St Mixed-Use | |
| No. of Phases | | | | | 3 | | | 3 | | | 3 | | | 3 | | | 3 | | | 3 | | | | | |
| Opposed Ø'ing: N/S-1, E/W-2 or Both-3? | | | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | | | |
| Right Turns: FREE-1, NRTOR-2 or OLA-3? | | | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | NB-- 0 SB-- 0 | | | | | |
| ATSAC-1 or ATSAC+ATCS-2? | | | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | EB-- 0 WB-- 0 | | | | | |
| Override Capacity | | | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | | | |
| | | | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | 0 | | | | | |
| MOVEMENT | | | | | EXISTING CONDITION | | | EXISTING PLUS PROJECT | | | FUTURE CONDITION W/O PROJECT | | | | FUTURE CONDITION W/ PROJECT | | | | FUTURE W/ PROJECT W/ MITIGATION | | | | | | |
| | | | | | Volume | No. of Lanes | Lane Volume | Project Traffic | Total Volume | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | | | |
| NORTHBOUND | Left | 16 | 1 | 16 | 0 | 16 | 16 | 0 | 17 | 1 | 17 | 0 | 17 | 1 | 17 | 0 | 17 | 1 | 17 | 0 | 17 | 1 | 17 | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | |
| | Through | 829 | 1 | 430 | 17 | 846 | 438 | 259 | 1139 | 1 | 586 | 17 | 1156 | 1 | 594 | -2 | 1154 | 1 | 593 | | | | | | |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | | | | | |
| | Right | 30 | 0 | 30 | 0 | 30 | 30 | 0 | 32 | 0 | 32 | 0 | 32 | 0 | 32 | 0 | 32 | 0 | 32 | 0 | 32 | 0 | 32 | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | |
| SOUTHBOUND | Left | 10 | 1 | 10 | 0 | 10 | 10 | 0 | 11 | 1 | 11 | 0 | 11 | 1 | 11 | 0 | 11 | 1 | 11 | 0 | 11 | 1 | 11 | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | |
| | Through | 975 | 1 | 496 | 12 | 987 | 502 | 228 | 1263 | 1 | 640 | 12 | 1275 | 1 | 646 | -1 | 1274 | 1 | 646 | | | | | | |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | | | | | |
| | Right | 16 | 0 | 16 | 0 | 16 | 16 | 0 | 17 | 0 | 17 | 0 | 17 | 0 | 17 | 0 | 17 | 0 | 17 | 0 | 17 | 0 | 17 | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | |
| EASTBOUND | Left | 43 | 0 | 43 | 0 | 43 | 43 | 0 | 46 | 0 | 46 | 0 | 46 | 0 | 46 | 0 | 46 | 0 | 46 | 0 | 46 | 0 | 46 | | |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | |
| | Through | 54 | 0 | 168 | 0 | 54 | 168 | 0 | 57 | 0 | 178 | 0 | 57 | 0 | 178 | 0 | 57 | 0 | 178 | 0 | 57 | 0 | 178 | | |
| | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | |
| | Right | 71 | 0 | 0 | 0 | 71 | 0 | 0 | 75 | 0 | 0 | 0 | 75 | 0 | 0 | 0 | 75 | 0 | 0 | 0 | 75 | 0 | 0 | | |
| | Left-Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | | 1 | | | |
| WESTBOUND | Left | 539 | 1 | 331 | 0 | 539 | 331 | 0 | 572 | 1 | 352 | 0 | 572 | 1 | 352 | 0 | 572 | 1 | 352 | 0 | 572 | 1 | 352 | | |
| | Left-Through | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | | | | 1 | | | |
| | Through | 123 | 0 | 331 | 0 | 123 | 331 | 0 | 131 | 0 | 352 | 0 | 131 | 0 | 352 | 0 | 131 | 0 | 352 | 0 | 131 | 0 | 352 | | |
| | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | |
| | Right | 134 | 1 | 129 | 0 | 134 | 129 | 56 | 198 | 1 | 193 | 0 | 198 | 1 | 193 | 0 | 198 | 1 | 193 | 0 | 198 | 1 | 193 | | |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | |
| CRITICAL VOLUMES | | | | | North-South: 512
East-West: 499
SUM: 1011 | | | North-South: 518
East-West: 499
SUM: 1017 | | | North-South: 657
East-West: 530
SUM: 1187 | | | | North-South: 663
East-West: 530
SUM: 1193 | | | | North-South: 663
East-West: 530
SUM: 1193 | | | | | | |
| VOLUME/CAPACITY (V/C) RATIO: | | | | | 0.709 | | | 0.714 | | | 0.833 | | | | 0.837 | | | | 0.837 | | | | | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | | | | 0.609 | | | 0.614 | | | 0.733 | | | | 0.737 | | | | 0.737 | | | | | | |
| LEVEL OF SERVICE (LOS): | | | | | B | | | B | | | C | | | | C | | | | C | | | | | | |

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

| | | | |
|-------------------------------|-------|------------------------|-------|
| Change in v/c due to project: | 0.004 | Δv/c after mitigation: | 0.004 |
| Significant impacted? | NO | Fully mitigated? | N/A |

Level of Service Worksheet (Circular 212 Method)



| I/S #: | | North-South Street: Alameda St | | | Year of Count: 2016 | | | Ambient Growth: (%): 1 | | | Conducted by: | | GTC | | Date: August 2017 | | | | |
|---------------------------------|--------------------|---|--------------|-------------|---|--------------|-------------|--|--------------|--------------|---------------|--|---------------|--------------|-------------------------------------|--|--------------|--------------|-------------|
| 21 | | East-West Street: I-10 EB Ramps | | | Projection Year: 2022 | | | Peak Hour: PM | | | Reviewed by: | | | | Project: 668 S Alameda St Mixed-Use | | | | |
| | | No. of Phases | | | 4 | | | 4 | | | 4 | | 4 | | 4 | | | | |
| | | Opposed Ø'ing: N/S-1, E/W-2 or Both-3? | | | 0 | | | 0 | | | 0 | | 0 | | 0 | | | | |
| | | Right Turns: FREE-1, NRTOR-2 or OLA-3? | | | NB-- 0 SB-- 3 | | | NB-- 0 SB-- 3 | | | NB-- 0 SB-- 3 | | NB-- 0 SB-- 3 | | NB-- 0 SB-- 3 | | | | |
| | | ATSAC-1 or ATSAC+ATCS-2? | | | EB-- 3 WB-- 0 | | | EB-- 3 WB-- 0 | | | EB-- 3 WB-- 0 | | EB-- 3 WB-- 0 | | EB-- 3 WB-- 0 | | | | |
| | | Override Capacity | | | 2 | | | 2 | | | 2 | | 2 | | 2 | | | | |
| | | 0 | | | 0 | | | 0 | | | 0 | | 0 | | 0 | | | | |
| MOVEMENT | | EXISTING CONDITION | | | EXISTING PLUS PROJECT | | | FUTURE CONDITION W/O PROJECT | | | | FUTURE CONDITION W/ PROJECT | | | | FUTURE W/ PROJECT W/ MITIGATION | | | |
| | | Volume | No. of Lanes | Lane Volume | Project Traffic | Total Volume | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume | Added Volume | Total Volume | No. of Lanes | Lane Volume |
| NORTHBOUND | Left | 418 | 1 | 418 | 0 | 418 | 418 | 0 | 444 | 1 | 444 | 0 | 444 | 1 | 444 | 0 | 444 | 1 | 444 |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Through | 1011 | 1 | 506 | 11 | 1022 | 511 | 139 | 1212 | 1 | 606 | 11 | 1223 | 1 | 612 | -1 | 1222 | 1 | 611 |
| | Through-Right | | 1 | | | | | | | 1 | | | | 1 | | | | 1 | |
| | Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | |
| SOUTHBOUND | Left | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Through | 1172 | 2 | 586 | 7 | 1179 | 590 | 135 | 1379 | 2 | 690 | 7 | 1386 | 2 | 693 | -1 | 1385 | 2 | 693 |
| | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Right | 462 | 1 | 393 | 0 | 462 | 387 | 33 | 523 | 1 | 330 | 0 | 523 | 1 | 324 | 0 | 523 | 1 | 325 |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | |
| EASTBOUND | Left | 69 | 1 | 69 | 6 | 75 | 75 | 120 | 193 | 1 | 193 | 6 | 199 | 1 | 199 | -1 | 198 | 1 | 198 |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Through | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Right | 223 | 1 | 0 | 0 | 223 | 0 | 0 | 237 | 1 | 0 | 0 | 237 | 1 | 0 | 0 | 237 | 1 | 0 |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | |
| WESTBOUND | Left | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Left-Through | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Through | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| | Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Left-Through-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | |
| Left-Right | | 0 | | | | | | | 0 | | | | 0 | | | | 0 | | |
| CRITICAL VOLUMES | | North-South: 1004
East-West: 69
SUM: 1073 | | | North-South: 1008
East-West: 75
SUM: 1083 | | | North-South: 1134
East-West: 193
SUM: 1327 | | | | North-South: 1137
East-West: 199
SUM: 1336 | | | | North-South: 1137
East-West: 198
SUM: 1335 | | | |
| VOLUME/CAPACITY (V/C) RATIO: | | 0.780 | | | 0.788 | | | 0.965 | | | | 0.972 | | | | 0.971 | | | |
| V/C LESS ATSAC/ATCS ADJUSTMENT: | | 0.680 | | | 0.688 | | | 0.865 | | | | 0.872 | | | | 0.871 | | | |
| LEVEL OF SERVICE (LOS): | | B | | | B | | | D | | | | D | | | | D | | | |

REMARKS:

Version: 1i Beta; 8/4/2011

PROJECT IMPACT

| | | | |
|-------------------------------|-------|------------------------|-------|
| Change in v/c due to project: | 0.007 | Δv/c after mitigation: | 0.006 |
| Significant impacted? | NO | Fully mitigated? | N/A |

From: Wes Pringle [<mailto:wes.pringle@lacity.org>]
Sent: Monday, August 28, 2017 1:21 PM
To: Sarah Drobis
Cc: Casey Le
Subject: Re: FW: 668 S Alameda St Mixed-Use - Related Projects Update





Hi Sarah,

I have reviewed the revised traffic study and concur that the additional related projects do not change the results of the original study. All the conditions of DOT's June 15, 2017 letter should still be applied to the project.

Wes

Wes Pringle, P.E.

Transportation Engineer
Metro Development Review
100 S. Main Street,
9th Floor Los Angeles, CA 90012
Cell Phone: [213-718-0713](tel:213-718-0713)

Los Angeles Department of Transportation
[213.972.8482](tel:213.972.8482)    



On Fri, Aug 25, 2017 at 2:52 PM, Sarah Drobis <SDrobis@gibsontrans.com> wrote:

Wes,

Per our discussion, were you able to send an e-mail back to Planning (Sergio or Luci) with your concurrence with the supplemental review of related projects for the 668 S. Alameda project?

Thanks,

Sarah M. Drobis, P.E.

Principal Associate
sdrobis@gibsontrans.com
Gibson Transportation Consulting, Inc.
555 W. 5th Street, Suite 3375
Los Angeles, CA 90013
www.gibsontransportation.com
[\(213\) 683-0088](tel:213-683-0088) phone
[\(213\) 683-0033](tel:213-683-0033) fax

From: Casey Le
Sent: Wednesday, August 09, 2017 3:03 PM
To: Wes Pringle
Cc: Sarah Drobis
Subject: 668 S Alameda St Mixed-Use - Related Projects Update

Hi Wes,

Per the Planning Department instructions, we reviewed how the addition of related projects would affect the traffic analysis provided in the approved TIS for 668 S Alameda Street Mixed-Use Project. As detailed in the attached LOS tables, no additional significant impacts were identified and, therefore, the conclusions in the TIS are still valid. The Planning Department may contact you for your approval of these updates or for your comments. We've also included the approved TIS and LADOT assessment letter for your reference.

As always, please let me or Sarah know if you have any questions, thank you.

Casey T Le
Associate
Gibson Transportation Consulting, Inc.
555 W. 5th Street, Suite 3375
Los Angeles, CA 90013
www.gibsontransportation.com
[\(213\) 683-0088](tel:2136830088) phone
[\(213\) 683-0033](tel:2136830033) fax

L-3 Traffic Calculations for Project Alternatives

**TABLE 1
PROJECT ALTERNATIVES SUMMARY**

| Alternative | Trip Generation (Net Project Trips) | | | | | | | # of Impacts,
Before Mitigation | # of Impacts,
After Mitigation |
|--|-------------------------------------|--------------|-----|-------|--------------|-----|-------|------------------------------------|-----------------------------------|
| | Daily | AM Peak Hour | | | PM Peak Hour | | | | |
| | | In | Out | Total | In | Out | Total | | |
| Proposed Project
(475 Live-Work units and 57,000 sf commercial) | 4,002 | 107 | 182 | 289 | 216 | 145 | 361 | 6 | 3 |
| with 10% TDM Reduction | 3,555 | 93 | 163 | 256 | 193 | 128 | 321 | | |
| Alternative 1 -
No Project Alternative | -- | -- | -- | -- | -- | -- | -- | N/A | N/A |
| with 10% TDM Reduction | -- | -- | -- | -- | -- | -- | -- | | |
| Alternative 2 - 40% Reduced Project Alternative
(285 live-work units and 34,200 sf commercial) | 2,214 | 52 | 106 | 158 | 124 | 77 | 201 | 4 | 1 |
| with 10% TDM Reduction | 1,946 | 43 | 95 | 138 | 111 | 66 | 177 | | |
| Alternative 3 - 75% Reduced Residential Component
Project Alternative
(119 live-work units and 57,000 sf commercial) | 2,214 | 61 | 80 | 141 | 116 | 70 | 186 | 3 | 0 |
| with 10% TDM Reduction | 1,945 | 51 | 72 | 123 | 103 | 60 | 163 | | |
| Alternative 4 - Existing Zoning Project Alternative
(245,068 sf industrial) | 1,240 | 167 | 19 | 186 | 18 | 178 | 196 | 7 | 2 |

**TABLE 2
PROJECT TRIP GENERATION ESTIMATES WITH TDM REDUCTION PROGRAM
PROPOSED PROJECT**

| TRIP GENERATION RATES [a] | | | | | | | | | |
|-----------------------------|--------------|---------|--------|----------------|-----|-------|----------------|-----|-------|
| Land Use | ITE Land Use | Rate | Daily | A.M. Peak Hour | | | P.M. Peak Hour | | |
| | | | | In | Out | Total | In | Out | Total |
| Warehouse | 150 | per ksf | 3.56 | 79% | 21% | 0.30 | 25% | 75% | 0.32 |
| Apartment | 220 | per du | 6.65 | 20% | 80% | 0.51 | 65% | 35% | 0.62 |
| Specialty Retail Center [b] | 826 | per ksf | 44.32 | 62% | 38% | 0.96 | 44% | 56% | 2.71 |
| General Office Building | 710 | per ksf | 11.03 | 88% | 12% | 1.56 | 17% | 83% | 1.49 |
| Restaurant | 932 | per ksf | 127.15 | 55% | 45% | 10.81 | 60% | 40% | 9.85 |
| Supermarket | 850 | per ksf | 102.24 | 62% | 38% | 3.40 | 51% | 49% | 9.48 |

| TRIP GENERATION ESTIMATES | | | | | | | | | |
|---|--------------|------------|-------|----------------|------|-------|----------------|------|-------|
| Land Use | ITE Land Use | Size | Daily | A.M. Peak Hour | | | P.M. Peak Hour | | |
| | | | | In | Out | Total | In | Out | Total |
| Existing Uses | | | | | | | | | |
| Warehouse | 150 | 131.35 ksf | 468 | 31 | 8 | 39 | 11 | 31 | 42 |
| TOTAL - EXISTING | | | 468 | 31 | 8 | 39 | 11 | 31 | 42 |
| Proposed Uses | | | | | | | | | |
| Live-Work Apartment [c] | 220 | 475 du | 3,159 | 48 | 194 | 242 | 192 | 103 | 295 |
| Transit/Walk-In Credit- 15% [d] | | | (474) | (7) | (29) | (36) | (29) | (15) | (44) |
| Internal Capture - 20% [e] | | | (537) | (8) | (33) | (41) | (33) | (17) | (50) |
| Live-Work Office [f] | 710 | 25.2 ksf | 278 | 34 | 5 | 39 | 6 | 32 | 38 |
| Transit/Walk-In Credit- 15% [d] | | | (42) | (5) | (1) | (6) | (1) | (5) | (6) |
| Live-Work Subtotal | | | 2,384 | 62 | 136 | 198 | 135 | 98 | 233 |
| TDM Reduction Program - 10% | | | (238) | (6) | (14) | (20) | (14) | (9) | (23) |
| Live-Work Subtotal with TDM | | | 2,146 | 56 | 122 | 178 | 121 | 89 | 210 |
| Specialty Retail | 826 | 17.5 ksf | 777 | 11 | 6 | 17 | 21 | 27 | 48 |
| Transit/Walk-In Credit- 15% [d] | | | (117) | (2) | (1) | (3) | (3) | (4) | (7) |
| Internal Capture - 20% [e] | | | (132) | (2) | (1) | (3) | (4) | (4) | (8) |
| Passby Credit - 50% [g] | | | (264) | (4) | (2) | (6) | (7) | (10) | (17) |
| Office | 710 | 7.9 ksf | 87 | 11 | 1 | 12 | 2 | 10 | 12 |
| Transit/Walk-In Credit- 15% [d] | | | (13) | (2) | 0 | (2) | 0 | (2) | (2) |
| Internal Capture - 20% [e] | | | (15) | (2) | 0 | (2) | 0 | (2) | (2) |
| Restaurant | 932 | 16.3 ksf | 2,070 | 97 | 79 | 176 | 96 | 64 | 160 |
| Transit/Walk-In Credit- 15% [d] | | | (311) | (15) | (11) | (26) | (14) | (10) | (24) |
| Internal Capture - 20% [e] | | | (352) | (16) | (14) | (30) | (16) | (11) | (27) |
| Passby Credit - 20% [g] | | | (281) | (13) | (11) | (24) | (13) | (9) | (22) |
| Supermarket | 850 | 15.3 ksf | 1,561 | 32 | 20 | 52 | 74 | 71 | 145 |
| Transit/Walk-In Credit- 15% [d] | | | (234) | (5) | (3) | (8) | (11) | (11) | (22) |
| Internal Capture - 20% [e] | | | (265) | (5) | (4) | (9) | (13) | (12) | (25) |
| Passby Credit - 40% [g] | | | (425) | (9) | (5) | (14) | (20) | (19) | (39) |
| Ground Floor Commercial Subtotal | | | 2,086 | 76 | 54 | 130 | 92 | 78 | 170 |
| TDM Reduction Program - 10% | | | (209) | (8) | (5) | (13) | (9) | (8) | (17) |
| Ground Floor Commercial Subtotal with TDM | | | 1,877 | 68 | 49 | 117 | 83 | 70 | 153 |
| NET NEW WITHOUT TDM REDUCTION PROGRAM | | | 4,002 | 107 | 182 | 289 | 216 | 145 | 361 |
| TDM REDUCTION PROGRAM ONLY | | | -447 | -14 | -19 | -33 | -23 | -17 | -40 |
| NET NEW TRIPS WITH TDM REDUCTION PROGRAM | | | 3,555 | 93 | 163 | 256 | 193 | 128 | 321 |

Notes:

ksf: 1,000 square feet

du: dwelling units

[a] Source: *Trip Generation, 9th Edition*, Institute of Transportation Engineers, 2012.

[b] AM rate for specialty retail is not provided in *Trip Generation, 9th Edition*, thus the AM rate for retail shopping center (ITE 820) was used.

[c] Live-work units include residents living and working in conjunction and thus do not generate traditional AM outbound and PM inbound trips. Therefore, use of the apartment rates applied to all 475 live-work units provide a conservative analysis.

[d] Per LADOT's *Transportation Impact Study Guidelines* (LADOT, December 2016), the Project Site is located within 1/4 mile of a Metro RapidBus stop (Metro 760), therefore a 15% transit adjustment was applied to account for transit usage and walking visitor arrivals from the surrounding neighborhoods and adjacent commercial developments, and for arrivals via taxi, tour bus, and carpool services.

[e] Internal capture adjustments account for person trips made between distinct land uses within a mixed-use development without using an off-site road system.

[f] Live-work units may include external trips to/from the office portion of the live-work units. Based on the minimum size requirement of the work portion in a live-work unit (150 sf) 168 units, of which can provide sufficient office space within the live-work units (greater than 1,000 sf, excluding outside balcony space), can be assumed to generate external office trips (e.g. employees).

[g] Pass-by adjustments account for Project trips made as an intermediate stop on the way from an origin to a primary trip destination without route diversion.

TABLE 3
PROJECT TRIP GENERATION ESTIMATES WITH TDM REDUCTION PROGRAM
ALTERNATIVE 2 - 40% REDUCED PROJECT ALTERNATIVE

| TRIP GENERATION RATES [a] | | | | | | | | | |
|-----------------------------|--------------|---------|--------|----------------|-----|-------|----------------|-----|-------|
| Land Use | ITE Land Use | Rate | Daily | A.M. Peak Hour | | | P.M. Peak Hour | | |
| | | | | In | Out | Total | In | Out | Total |
| Warehouse | 150 | per ksf | 3.56 | 79% | 21% | 0.30 | 25% | 75% | 0.32 |
| Apartment | 220 | per du | 6.65 | 20% | 80% | 0.51 | 65% | 35% | 0.62 |
| Specialty Retail Center [b] | 826 | per ksf | 44.32 | 62% | 38% | 0.96 | 44% | 56% | 2.71 |
| General Office Building | 710 | per ksf | 11.03 | 88% | 12% | 1.56 | 17% | 83% | 1.49 |
| Restaurant | 932 | per ksf | 127.15 | 55% | 45% | 10.81 | 60% | 40% | 9.85 |
| Supermarket | 850 | per ksf | 102.24 | 62% | 38% | 3.40 | 51% | 49% | 9.48 |

| TRIP GENERATION ESTIMATES | | | | | | | | | |
|---|--------------|------------|-------|----------------|------|-------|----------------|------|-------|
| Land Use | ITE Land Use | Size | Daily | A.M. Peak Hour | | | P.M. Peak Hour | | |
| | | | | In | Out | Total | In | Out | Total |
| Existing Uses | | | | | | | | | |
| Warehouse | 150 | 131.35 ksf | 468 | 31 | 8 | 39 | 11 | 31 | 42 |
| TOTAL - EXISTING | | | 468 | 31 | 8 | 39 | 11 | 31 | 42 |
| Proposed Uses | | | | | | | | | |
| Live-Work Apartment [c] | 220 | 285 du | 1,895 | 29 | 116 | 145 | 115 | 62 | 177 |
| Transit/Walk-In Credit- 15% [d] | | | (284) | (4) | (18) | (22) | (17) | (10) | (27) |
| Internal Capture - 20% [e] | | | (322) | (5) | (20) | (25) | (20) | (10) | (30) |
| Live-Work Office [f] | 710 | 15.1 ksf | 167 | 21 | 3 | 24 | 4 | 19 | 23 |
| Transit/Walk-In Credit- 15% [d] | | | (25) | (3) | (1) | (4) | (1) | (2) | (3) |
| Live-Work Subtotal | | | 1,431 | 38 | 80 | 118 | 81 | 59 | 140 |
| TDM Reduction Program - 10% | | | (143) | (4) | (8) | (12) | (8) | (6) | (14) |
| Live-Work Subtotal with TDM | | | 1,288 | 34 | 72 | 106 | 73 | 53 | 126 |
| Specialty Retail | 826 | 10.5 ksf | 466 | 6 | 4 | 10 | 13 | 16 | 29 |
| Transit/Walk-In Credit- 15% [d] | | | (70) | (1) | (1) | (2) | (2) | (2) | (4) |
| Internal Capture - 20% [e] | | | (79) | (1) | (1) | (2) | (2) | (3) | (5) |
| Passby Credit - 50% [g] | | | (159) | (2) | (1) | (3) | (5) | (5) | (10) |
| Office | 710 | 4.7 ksf | 52 | 6 | 1 | 7 | 1 | 6 | 7 |
| Transit/Walk-In Credit- 15% [d] | | | (8) | (1) | 0 | (1) | 0 | (1) | (1) |
| Internal Capture - 20% [e] | | | (9) | (1) | 0 | (1) | 0 | (1) | (1) |
| Restaurant | 932 | 9.8 ksf | 1,242 | 58 | 48 | 106 | 58 | 38 | 96 |
| Transit/Walk-In Credit- 15% [d] | | | (186) | (9) | (7) | (16) | (9) | (5) | (14) |
| Internal Capture - 20% [e] | | | (211) | (10) | (8) | (18) | (10) | (6) | (16) |
| Passby Credit - 20% [g] | | | (169) | (8) | (6) | (14) | (8) | (5) | (13) |
| Supermarket | 850 | 9.2 ksf | 937 | 19 | 12 | 31 | 44 | 43 | 87 |
| Transit/Walk-In Credit- 15% [d] | | | (141) | (3) | (2) | (5) | (7) | (6) | (13) |
| Internal Capture - 20% [e] | | | (159) | (3) | (2) | (5) | (7) | (8) | (15) |
| Passby Credit - 40% [g] | | | (255) | (5) | (3) | (8) | (12) | (12) | (24) |
| Ground Floor Commercial Subtotal | | | 1,251 | 45 | 34 | 79 | 54 | 49 | 103 |
| TDM Reduction Program - 10% | | | (125) | (5) | (3) | (8) | (5) | (5) | (10) |
| Ground Floor Commercial Subtotal with TDM | | | 1,126 | 40 | 31 | 71 | 49 | 44 | 93 |
| NET NEW WITHOUT TDM REDUCTION PROGRAM | | | 2,214 | 52 | 106 | 158 | 124 | 77 | 201 |
| TDM REDUCTION PROGRAM ONLY | | | -268 | -9 | -11 | -20 | -13 | -11 | -24 |
| NET NEW TRIPS WITH TDM REDUCTION PROGRAM | | | 1,946 | 43 | 95 | 138 | 111 | 66 | 177 |

Notes:

ksf: 1,000 square feet

du: dwelling units

[a] Source: *Trip Generation, 9th Edition*, Institute of Transportation Engineers, 2012.

[b] AM rate for specialty retail is not provided in *Trip Generation, 9th Edition*, thus the AM rate for retail shopping center (ITE 820) was used.

[c] Live-work units include residents living and working in conjunction and thus do not generate traditional AM outbound and PM inbound trips. Therefore, use of the apartment rates applied to all 475 live-work units provide a conservative analysis.

[d] Per LADOT's *Transportation Impact Study Guidelines* (LADOT, December 2016), the Project Site is located within 1/4 mile of a Metro RapidBus stop (Metro 760), therefore a 15% transit adjustment was applied to account for transit usage and walking visitor arrivals from the surrounding neighborhoods and adjacent commercial developments, and for arrivals via taxi, tour bus, and carpool services.

[e] Internal capture adjustments account for person trips made between distinct land uses within a mixed-use development without using an off-site road system.

[f] Live-work units may include external trips to/from the office portion of the live-work units. Based on the minimum size requirement of the work portion in a live-work unit (150 sf) approximately 100 units, of which can provide sufficient office space within the live-work units (greater than 1,000 sf, excluding outside balcony space), can be assumed to generate external office trips (e.g. employees).

[g] Pass-by adjustments account for Project trips made as an intermediate stop on the way from an origin to a primary trip destination without route diversion.

TABLE 4
PROJECT TRIP GENERATION ESTIMATES WITH TDM REDUCTION PROGRAM
ALTERNATIVE 3 - 75% REDUCTION RESIDENTIAL COMPONENT

| TRIP GENERATION RATES [a] | | | | | | | | | |
|-----------------------------|--------------|---------|--------|----------------|-----|-------|----------------|-----|-------|
| Land Use | ITE Land Use | Rate | Daily | A.M. Peak Hour | | | P.M. Peak Hour | | |
| | | | | In | Out | Total | In | Out | Total |
| Warehouse | 150 | per ksf | 3.56 | 79% | 21% | 0.30 | 25% | 75% | 0.32 |
| Apartment | 220 | per du | 6.65 | 20% | 80% | 0.51 | 65% | 35% | 0.62 |
| Specialty Retail Center [b] | 826 | per ksf | 44.32 | 62% | 38% | 0.96 | 44% | 56% | 2.71 |
| General Office Building | 710 | per ksf | 11.03 | 88% | 12% | 1.56 | 17% | 83% | 1.49 |
| Restaurant | 932 | per ksf | 127.15 | 55% | 45% | 10.81 | 60% | 40% | 9.85 |
| Supermarket | 850 | per ksf | 102.24 | 62% | 38% | 3.40 | 51% | 49% | 9.48 |

| TRIP GENERATION ESTIMATES | | | | | | | | | |
|---|--------------|------------|-------|----------------|------|-------|----------------|------|-------|
| Land Use | ITE Land Use | Size | Daily | A.M. Peak Hour | | | P.M. Peak Hour | | |
| | | | | In | Out | Total | In | Out | Total |
| Existing Uses | | | | | | | | | |
| Warehouse | 150 | 131.35 ksf | 468 | 31 | 8 | 39 | 11 | 31 | 42 |
| TOTAL - EXISTING | | | 468 | 31 | 8 | 39 | 11 | 31 | 42 |
| Proposed Uses | | | | | | | | | |
| Live-Work Apartment [c] | 220 | 119 du | 790 | 12 | 49 | 61 | 48 | 26 | 74 |
| Transit/Walk-In Credit- 15% [d] | | | (119) | (2) | (7) | (9) | (7) | (4) | (11) |
| Internal Capture - 20% [e] | | | (134) | (2) | (8) | (10) | (8) | (5) | (13) |
| Live-Work Office [f] | 710 | 6.3 ksf | 69 | 9 | 1 | 10 | 2 | 7 | 9 |
| Transit/Walk-In Credit- 15% [d] | | | (10) | (1) | (1) | (2) | 0 | (1) | (1) |
| Live-Work Subtotal | | | 596 | 16 | 34 | 50 | 35 | 23 | 58 |
| TDM Reduction Program - 10% | | | (60) | (2) | (3) | (5) | (4) | (2) | (6) |
| Live-Work Subtotal with TDM | | | 536 | 14 | 31 | 45 | 31 | 21 | 52 |
| Specialty Retail | 826 | 17.5 ksf | 777 | 11 | 6 | 17 | 21 | 27 | 48 |
| Transit/Walk-In Credit- 15% [d] | | | (117) | (2) | (1) | (3) | (3) | (4) | (7) |
| Internal Capture - 20% [e] | | | (132) | (2) | (1) | (3) | (4) | (4) | (8) |
| Passby Credit - 50% [g] | | | (264) | (4) | (2) | (6) | (7) | (10) | (17) |
| Office | 710 | 7.9 ksf | 87 | 11 | 1 | 12 | 2 | 10 | 12 |
| Transit/Walk-In Credit- 15% [d] | | | (13) | (2) | 0 | (2) | 0 | (2) | (2) |
| Internal Capture - 20% [e] | | | (15) | (2) | 0 | (2) | 0 | (2) | (2) |
| Restaurant | 932 | 16.3 ksf | 2,070 | 97 | 79 | 176 | 96 | 64 | 160 |
| Transit/Walk-In Credit- 15% [d] | | | (311) | (15) | (11) | (26) | (14) | (10) | (24) |
| Internal Capture - 20% [e] | | | (352) | (16) | (14) | (30) | (16) | (11) | (27) |
| Passby Credit - 20% [g] | | | (281) | (13) | (11) | (24) | (13) | (9) | (22) |
| Supermarket | 850 | 15.3 ksf | 1,561 | 32 | 20 | 52 | 74 | 71 | 145 |
| Transit/Walk-In Credit- 15% [d] | | | (234) | (5) | (3) | (8) | (11) | (11) | (22) |
| Internal Capture - 20% [e] | | | (265) | (5) | (4) | (9) | (13) | (12) | (25) |
| Passby Credit - 40% [g] | | | (425) | (9) | (5) | (14) | (20) | (19) | (39) |
| Ground Floor Commercial Subtotal | | | 2,086 | 76 | 54 | 130 | 92 | 78 | 170 |
| TDM Reduction Program - 10% | | | (209) | (8) | (5) | (13) | (9) | (8) | (17) |
| Ground Floor Commercial Subtotal with TDM | | | 1,877 | 68 | 49 | 117 | 83 | 70 | 153 |
| NET NEW WITHOUT TDM REDUCTION PROGRAM | | | 2,214 | 61 | 80 | 141 | 116 | 70 | 186 |
| TDM REDUCTION PROGRAM ONLY | | | -269 | -10 | -8 | -18 | -13 | -10 | -23 |
| NET NEW TRIPS WITH TDM REDUCTION PROGRAM | | | 1,945 | 51 | 72 | 123 | 103 | 60 | 163 |

Notes:

ksf: 1,000 square feet

du: dwelling units

[a] Source: *Trip Generation, 9th Edition*, Institute of Transportation Engineers, 2012.

[b] AM rate for specialty retail is not provided in *Trip Generation, 9th Edition*, thus the AM rate for retail shopping center (ITE 820) was used.

[c] Live-work units include residents living and working in conjunction and thus do not generate traditional AM outbound and PM inbound trips. Therefore, use of the apartment rates applied to all 475 live-work units provide a conservative analysis.

[d] Per LADOT's *Transportation Impact Study Guidelines* (LADOT, December 2016), the Project Site is located within 1/4 mile of a Metro RapidBus stop (Metro 760), therefore a 15% transit adjustment was applied to account for transit usage and walking visitor arrivals from the surrounding neighborhoods and adjacent commercial developments, and for arrivals via taxi, tour bus, and carpool services.

[e] Internal capture adjustments account for person trips made between distinct land uses within a mixed-use development without using an off-site road system.

[f] Live-work units may include external trips to/from the office portion of the live-work units. Based on the minimum size requirement of the work portion in a live-work unit (150 sf) approximately 42 units, of which can provide sufficient office space within the live-work units (greater than 1,000 sf, excluding outside balcony space), can be assumed to generate external office trips (e.g. employees).

[g] Pass-by adjustments account for Project trips made as an intermediate stop on the way from an origin to a primary trip destination without route diversion.

TABLE 5
PROJECT TRIP GENERATION ESTIMATES WITH TDM REDUCTION PROGRAM
ALTERNATIVE 4 - EXISTING ZONING PROJECT ALTERNATIVE

| TRIP GENERATION RATES [a] | | | | | | | | | |
|---------------------------|--------------|---------|-------|----------------|-----|-------|----------------|-----|-------|
| Land Use | ITE Land Use | Rate | Daily | A.M. Peak Hour | | | P.M. Peak Hour | | |
| | | | | In | Out | Total | In | Out | Total |
| Warehouse | 150 | per ksf | 3.56 | 79% | 21% | 0.30 | 25% | 75% | 0.32 |
| General Light Industrial | 110 | per ksf | 6.97 | 88% | 12% | 0.92 | 12% | 88% | 0.97 |
| | | | | | | | | | |

| TRIP GENERATION ESTIMATES | | | | | | | | | |
|--|--------------|------------|--------------|----------------|-----------|------------|----------------|------------|------------|
| Land Use | ITE Land Use | Size | Daily | A.M. Peak Hour | | | P.M. Peak Hour | | |
| | | | | In | Out | Total | In | Out | Total |
| <u>Existing Uses</u> | | | | | | | | | |
| Warehouse | 150 | 131.35 ksf | 468 | 31 | 8 | 39 | 11 | 31 | 42 |
| TOTAL - EXISTING | | | 468 | 31 | 8 | 39 | 11 | 31 | 42 |
| <u>Proposed Uses</u> | | | | | | | | | |
| Light Industrial | 110 | 245.1 ksf | 1,708 | 198 | 27 | 225 | 29 | 209 | 238 |
| NET NEW WITHOUT TDM REDUCTION PROGRAM | | | 1,240 | 167 | 19 | 186 | 18 | 178 | 196 |

Notes:

ksf: 1,000 square feet

du: dwelling units

[a] Source: *Trip Generation, 9th Edition*, Institute of Transportation Engineers, 2012.

TABLE 6
FUTURE WITH PROJECT CONDITIONS (YEAR 2022)
PROPOSED PROJECT
SIGNALIZED INTERSECTION PEAK HOUR LEVELS OF SERVICE

| No. | Signalized Intersection | Peak Hour | Future without Project Conditions | | Future with Project Conditions | | | | Future with Project with Mitigation Conditions | | | |
|-----|---------------------------------------|-----------|-----------------------------------|-----|--------------------------------|-----|---------------|--------------------|--|-----|---------------|--------------------|
| | | | V/C | LOS | V/C | LOS | Change in V/C | Significant Impact | V/C | LOS | Change in V/C | Significant Impact |
| 1. | Alameda Street & 4th Street | AM | 0.547 | A | 0.557 | A | 0.010 | NO | 0.547 | A | 0.000 | NO |
| | | PM | 0.922 | E | 0.931 | E | 0.009 | NO | 0.920 | E | -0.002 | NO |
| 2. | Central Avenue & 6th Street | AM | 0.618 | B | 0.622 | B | 0.004 | NO | 0.611 | B | -0.007 | NO |
| | | PM | 0.927 | E | 0.935 | E | 0.008 | NO | 0.924 | E | -0.003 | NO |
| 3. | Alameda Street & 6th Street | AM | 0.842 | D | 0.859 | D | 0.017 | NO | 0.847 | D | 0.005 | NO |
| | | PM | 1.144 | F | 1.172 | F | 0.028 | YES | 1.159 | F | 0.015 | YES |
| 4. | Mateo Street & 6th Street | AM | 0.505 | A | 0.512 | A | 0.007 | NO | 0.501 | A | -0.004 | NO |
| | | PM | 0.575 | A | 0.577 | A | 0.002 | NO | 0.567 | A | -0.008 | NO |
| 5. | San Pedro Street & 7th Street | AM | 0.620 | B | 0.626 | B | 0.006 | NO | 0.615 | B | -0.005 | NO |
| | | PM | 0.735 | C | 0.739 | C | 0.004 | NO | 0.728 | C | -0.007 | NO |
| 6. | Central Avenue & 7th Street | AM | 0.884 | D | 0.890 | D | 0.006 | NO | 0.879 | D | -0.005 | NO |
| | | PM | 0.927 | E | 0.944 | E | 0.017 | YES | 0.933 | E | 0.006 | NO |
| 7. | Alameda Street & 7th Street | AM | 0.954 | E | 0.984 | E | 0.030 | YES | 0.971 | E | 0.017 | YES |
| | | PM | 1.096 | F | 1.118 | F | 0.022 | YES | 1.106 | F | 0.010 | YES |
| 8. | Mateo Street & 7th Street | AM | 1.196 | F | 1.222 | F | 0.026 | YES | 1.209 | F | 0.013 | YES |
| | | PM | 1.411 | F | 1.445 | F | 0.034 | YES | 1.433 | F | 0.022 | YES |
| 9. | Santa Fe Avenue & 7th Street | AM | 1.115 | F | 1.128 | F | 0.013 | YES | 1.117 | F | 0.002 | NO |
| | | PM | 1.544 | F | 1.560 | F | 0.016 | YES | 1.549 | F | 0.005 | NO |
| 10. | Anderson Street & 7th Street | AM | 1.063 | F | 1.067 | F | 0.004 | NO | 1.056 | F | -0.007 | NO |
| | | PM | 0.835 | D | 0.839 | D | 0.004 | NO | 0.829 | D | -0.006 | NO |
| 12. | Boyle Avenue & 7th Street | AM | 0.678 | B | 0.680 | B | 0.002 | NO | 0.670 | B | -0.008 | NO |
| | | PM | 0.960 | E | 0.962 | E | 0.002 | NO | 0.954 | E | -0.006 | NO |
| 14. | Santa Fe Avenue & 8th Street | AM | 0.999 | E | 1.002 | F | 0.003 | NO | 0.991 | E | -0.008 | NO |
| | | PM | 1.019 | F | 1.021 | F | 0.002 | NO | 1.011 | F | -0.008 | NO |
| 16. | Santa Fe Avenue & Porter Street | AM | 0.835 | D | 0.838 | D | 0.003 | NO | 0.828 | D | -0.007 | NO |
| | | PM | 1.008 | F | 1.010 | F | 0.002 | NO | 1.000 | E | -0.008 | NO |
| 17. | Central Avenue & Olympic Boulevard | AM | 0.672 | B | 0.675 | B | 0.003 | NO | 0.664 | B | -0.008 | NO |
| | | PM | 0.956 | E | 0.962 | E | 0.006 | NO | 0.953 | E | -0.003 | NO |
| 18. | Alameda Street & Olympic Boulevard | AM | 0.923 | E | 0.940 | E | 0.017 | YES | 0.929 | E | 0.006 | NO |
| | | PM | 0.945 | E | 0.956 | E | 0.011 | YES | 0.944 | E | -0.001 | NO |
| 19. | Santa Fe Avenue & Olympic Boulevard | AM | 0.957 | E | 0.960 | E | 0.003 | NO | 0.949 | E | -0.008 | NO |
| | | PM | 1.048 | F | 1.053 | F | 0.005 | NO | 1.043 | F | -0.005 | NO |
| 20. | Alameda Street & 14th Street | AM | 0.706 | C | 0.712 | C | 0.006 | NO | 0.701 | C | -0.005 | NO |
| | | PM | 0.733 | C | 0.737 | C | 0.004 | NO | 0.727 | C | -0.006 | NO |
| 21. | Alameda Street & I-10 Eastbound Ramps | AM | 0.792 | C | 0.797 | C | 0.005 | NO | 0.787 | C | -0.005 | NO |
| | | PM | 0.865 | D | 0.872 | D | 0.007 | NO | 0.861 | D | -0.004 | NO |

TABLE 7
FUTURE WITH PROJECT CONDITIONS (YEAR 2022)
ALTERNATIVE 2 - 40% REDUCED PROJECT ALTERNATIVE
SIGNALIZED INTERSECTION PEAK HOUR LEVELS OF SERVICE

| No. | Signalized Intersection | Peak Hour | Future without Alt 2 Conditions | | Future with Alt 2 Conditions | | | | Future with Alt 2 with Mitigation Conditions | | | |
|-----|---------------------------------------|-----------|---------------------------------|-----|------------------------------|-----|---------------|--------------------|--|-----|---------------|--------------------|
| | | | V/C | LOS | V/C | LOS | Change in V/C | Significant Impact | V/C | LOS | Change in V/C | Significant Impact |
| 1. | Alameda Street & 4th Street | AM | 0.547 | A | 0.553 | A | 0.006 | NO | 0.542 | A | -0.005 | NO |
| | | PM | 0.922 | E | 0.927 | E | 0.005 | NO | 0.916 | E | -0.006 | NO |
| 2. | Central Avenue & 6th Street | AM | 0.618 | B | 0.620 | B | 0.002 | NO | 0.609 | B | -0.009 | NO |
| | | PM | 0.927 | E | 0.931 | E | 0.004 | NO | 0.921 | E | -0.006 | NO |
| 3. | Alameda Street & 6th Street | AM | 0.842 | D | 0.852 | D | 0.010 | NO | 0.841 | D | -0.001 | NO |
| | | PM | 1.144 | F | 1.160 | F | 0.016 | YES | 1.148 | F | 0.004 | NO |
| 4. | Mateo Street & 6th Street | AM | 0.505 | A | 0.509 | A | 0.004 | NO | 0.499 | A | -0.006 | NO |
| | | PM | 0.575 | A | 0.576 | A | 0.001 | NO | 0.566 | A | -0.009 | NO |
| 5. | San Pedro Street & 7th Street | AM | 0.620 | B | 0.624 | B | 0.004 | NO | 0.613 | B | -0.007 | NO |
| | | PM | 0.735 | C | 0.737 | C | 0.002 | NO | 0.727 | C | -0.008 | NO |
| 6. | Central Avenue & 7th Street | AM | 0.884 | D | 0.887 | D | 0.003 | NO | 0.877 | D | -0.007 | NO |
| | | PM | 0.927 | E | 0.937 | E | 0.010 | YES | 0.925 | E | -0.002 | NO |
| 7. | Alameda Street & 7th Street | AM | 0.954 | E | 0.970 | E | 0.016 | YES | 0.959 | E | 0.005 | NO |
| | | PM | 1.096 | F | 1.109 | F | 0.013 | YES | 1.098 | F | 0.002 | NO |
| 8. | Mateo Street & 7th Street | AM | 1.196 | F | 1.210 | F | 0.014 | YES | 1.198 | F | 0.002 | NO |
| | | PM | 1.411 | F | 1.431 | F | 0.020 | YES | 1.419 | F | 0.008 | NO |
| 9. | Santa Fe Avenue & 7th Street | AM | 1.115 | F | 1.123 | F | 0.008 | NO | 1.111 | F | -0.004 | NO |
| | | PM | 1.544 | F | 1.553 | F | 0.009 | NO | 1.542 | F | -0.002 | NO |
| 10. | Anderson Street & 7th Street | AM | 1.063 | F | 1.065 | F | 0.002 | NO | 1.054 | F | -0.009 | NO |
| | | PM | 0.835 | D | 0.837 | D | 0.002 | NO | 0.827 | D | -0.008 | NO |
| 12. | Boyle Avenue & 7th Street | AM | 0.678 | B | 0.679 | B | 0.001 | NO | 0.669 | B | -0.009 | NO |
| | | PM | 0.960 | E | 0.963 | E | 0.003 | NO | 0.952 | E | -0.008 | NO |
| 14. | Santa Fe Avenue & 8th Street | AM | 0.999 | E | 1.001 | F | 0.002 | NO | 0.990 | E | -0.009 | NO |
| | | PM | 1.019 | F | 1.020 | F | 0.001 | NO | 1.010 | F | -0.009 | NO |
| 16. | Santa Fe Avenue & Porter Street | AM | 0.835 | D | 0.836 | D | 0.001 | NO | 0.826 | D | -0.009 | NO |
| | | PM | 1.008 | F | 1.009 | F | 0.001 | NO | 0.999 | E | -0.009 | NO |
| 17. | Central Avenue & Olympic Boulevard | AM | 0.672 | B | 0.673 | B | 0.001 | NO | 0.662 | B | -0.010 | NO |
| | | PM | 0.956 | E | 0.960 | E | 0.004 | NO | 0.950 | E | -0.006 | NO |
| 18. | Alameda Street & Olympic Boulevard | AM | 0.923 | E | 0.931 | E | 0.008 | NO | 0.920 | E | -0.003 | NO |
| | | PM | 0.945 | E | 0.951 | E | 0.006 | NO | 0.940 | E | -0.005 | NO |
| 19. | Santa Fe Avenue & Olympic Boulevard | AM | 0.957 | E | 0.959 | E | 0.002 | NO | 0.947 | E | -0.010 | NO |
| | | PM | 1.048 | F | 1.051 | F | 0.003 | NO | 1.041 | F | -0.007 | NO |
| 20. | Alameda Street & 14th Street | AM | 0.706 | C | 0.709 | C | 0.003 | NO | 0.699 | B | -0.007 | NO |
| | | PM | 0.733 | C | 0.735 | C | 0.002 | NO | 0.725 | C | -0.008 | NO |
| 21. | Alameda Street & I-10 Eastbound Ramps | AM | 0.792 | C | 0.795 | C | 0.003 | NO | 0.785 | C | -0.007 | NO |
| | | PM | 0.865 | D | 0.869 | D | 0.004 | NO | 0.858 | D | -0.007 | NO |

TABLE 8
FUTURE WITH PROJECT CONDITIONS (YEAR 2022)
ALTERNATIVE 3 - 75%REDUCED RESIDENTIAL COMPONENT PROJECT ALTERNATIVE
SIGNALIZED INTERSECTION PEAK HOUR LEVELS OF SERVICE

| No. | Signalized Intersection | Peak Hour | Future without Alt 3 Conditions | | Future with Alt 3 Conditions | | | | Future with Alt 3 with Mitigation Conditions | | | |
|-----|---------------------------------------|-----------|---------------------------------|-----|------------------------------|-----|---------------|--------------------|--|-----|---------------|--------------------|
| | | | V/C | LOS | V/C | LOS | Change in V/C | Significant Impact | V/C | LOS | Change in V/C | Significant Impact |
| 1. | Alameda Street & 4th Street | AM | 0.547 | A | 0.551 | A | 0.004 | NO | 0.541 | A | -0.006 | NO |
| | | PM | 0.922 | E | 0.927 | E | 0.005 | NO | 0.916 | E | -0.006 | NO |
| 2. | Central Avenue & 6th Street | AM | 0.618 | B | 0.620 | B | 0.002 | NO | 0.610 | B | -0.008 | NO |
| | | PM | 0.927 | E | 0.931 | E | 0.004 | NO | 0.921 | E | -0.006 | NO |
| 3. | Alameda Street & 6th Street | AM | 0.842 | D | 0.850 | D | 0.008 | NO | 0.839 | D | -0.003 | NO |
| | | PM | 1.144 | F | 1.160 | F | 0.016 | YES | 1.147 | F | 0.003 | NO |
| 4. | Mateo Street & 6th Street | AM | 0.505 | A | 0.509 | A | 0.004 | NO | 0.499 | A | -0.006 | NO |
| | | PM | 0.575 | A | 0.576 | A | 0.001 | NO | 0.566 | A | -0.009 | NO |
| 5. | San Pedro Street & 7th Street | AM | 0.620 | B | 0.623 | B | 0.003 | NO | 0.613 | B | -0.007 | NO |
| | | PM | 0.735 | C | 0.737 | C | 0.002 | NO | 0.727 | C | -0.008 | NO |
| 6. | Central Avenue & 7th Street | AM | 0.884 | D | 0.887 | D | 0.003 | NO | 0.876 | D | -0.008 | NO |
| | | PM | 0.927 | E | 0.936 | E | 0.009 | NO | 0.925 | E | -0.002 | NO |
| 7. | Alameda Street & 7th Street | AM | 0.954 | E | 0.968 | E | 0.014 | YES | 0.957 | E | 0.003 | NO |
| | | PM | 1.096 | F | 1.108 | F | 0.012 | YES | 1.098 | F | 0.002 | NO |
| 8. | Mateo Street & 7th Street | AM | 1.196 | F | 1.209 | F | 0.013 | YES | 1.198 | F | 0.002 | NO |
| | | PM | 1.411 | F | 1.429 | F | 0.018 | YES | 1.417 | F | 0.006 | NO |
| 9. | Santa Fe Avenue & 7th Street | AM | 1.115 | F | 1.121 | F | 0.006 | NO | 1.111 | F | -0.004 | NO |
| | | PM | 1.544 | F | 1.553 | F | 0.009 | NO | 1.542 | F | -0.002 | NO |
| 10. | Anderson Street & 7th Street | AM | 1.063 | F | 1.065 | F | 0.002 | NO | 1.055 | F | -0.008 | NO |
| | | PM | 0.835 | D | 0.837 | D | 0.002 | NO | 0.827 | D | -0.008 | NO |
| 12. | Boyle Avenue & 7th Street | AM | 0.678 | B | 0.679 | B | 0.001 | NO | 0.669 | B | -0.009 | NO |
| | | PM | 0.960 | E | 0.963 | E | 0.003 | NO | 0.952 | E | -0.008 | NO |
| 14. | Santa Fe Avenue & 8th Street | AM | 0.999 | E | 1.001 | F | 0.002 | NO | 0.991 | E | -0.008 | NO |
| | | PM | 1.019 | F | 1.020 | F | 0.001 | NO | 1.010 | F | -0.009 | NO |
| 16. | Santa Fe Avenue & Porter Street | AM | 0.835 | D | 0.836 | D | 0.001 | NO | 0.826 | D | -0.009 | NO |
| | | PM | 1.008 | F | 1.009 | F | 0.001 | NO | 0.999 | E | -0.009 | NO |
| 17. | Central Avenue & Olympic Boulevard | AM | 0.672 | B | 0.673 | B | 0.001 | NO | 0.663 | B | -0.009 | NO |
| | | PM | 0.956 | E | 0.960 | E | 0.004 | NO | 0.949 | E | -0.007 | NO |
| 18. | Alameda Street & Olympic Boulevard | AM | 0.923 | E | 0.931 | E | 0.008 | NO | 0.921 | E | -0.002 | NO |
| | | PM | 0.945 | E | 0.951 | E | 0.006 | NO | 0.940 | E | -0.005 | NO |
| 19. | Santa Fe Avenue & Olympic Boulevard | AM | 0.957 | E | 0.959 | E | 0.002 | NO | 0.949 | E | -0.008 | NO |
| | | PM | 1.048 | F | 1.051 | F | 0.003 | NO | 1.041 | F | -0.007 | NO |
| 20. | Alameda Street & 14th Street | AM | 0.706 | C | 0.708 | C | 0.002 | NO | 0.698 | B | -0.008 | NO |
| | | PM | 0.733 | C | 0.735 | C | 0.002 | NO | 0.725 | C | -0.008 | NO |
| 21. | Alameda Street & I-10 Eastbound Ramps | AM | 0.792 | C | 0.795 | C | 0.003 | NO | 0.785 | C | -0.007 | NO |
| | | PM | 0.865 | D | 0.869 | D | 0.004 | NO | 0.858 | D | -0.007 | NO |

TABLE 9
FUTURE WITH PROJECT CONDITIONS (YEAR 2022)
ALTERNATIVE 4 - EXISTING ZONING PROJECT ALTERNATIVE
SIGNALIZED INTERSECTION PEAK HOUR LEVELS OF SERVICE

| No. | Signalized Intersection | Peak Hour | Future without Alt 4 Conditions | | Future with Alt 4 Conditions | | | | Future with Alt 4 with Mitigation Conditions | | | |
|-----|---------------------------------------|-----------|---------------------------------|-----|------------------------------|-----|---------------|--------------------|--|-----|---------------|--------------------|
| | | | V/C | LOS | V/C | LOS | Change in V/C | Significant Impact | V/C | LOS | Change in V/C | Significant Impact |
| 1. | Alameda Street & 4th Street | AM | 0.547 | A | 0.547 | A | 0.000 | NO | 0.537 | A | -0.010 | NO |
| | | PM | 0.922 | E | 0.933 | E | 0.011 | YES | 0.923 | E | 0.001 | NO |
| 2. | Central Avenue & 6th Street | AM | 0.618 | B | 0.624 | B | 0.006 | NO | 0.614 | B | -0.004 | NO |
| | | PM | 0.927 | E | 0.928 | E | 0.001 | NO | 0.918 | E | -0.009 | NO |
| 3. | Alameda Street & 6th Street | AM | 0.842 | D | 0.851 | D | 0.009 | NO | 0.841 | D | -0.001 | NO |
| | | PM | 1.144 | F | 1.162 | F | 0.018 | YES | 1.152 | F | 0.008 | NO |
| 4. | Mateo Street & 6th Street | AM | 0.505 | A | 0.512 | A | 0.007 | NO | 0.502 | A | -0.003 | NO |
| | | PM | 0.575 | A | 0.578 | A | 0.003 | NO | 0.568 | A | -0.007 | NO |
| 5. | San Pedro Street & 7th Street | AM | 0.620 | B | 0.621 | B | 0.001 | NO | 0.611 | B | -0.009 | NO |
| | | PM | 0.735 | C | 0.735 | C | 0.000 | NO | 0.725 | C | -0.010 | NO |
| 6. | Central Avenue & 7th Street | AM | 0.884 | D | 0.885 | D | 0.001 | NO | 0.875 | D | -0.009 | NO |
| | | PM | 0.927 | E | 0.945 | E | 0.018 | YES | 0.935 | E | 0.008 | NO |
| 7. | Alameda Street & 7th Street | AM | 0.954 | E | 0.969 | E | 0.015 | YES | 0.959 | E | 0.005 | NO |
| | | PM | 1.096 | F | 1.102 | F | 0.006 | NO | 1.092 | F | -0.004 | NO |
| 8. | Mateo Street & 7th Street | AM | 1.196 | F | 1.217 | F | 0.021 | YES | 1.207 | F | 0.011 | YES |
| | | PM | 1.411 | F | 1.427 | F | 0.016 | YES | 1.417 | F | 0.006 | NO |
| 9. | Santa Fe Avenue & 7th Street | AM | 1.115 | F | 1.122 | F | 0.007 | NO | 1.112 | F | -0.003 | NO |
| | | PM | 1.544 | F | 1.555 | F | 0.011 | YES | 1.545 | F | 0.001 | NO |
| 10. | Anderson Street & 7th Street | AM | 1.063 | F | 1.069 | F | 0.006 | NO | 1.059 | F | -0.004 | NO |
| | | PM | 0.835 | D | 0.841 | D | 0.006 | NO | 0.831 | D | -0.004 | NO |
| 12. | Boyle Avenue & 7th Street | AM | 0.678 | B | 0.680 | B | 0.002 | NO | 0.670 | B | -0.008 | NO |
| | | PM | 0.960 | E | 0.966 | E | 0.006 | NO | 0.956 | E | -0.004 | NO |
| 14. | Santa Fe Avenue & 8th Street | AM | 0.999 | E | 1.004 | F | 0.005 | NO | 0.994 | E | -0.005 | NO |
| | | PM | 1.019 | F | 1.022 | F | 0.003 | NO | 1.012 | F | -0.007 | NO |
| 16. | Santa Fe Avenue & Porter Street | AM | 0.835 | D | 0.835 | D | 0.000 | NO | 0.825 | D | -0.010 | NO |
| | | PM | 1.008 | F | 1.011 | F | 0.003 | NO | 1.001 | F | -0.007 | NO |
| 17. | Central Avenue & Olympic Boulevard | AM | 0.672 | B | 0.677 | B | 0.005 | NO | 0.667 | B | -0.005 | NO |
| | | PM | 0.956 | E | 0.956 | E | 0.000 | NO | 0.946 | E | -0.010 | NO |
| 18. | Alameda Street & Olympic Boulevard | AM | 0.923 | E | 0.941 | E | 0.018 | YES | 0.931 | E | 0.008 | NO |
| | | PM | 0.945 | E | 0.951 | E | 0.006 | NO | 0.941 | E | -0.004 | NO |
| 19. | Santa Fe Avenue & Olympic Boulevard | AM | 0.957 | E | 0.961 | E | 0.004 | NO | 0.951 | E | -0.006 | NO |
| | | PM | 1.048 | F | 1.051 | F | 0.003 | NO | 1.041 | F | -0.007 | NO |
| 20. | Alameda Street & 14th Street | AM | 0.706 | C | 0.707 | C | 0.001 | NO | 0.697 | B | -0.009 | NO |
| | | PM | 0.733 | C | 0.738 | C | 0.005 | NO | 0.728 | C | -0.005 | NO |
| 21. | Alameda Street & I-10 Eastbound Ramps | AM | 0.792 | C | 0.796 | C | 0.004 | NO | 0.786 | C | -0.006 | NO |
| | | PM | 0.865 | D | 0.869 | D | 0.004 | NO | 0.859 | D | -0.006 | NO |