# APPENDIX L:
# SCHOOLS TECHNICAL APPENDIX
# STUDENT GENERATION STUDY, JULY 2003

# Student Generation Study

# Village at Playa Vista Development

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# Executive Summary

## Purpose

The purpose of this study is to estimate the number of public school students likely to be generated by the planned development of the Village at Playa Vista project. Modeling assumptions and logic used by the Los Angeles Unified School District (LAUSD) were evaluated and updated to be consistent with the projected demographic and housing mix anticipated at the Village at Playa Vista development.

## Approach

The methodologies used in this study assume that the numbers of new students resulting from the Village at Playa Vista are directly and indirectly related to the type and amount of residential and commercial construction, respectively. In order to model the relationships and produce estimates of the numbers of students, models were constructed to individually predict student generation from residential construction and from commercial construction, separately.

To estimate student generation, related to residential construction; an Integrated Multivariate Household (IMH) model based on custom cross-tabulations of sampled Census data was used. This model individually estimates the numbers of students by grade level generated from each of 90 classifications of households. Classifications are based on ownership, condominium status, value, and numbers of bedrooms.

With respect to commercial development, the basic calculation methodology employed by LAUSD was used. The input variables, however, were quantitatively assessed and refined to more accurately represent the characteristics of the Proposed Project versus the LAUSD district-wide assumptions. Among the assumptions used to estimate the number of public school students generated by commercial construction is the percentage of employees who would live outside of the school district, the average numbers of workers per household, and the number of new workers who will reside at the Village at Playa Vista residential development. The resulting Enhanced Employment (EE) model was then applied in the study. The modeling approach and assumptions used in this study are generally conservative in nature.

## Findings

Based on the methodology employed in the IMH and the EE models, a more specific projection of student generation for the Proposed Project is produced for the following reasons:

1. The IMH and EE models both incorporate significantly more variables than the original LAUSD methodology.

2. Assumptions for both models were developed based on the unique characteristics of the Village at Playa Vista project.

3. Data used in the IMH model were collected at the *person* level resulting in an extremely low level of detail. Higher level data, such as those already aggregated at the census tract or block group level, would not provide the ability to develop the cross tabulations required for the model.

Given the methodologies employed, the following findings were generated from the study:

- The IMH model projects approximately 556 public school students arising from residential construction, compared to 1,118 students estimated using LAUSD assumptions. The primary reason for the difference is the Proposed Project's housing mix is skewed toward high value condos which tend to have lower student generation rates.

- Based on the Enhanced Employment model, the number of public school students generated from commercial development was projected at 60 versus 264 using the LAUSD estimate. About 45% of the difference is due to an adjustment for double counting between the residential and commercial models.

- Overall, the estimated number of *public* school students generated based on the IMH model and the EE model totaled 616 versus the LAUSD methodology estimate of 1,382.

## Summary of RPM Estimates versus LAUSD Estimates

| | RPM Projections | | | LAUSD Projections | | |
|---|---|---|---|---|---|---|
| Grade | IMH (Residential) | EE (Commercial) | Total | Residential | Commercial | Total |
| K-5 | 277 | 31 | 308 | 554 | 159 | 713 |
| 6-8 | 130 | 14 | 144 | 252 | 35 | 287 |
| 9-12 | 149 | 15 | 164 | 312 | 70 | 382 |
| Total | 556 | 60 | 616 | 1,118 | 264 | 1,382 |

# Background

In September 2002, the Los Angeles Unified School District (LAUSD) commissioned a School Fee Justification Study prepared by David Taussig and Associates, Inc. The School Fee Justification Study is provided by the LAUSD to lead agencies for the purposes of calculating school impacts for developments occurring within the jurisdictional boundaries of the LAUSD. As such, this study was used as the basis to estimate student generation resulting from the proposed Playa Vista project.[1]

The direct application of the methodologies set forth in the LAUSD study is inappropriate with respect to its application to the Proposed Project as the study was based on a district wide approach without addressing specific and critical socioeconomic, cultural, and demographic differences for different regions within the district Given the district-wide approach taken by the LAUSD, it is anticipated that the actual student generation resulting from the Proposed Project will be considerably lower than that forecasted using the LAUSD methodology.

The 2003 Playa Vista Student Generation Study contained herein was undertaken for the purpose of developing a model which produced an estimate of public school students which more accurately reflected the unique characteristics of the planned Village at Playa Vista development. This report documents an update to the estimates utilizing 2000 Census data in combination with revised housing development and employment estimates for the Proposed Project.

## LAUSD Methodology

The methodology undertaken by the LAUSD student generation study is based on two separate approaches used to predict the number of students that will be generated by new development. One approach is used to estimate student generation arising from commercial development while the second is used to estimate student generation arising from residential development.

### Residential Construction Methodology

The residential construction methodology assumes that the construction of every new residential housing unit is directly related to the formation of a new household in that region. Based on the number of bedrooms per constructed unit, student generation rates are used to predict the number of

[1] *School Fee Justification Study for Los Angeles Unified School District, September 2002.*

new students per household. Income characteristics are only incorporated into the analysis of student generation for ownership housing.

There are two primary limitations to this approach, particularly as it relates to unique development projects such as the Village at Playa Vista project:

1. With the exception of two variables, income and the numbers of bedrooms, the approach does not discriminate between various *types* of housing, particularly condominiums versus single family homes. The research conducted in support of this study indicates that there are significant differences in student generation for condominiums versus single family homes.

2. Although vacancy rates are not used explicitly in the calculations, the LAUSD approach inherently assumes that vacancy rates in a region will remain static so that every new unit produces a new household. In reality, vacancy rates can effectively *increase* as households move from previous housing units to new housing. The result is that new households are not necessarily generated as a result of the new development, but existing simply redistributed within the district.

**Commercial Development Methodology**

The second LAUSD approach is used to predict the number of students that will be generated from commercial construction. The premise is that commercial development will lead to the production of new employment, causing new employees to move into the region and result in new household formation.

The LAUSD approach starts with an estimation of the number of new employees associated with a development. A factor (78%), representing the percentage of those employees that will reside within the Los Angeles Unified School District, is then applied to the employee count. The resulting number of employees who will reside within the district is then factored by the number of new homes per employee (.64) in order to arrive at the number of new households resulting from employment. Finally, student generation rates by grade (K-5, 6-8, and 9-12) are then applied in order to determine the number of students which will be generated.

The following is an example of this approach for the Proposed Project using LAUSD values:

| Calculation | How Calculated | Total |
|---|---|---|
| Numbers of Employees | | 1,180 |
| Number Moving into LAUSD | ( 1,180 X 78%) | 920 |
| New households formed | (920 X .64 homes per employee) | 589 |

**Students generated**

| | | |
|---|---|---|
| K-5 | 589 Hhlds X .27 K-5 Students per home | 159 |
| 6-8 Grade | 589 Hhlds X ..06 K-5 Students per home | 35 |
| 9-12 Grade | 589 Hhlds X ..12 K-5 Students per home | 70 |
| **Total Students Generated** | **Total of K-5, 6-8 grade and 9-12 grade** | **264** |

The commercial development approach has two significant limitations.

- The first limitation is that the LAUSD residential and commercial models function in relative vacuums. For example, in the case of a mixed use development such as the Village at Playa Vista, the models estimate the number of households (and students) generated by the commercial and residential development, separately. However, they do not consider that many *households generated by the commercial model may be the same ones generated by the residential model*. In essence, the models inherently assume that none of the new employees who will work at Playa Vista will reside at the Playa Vista residential development. The result is a double counting of some households and, therefore, students between the two models.

- Secondly, the model inherently assumes that *every* employee who works at the Village at Playa Vista will move into the region from another area, thus generating a new household. In reality, a number of those employees are likely to already live in the area, or may move into the area and simply offset a household moving out of it.

While an “offsetting household” would not increase the overall number of students within LAUSD, it could simply cause a redistribution of students within the district resulting in increased resources being required in one school while another school within the same district loses students relative to capacity. Although not all capital expenditures relating to facilities can be easily reallocated between schools, trailers and mobile classrooms can be used to shift capacity between schools and help mitigate new capital expenditures. Although the mitigating effect of mobile classrooms could be significant, it has not been factored into this study.

# Methodology and Assumptions

Two modeling approaches were employed in the Village at Playa Vista Student Generation study. The approaches are as follows:

- Household-Based Model (IMH); and
- Employment-Based (EE) Model

The remainder of this section addresses the methodologies applied to each approach as well as the assumptions used.

## Integrated Multivariate Household (IMH) Model

### Model Description

The basic design of the IMH model is relatively straightforward in concept, although complex due to the volume of data. The basic process is as follows:

- Student generation rates (the average number of students per household) are calculated for different classifications of households using census data.
- The number of households in each classification is then estimated for the Proposed Project and multiplied by the appropriate student generation rate to estimate the number of students for that classification.
- The students estimated for each classification are then totaled to arrive at a total estimate for the project.

The complexity is due to the number of possible household classifications for which student generation rates must be calculated.

### How Student Generation Rates are Developed

The student generation rates in this study were developed from 2000 census data. Student generation rates are expressed as the number of students per household which means that they can be simply multiplied by the numbers of new households to arrive at the numbers of students. In order to improve forecasting accuracy via the IMH, households are broken down based on the type of residence (i.e. condominium, vs. single family) numbers of bedrooms and household income.

### Limitations in the Use of Census Tables to Calculate Rates

Census data is generally made available at an aggregated level, organized by census block group or census tracts – units of geography that represent clusters of neighborhoods. An important limitation to working with Census tract or block group level data is that once variables have been aggregated it becomes impossible to cross-tabulate the households upon which the data is based. For example, there is no way to directly determine the average number of students per household, by numbers of bedrooms or by rental status, using Census tables. This is because the Census tables do not contain information about specific persons or households, but rather, about Census tracts, block groups and other units of geography. Although the relationships between the variables could be estimated and used to develop a custom table, the validity of the output would become suspect given the amount of data manipulation required to achieve the results.

Attempting to disaggregate data at the census tract level can only be done by assuming linear relationships between certain variables which may or may not exist. Since disaggregation would likely produce an unacceptable degree of error, an alternative methodology was selected that allows for the types of cross-tabulations which are fundamental to this analysis.

In order to incorporate the variables believed to influence school enrollment, it is necessary to identify the average numbers of students per households for condos versus non-condos, in 1 through 5 bedrooms units, in various home value ranges – thus providing an enhanced representation of the various *classifications* of households which are likely to live at the Proposed Project.

**Selected Data Source for Calculating Student Generation Rates**

To bypass the limitations related to census tract or block group data outlined above, a database of approximately 339,000 person records representing a 1% weighted sample of 2000 Census person records for the State of California was used instead. This database was created using the Integrated Public Use Microdata Series (IPUMS) from the University of Minnesota Historical Census Project[2].

As a weighted sample, each record in the database describes a person and contains household weighting factor. When applied to the variables, the weighting factor provides a statistical way to estimate the entire population on the basis of the sample – producing a more accurate analysis based on cross-tabulated variables not available from census tract data.

[2] *Steven Ruggles and Matthew Sobek, Integrated Public Use Microdata Series: Version 2.0, Minneapolis: Historical Census Project, University of Minnesota, 2003*

Whenever possible, microdata used for analysis is limited to persons and households residing in the City of Los Angeles in order to be the most coterminous with LAUSD boundaries since more detailed geographic locations are not available for sample households. For purposes of calculating student generation rates, however, the entire California sample was utilized. This was due to the large household sample needed to adequately represent every type of housing present at the Village at Playa Vista.

Household classifications used in the IMH model are based on home value, numbers of bedrooms, condominium status, and occupancy status (owned versus rented). Using these variables, the IMH model effectively contains 75 possible household classifications. Given three grade levels calculated for each household (K-5, 6-8, & H.S.) and a breakout of public and private school students, there are 450 "cells" in the model for which student generation rates must be calculated. It is critical that there be a sufficient number of households included in each required cell in order for the results to be meaningful and valid. Since not all cells are used in the model (e.g. housing units with no bedrooms or more than 4 bedrooms), the emphasis was placed on cells that are most representative of the Proposed Project's housing mix.

**Why Use California Data?**

Using the full California sample provided a substantial amount of data which allowed cells to contain sufficient records for analysis. By using data for the entire state and not limiting calculation of the student generation rates to only Los Angeles records, it is believed that the model is overall more reliable, since the socioeconomic groups represented by each cell are likely to have similar characteristics with respect to student generation regardless of where in the state they are located.

In order to address any concerns with respect to the use of statewide data for the analysis, public school student generation rates were produced in the 1999 study for both the City of Los Angeles and for all of California in order to evaluate the possible effectiveness of using data specific to the City of Los Angeles. Rates were then compared for a number of categories.

Overall, the model produced similar results using the California rates and the Los Angeles rates. The most significant differences were that many of the individual rates in the Los Angeles model appeared somewhat less linear when they are viewed across bedroom ranges. For example, many of the cells contained no households at all and had to be estimated from neighboring cells. This occurred very infrequently using the much larger California sample.

Overall, in the test of Los Angeles data, the California IMH model predicted a count of 1,914 students generated by Project residents (see Attachment 5 for model output) while the Los Angeles version predicted 1,743 (see Attachment 6). *Although the Los Angeles data produced a lower estimate, we believe that the statewide version continues to be both more conservative and more reliable.*

The assumption was made that the California level data would again produce more stable estimates compared to Los Angeles-only records.

## IMH Model Methodology

Based on available documentation, it appears that LAUSD's methodology for the derivation of student generation rates was developed using 1990 Census data. The LAUSD rates are *based on only two variables, the number of bedrooms per housing unit and household income.* Additionally, household income was only used for determining student generation rates for owned housing and not for rental housing.

## IMH Independent Variables

In the case of the Proposed Project, the residential development is expected to differ significantly from the "average" LAUSD housing mix. Owner occupied housing units at the Proposed Project will be composed of more than 81% condominiums -- compared to only about 11.8% owner occupied condominiums for the Los Angeles MSA, given the 2000 Census (see Table 1 - *Condo/SFR Mix in Los Angeles*).

As an example of the discrepancy between the Census microdata estimate and the LAUSD data, the Census microdata sample indicates that there are approximately .40 students per owner-occupied 4 bedroom *condominium* in Los Angeles. This compares to about .66 per 4 bedroom, owner-occupied *single family residence* (see Table 2 - *Condos vs. SFR Student Generation*). As the LAUSD methodology makes no distinction between condominiums and single family residences, the higher student generation rate of .66 would be used to characterize a four bedroom unit at the Proposed Project using the LAUSD approach.

Based on this differential, and the bias toward condominium construction in the Proposed Project, the student generation rates used in this Student Generation study have been based on the following variables:

- Condominium Status
- Home Value

- Ownership Status
- Number of Bedrooms

In addition to condominium status, student generation rates were also calculated on the basis of home value (or rent amount) relative to the statewide average.

Since adding more variables creates additional classifications of households, sufficient household records are required to ensure that every category of household type is represented (e.g. Condos vs. SFRs, owner occupied vs. Rentals, 1, 2, 3, & 4 bedrooms, lowest home value through highest home value). In order to produce sufficiently large cell sizes to complete the analysis, student generation rates are based on records for the entire California sample, and not limited to the City of Los Angeles. For a complete discussion comparing use of the statewide sample to the City of Los Angeles sample see *Alternative Data Source for Calculating Student Generation Rates* above.

**Home Value Index**

Since changes have occurred in home values since the 2000 Census data collection, an indexing method was developed which categorizes housing based on home values relative to the state. To maximize accuracy, indices were calculated for, and categories were assigned to homes based on the number of bedrooms and whether they were condominiums or single family residences (SFR) (see. Table 3). Indices for the Proposed Project were developed using the home value estimates from the California Association of Realtors to estimate average SFR and condominium home values in the state.

In total, four categories were created and assigned to each household in the microdata sample. The categories include:

| Index Value | Category | Condo Range | SFR Range |
|---|---|---|---|
| 1 | 50% or lower of statewide average home value. | $0 - $141k | 0 - $188k |
| 2 | 51% to 100% of statewide average. | $142k – $282k | $188k – $376k |
| 3 | 101% to 125% of statewide average. | $283k - $352k | $377k - $470k |
| 4 | 126% to 150% of statewide average. | $353k - $423k | $471k – $564k |
| 5 | 151% and over. | Over $423k | Over $564k |

**Rental Index**

For rental units, a similar indexing system was applied, based on monthly rent compared to the statewide average on the basis of the number of bedrooms in the unit and whether the unit was single family or multi-family. The rental categories include:

| Index Value | Category | Rent Range |
|---|---|---|
| 1 | 34% or lower of statewide average rent. | Under $410/mo |
| 2 | 35% to 100% of statewide average. | $411 – $821/mo |
| 3 | 101% to 150% of statewide average. | $822 - $1,027/mo |
| 4 | 151% and over. | Over $1,027 |

## IMH Findings

Overall the IMH Model estimated that there would be 556 public school students generated as a result of the residential component of the Proposed Project.

The breakdown of public school students by household classification and grade level is as follows:

**Summary of IMH Model Results**

| | Condos Owned | SFR owned | Rental | Total |
|---|---|---|---|---|
| **Public School** | | | | |
| K-6 | 111 | 41 | 125 | 277 |
| 6-8 | 54 | 19 | 57 | 130 |
| 9-12 | 65 | 25 | 59 | 149 |
| Total Public | 230 | 85 | 241 | 556 |

## Employment Model

The purpose of the employment model is to estimate the numbers of students generated by commercial development. The premise is that commercial development will generate new employment in the immediate area resulting in new household formation.

A review of the basic methodology of the commercial development model employed by LAUSD determined that although the basic structure of the methodology appears valid, a number of the assumptions are not consistent with the Village at Playa Vista project. The Village at Playa Vista Enhanced Employment (EE) model uses LAUSD's logical structure but substitutes project-specific assumptions in order to make it consistent with what is known about the Proposed Project. The following assumptions were used in the development of the employment model. Support for a number of the assumptions is included in attachments to this report.

### Where Employees Live

A key question concerns where employees who work at the Project site, but do not live at the Village at Playa Vista, will reside. By identifying where employees live, a determination can then be made as to whether or not they will reside within the boundaries of the LAUSD.

In order to determine where new employees not residing at the Project site will live, a drive-time model was used. This model is based on the maximum time that a large majority of employees will commute to work. The software used to produce the drive time model utilizes a digitized database of streets together with key assumptions regarding average speeds for types of streets. The model was developed using the *Freeway Drive Time Polygon Generator*.[3]

The model produces a digital geographic region which outlines the area within which a large majority of employees are likely to live. This region is then loaded into a geographic information system (GIS) for further analysis with respect to the drive time region's proximity to other school district boundaries. The drive time region was created based on the following inputs:

> **A central location to which employees will commute** - The location was defined as the Project's commercial development at a location approximately south of the intersection of Jefferson Blvd. and McConnell Avenue. Although the location was chosen on the basis of

[3] *Freeway Drive Time Polygon Generator*. Applied Geographic Solutions, Inc. Thousand Oaks, CA

being in the approximate center of the development, shifting the location from one end of the development to the other had almost no effect on the construction of the model.

**The maximum time that the majority of employees will commute** - Based on 2000 Census Data for West Lost Angeles, approximately 70% of residents drive less than 30 minutes to commute to work. On this basis, a maximum commuting time of 30 minutes was chosen for the model.

**Traffic conditions** - The assumption relating to traffic conditions is used to determine the distance which can be traveled within a given time period. The assumption primarily relates to the average speed that can be traveled on a freeway, major artery, or surface street at the time of day for which the analysis is being prepared. Given the typical traffic conditions in West Los Angeles and the surrounding areas during morning and evening commute times, traffic conditions were estimated as *very heavy*. This was operationalized in the Freeway Drive Time model by setting average speeds which could be traveled *during rush hour* by type of street. The speeds used were:

| | |
|---|---|
| Freeway: | 35 mph |
| Major artery: | 15 mph |
| Surface street: | 15 mph |

The average speeds were based on AM and PM peak traffic periods as estimated by Caltrans between 1987 and a 2010 forecast (see Attachment 7).

Based on these assumptions, a drive time region was created which stretched from the San Fernando Valley to the northeast, Malibu to the northwest, and Long Beach to the South (see Attachment 1 for map). The drive time region was then used to estimate the number of Project employees who will live within the boundaries of school districts other than LAUSD.

**Employees who will Reside in Other Districts**

The LAUSD methodology assumes that 78% of households created by new employment will reside within the LAUSD boundaries. It is clear that those who reside within the Project's residential development will be within LAUSD boundaries. However, given the number of other school districts located in the surrounding area (effectively creating lakes within the LAUSD boundary), it is likely that this number will be significantly lower for Project employees who do not live at the Project site.

Assuming that the majority of employees working at the Project site (that don't live at the Village at Playa Vista) will reside somewhere within the 30 minute drive time region, an analysis was conducted to estimate the percentage and number of those employees who will reside inside non-LAUSD district boundaries. To determine this number, the geographic boundaries of other school districts were first determined using a map provided by the Los Angeles Office of Education (see Attachment 3 - LACOE Map) and then digitized in a Geographic Information System (GIS).

Three geographic layers were used for this analysis:

1. The 30 minute drive time region representing the boundary where Project employees will live.
2. The non-LAUSD school district boundaries
3. A geographic boundary file containing census block groups combined with employment counts by occupation for each block group.

By assembling these layers, every block group in Los Angeles County could be evaluated to determine if it was located within 30 minutes commuting time of the Project site and whether it was located inside of a school district other than LAUSD. By evaluating employment counts by occupation, an additional determination could be made whether certain occupations were more likely to live inside or outside of LAUSD boundaries.

Based on the profile of development land uses, commercial development will be heavily weighted toward office construction with employment concentrated in professional services and entertainment. On this basis, development of employment model assumptions is based on the categories of employees consistent with the Village at Playa Vista development.

These focus on the following five major standard employment categories:

- Executive
- Professional
- Technical and Managerial
- Sales
- Administrative Support

Once assembled, the non-LAUSD district boundaries were overlaid over the 30 minute commuter region and the block group layer. By totaling the numbers of employees (weighted by occupation) residing in non-LAUSD districts, and dividing the total by the number of employees for the same occupations across the entire drive time area, an estimate was made of what percentage of Project employees would not reside within LAUSD's boundaries.

The following results are based on the drive time analysis (see Attachments 2 and 2A for detail):

| | |
|---|---|
| Total employees (per 2000 Census) in specified occupations residing in 30 minute drive time region. | 299,068 |
| Specified employees residing in non-LAUSD Districts | 99,648 |
| Percentage of employees ***not*** residing in LAUSD | 33.3% |
| Percentage of employees residing in LAUSD | 66.7% |

The results of the analysis indicate that the percentage of Project employees, not living at the Project site, who will live within LAUSD boundaries will be approximately 66.6% rather than the 78% estimated by LAUSD. Although the assumption of 78% may be valid throughout the LAUSD jurisdiction, *almost 42% of the area in square miles of the Village at Playa Vista commuter region is located within other school districts*, making it clear that a greater percentage of these students will attend other school districts.

**Employees per Home**

A key assumption in the LAUSD employment model is that employees who will reside in the district will represent .64 homes per employee. This assumption was based on the LAUSD study which, citing 1990 Census data, indicated that there are .64 homes per employee (or 1.56 workers per home) in the district.

The value of 1.56 workers per household was confirmed in the Village at Playa Vista Student Generation study using the 2000 Census microdata sample for the City of Los Angeles as a surrogate for LAUSD's jurisdiction. Employment generated by the Proposed Project, however, is likely to have a substantially greater percentage of two wage-earner households due to the expected Village at Playa Vista employment mix.

In order to quantify this assumption, the Census microdata sample was used, but was limited to households residing in the City of Los Angeles, containing 18 year old and over workers in professional, technical, sales, and administrative support occupations -- the occupations expected to be most concentrated at the Project site. The households were further limited to those in which the workers commute less than 30 minutes to work and have at least 125% of the 2000 median household income for the MSA of Los Angeles ($48,000). This sample of households produced the following weighted number of households and workers:

| | |
|---|---|
| Total employees: | 400,993 |
| Total households: | 343,504 |
| | |
| Workers per Household: | 1.167 |
| Homes per Worker: | .856 |

Given the above sub-sample, which is believed to more closely represent the characteristics of Project employees, the analysis indicates that a value of .856 homes per employee is a more accurate estimate than the .64 assumed by LAUSD.

**Employees who Live at the Village at Playa Vista**

One of the most basic limitations of the LAUSD model is that the models applied to commercial development and to residential development are both used in tandem for mixed use development projects. The issue at hand is that although new employment will lead to household formation (resulting in new students), it is likely that a number of those workers will choose to reside at the Project site. Using the two models together without considering the onsite linkage of employees to housing will effectively result in the double counting of those employees, households, and students.

Since all students generated by the Village at Playa Vista residential development are projected in the household model, it is necessary to estimate the number of those households who will work at the Project site, so that the employment model can be adjusted.

In order to estimate the onsite linkage, the West Los Angeles area was used as a proxy for the Project site (see Attachment 4). Using 2000 Census data, the percentage of workers commuting less than 10 minutes to work was determined. The inherent assumption is that a Project resident who commutes less than 10 minutes would be likely to work at Playa Vista, since a longer commute would place them outside of the development. Based on this approach, it is conservatively estimated that approximately 25.4% of Project residents will also work at Playa Vista. Given the 2,600 planned housing units, and assuming 1.17 workers per household, this will result in 772 workers who should not be included in the employment model since they have already been considered in the IMH model.

## Student Generation Rates

In order to estimate the numbers of students given the numbers of employee households, a set of student generation rates is applied to the household count. Student generation rates are expressed as the number of students per household so they can be simply multiplied by the numbers of new households to arrive at the total numbers of students

In order to ensure that the rates used in the Enhanced Employment model were consistent with this study, the student generation rates produced by the Integrated Multivariate Household model were also used in the Enhanced Employment Model. Those rates are as follows:

| **Grade** | **Students/Household** |
|---|---|
| K-5 | .135 |
| Grade 6-8 | .061 |
| Grade 9-12 | .063 |

## Percent of Workers who Form New Households

A final assumption relates to the percent of workers employed at the Project site who move into the area and, in effect, form new households. At this time there is no effective way to quantify this assumption. Intuitively, it is likely that due to the existing employment pool in the West Los Angeles area a significant number of the employees who work at the Project site will already live in the area and, therefore, not form new households. However, for purposes of the study, we have made the very conservative assumption that *every* new worker will form a new household.

The following is a printout of the Enhanced Employment model. In total, the model estimated that there would be approximately 60 students generated as a result of commercial development at Playa Vista. This differs significantly from the 264 estimated using LAUSD assumptions and methodology.

| Estimated Employment | | | | |
|---|---|---|---|---|
| **Employment Estimates** | **Measure** | | **Density** | **Employment** |
| Office (SqFt) | 175,000 | / | 250 | 700 |
| Retail (SqFt) | 150,000 | / | 375 | 400 |
| Hotel (# of Rooms) | | X | 0.90 | - |
| Community Serving (SqFt) | 40,000 | / | 500 | 80 |
| Marina (# of Boats) | - | X | 0.10 | - |
| Total | | | | **1,180** |

## Enhanced Employment Model

| | | **Comments** |
|---|---|---|
| Total Employment | 1,180 | Estimated by PCR Consulting Services, Inc. |
| Homes per Employee | 0.86 | Calculated from census data for West LA |
| | 1.168 | |
| **Adjustment for Residents of Playa Vista** | | |
| % of Workers Living at Playa Vista | 25.4% | Estimated from WLA commuter trends in census |
| PV Households | 2,600 | Housing units to be built |
| Total workers living at PV | 3,037 | PV HHlds divided by Homes per Employee |
| # of PV Residents working at PV | 772 | Workers living at PV times % Workers Living at PV |
| **Estimated Household Formation** | | |
| Employment Adjusted for workers residing at PV | 408 | Total Employment minus # of PV residents working at PV |
| Percent of workers who will form new households | 100.0% | Although inconsistent with labor pool, the default LAUSD assmption has been used since this can not be quantified at this time |
| New Worker Households Formed | 349 | Total Employment multiplied by Homes per Employee times % of workers who will relocate |
| % Residing In LAUSD | 66.7% | Based on GIS analysis of 30 minute commuter region |
| Incremental Households | 233 | Total worker HHlds multiplied by % in LAUSD |
| **Estimated Student Generation** | | |
| **Generation Rates** | | |
| K-5 | 0.1350 | Based on weighted average rates derived |
| 6-8 | 0.0610 | from combined rental and owner occupied |
| 9-12 | 0.0630 | housing in the IMH model. |
| **Student Generation** | | |
| K-5 | 31 | Employment HHlds multiplied by Generation Rates |
| 6-8 | 14 | |
| 9-12 | 15 | |
| **Total Estimated Students** | 60 | Total student generation from commercial development |

## Other Assumptions and Considerations

In addition to the assumptions identified in the Methodology section, there are a number of others that should be considered when using this analysis.

### Application of Statewide Census Microdata Sample

As indicated above, the microdata used to produce the student generation was based on the entire State of California, and employs the geodemographic assumption that households of similar socioeconomic status residing in different geographic regions within the state behave similarly. Given this approach, and based on testing, we believe that improved accuracy through the use of the full California sample should outweigh concern for incorporating areas outside of the City of Los Angeles. Use of the statewide sample actually produces a higher estimate of student generation (compared to the Los Angeles sample) which is believed to be more reliable.

### Relationship Between Employment and Household Formation

The existing design of the EE model includes an assumption that a certain percentage of workers that reside at the Project site will also work at the Village at Playa Vista. In order to compensate for the double counting of these employees' households between the EE and IMH models, an adjustment was made to the EE model.

For the remaining workers who do not live at the Project site there are two possibilities which could occur:

1. A new worker could move into the Project's commuter region (in or out of LAUSD boundaries) resulting in the formation of a new household.
2. A worker could already be living in the commuter region, go to work at the Village at Playa Vista but not form a *new* household since it already existed prior to development.

The LAUSD model inherently assumes that *all* workers produce new households that did not previously live in the area. In light of the strong labor pool in the entertainment and professional services industries already in the area, it is expected that the Project will draw at least some workers who will already have lived in the region. This will likely result in somewhat fewer new households than those projected by the EE model, thus suggesting that the forecast presented here is conservative in nature.

## Construction Assumptions

All input variables relating to the Playa Vista Development used in this study were obtained from PCR Consulting Services Inc. or Playa Capital Corporation.

# Summary of IMH Model and Enhanced Employment Model Estimates

| Residential Units | | Public School Students | | | | Student Generation Rates | | |
|---|---|---|---|---|---|---|---|---|
| | Units | K-5 | 6-8 | 9-12 | Total | K-5 | 6-8 | 9-12 |
| **Owner Occupied** | **1,682** | **152** | **73** | **91** | **316** | **0.091** | **0.043** | **0.054** |
| 1 Bedroom | 320 | 47 | 13 | 19 | | 0.147 | 0.040 | 0.060 |
| 2 Bedroom | 756 | 40 | 23 | 28 | | 0.053 | 0.030 | 0.037 |
| 3 Bedroom | 572 | 63 | 35 | 38 | | 0.110 | 0.061 | 0.067 |
| 4 Bedroom | 34 | 2 | 2 | 6 | | 0.070 | 0.060 | 0.170 |
| **Renter Occupied** | **918** | **124** | **56** | **58** | **238** | **0.135** | **0.061** | **0.063** |
| **Market Rate** | **528** | **37** | **18** | **18** | **73** | **0.070** | **0.034** | **0.034** |
| Studio | 94 | 3 | 2 | 2 | **7** | 0.032 | 0.021 | 0.021 |
| 1 Bedroom | 220 | 15 | 7 | 7 | **29** | 0.068 | 0.032 | 0.032 |
| 2 Bedroom | 183 | 16 | 7 | 7 | **30** | 0.087 | 0.038 | 0.038 |
| 3 Bedroom | 31 | 3 | 2 | 2 | **7** | 0.097 | 0.065 | 0.065 |
| **Affordable** | **390** | **87** | **38** | **40** | **165** | **0.223** | **0.097** | **0.103** |
| Studio | 49 | 6 | 2 | 2 | 10 | 0.122 | 0.041 | 0.041 |
| 1 Bedroom | 160 | 29 | 11 | 10 | 50 | 0.181 | 0.069 | 0.063 |
| 2 Bedroom | 153 | 39 | 18 | 20 | 77 | 0.255 | 0.118 | 0.131 |
| 3 Bedroom | 28 | 13 | 7 | 8 | 28 | 0.464 | 0.000 | 0.615 |
| **Commercial** | | | | | | | | |
| Employees | **1,180** | **31** | **14** | **15** | **60** | **0.027** | **0.012** | **0.012** |
| Total Students | | 308 | 143 | 163 | 614 | | | |

** Student generation rates for the Commercial model are represented as the numbers of students per employee in this table. These differ from the rates used in the model which are based on the numbers of students per employee household.*

# Attachments

**Table 1- Condominium Status by Ownership for Los Angeles MSA – 2000 Census Microdata**

**Ownership Recode * Calculated Condo Flag Crosstabulation**

| | | | Calculated Condo Flag | | |
|---|---|---|---|---|---|
| | | | Non-Condo | Condo | Total |
| Ownership Recode | Owned | Count | 1830578 | 245160 | 2075738 |
| | | % within Ownership Recode | 88.2% | 11.8% | 100.0% |
| | | % within Calculated Condo Flag | 47.9% | 100.0% | 51.0% |
| | | % of Total | 45.0% | 6.0% | 51.0% |
| | Rented | Count | 1992143 | | 1992143 |
| | | % within Ownership Recode | 100.0% | | 100.0% |
| | | % within Calculated Condo Flag | 52.1% | | 49.0% |
| | | % of Total | 49.0% | | 49.0% |
| Total | | Count | 3822721 | 245160 | 4067881 |
| | | % within Ownership Recode | 94.0% | 6.0% | 100.0% |
| | | % within Calculated Condo Flag | 100.0% | 100.0% | 100.0% |
| | | % of Total | 94.0% | 6.0% | 100.0% |

*Note: Condominium status for the 2000 dataset is based on the presence of a monthly condominium fee, resulting in no breakdown for rented condomiums.*

# Table 2 – Student Generation Rates for Condominiums versus SFRs

Condominium Status: Condominium
Bedrooms: 4
Ownership: Owner Occupied

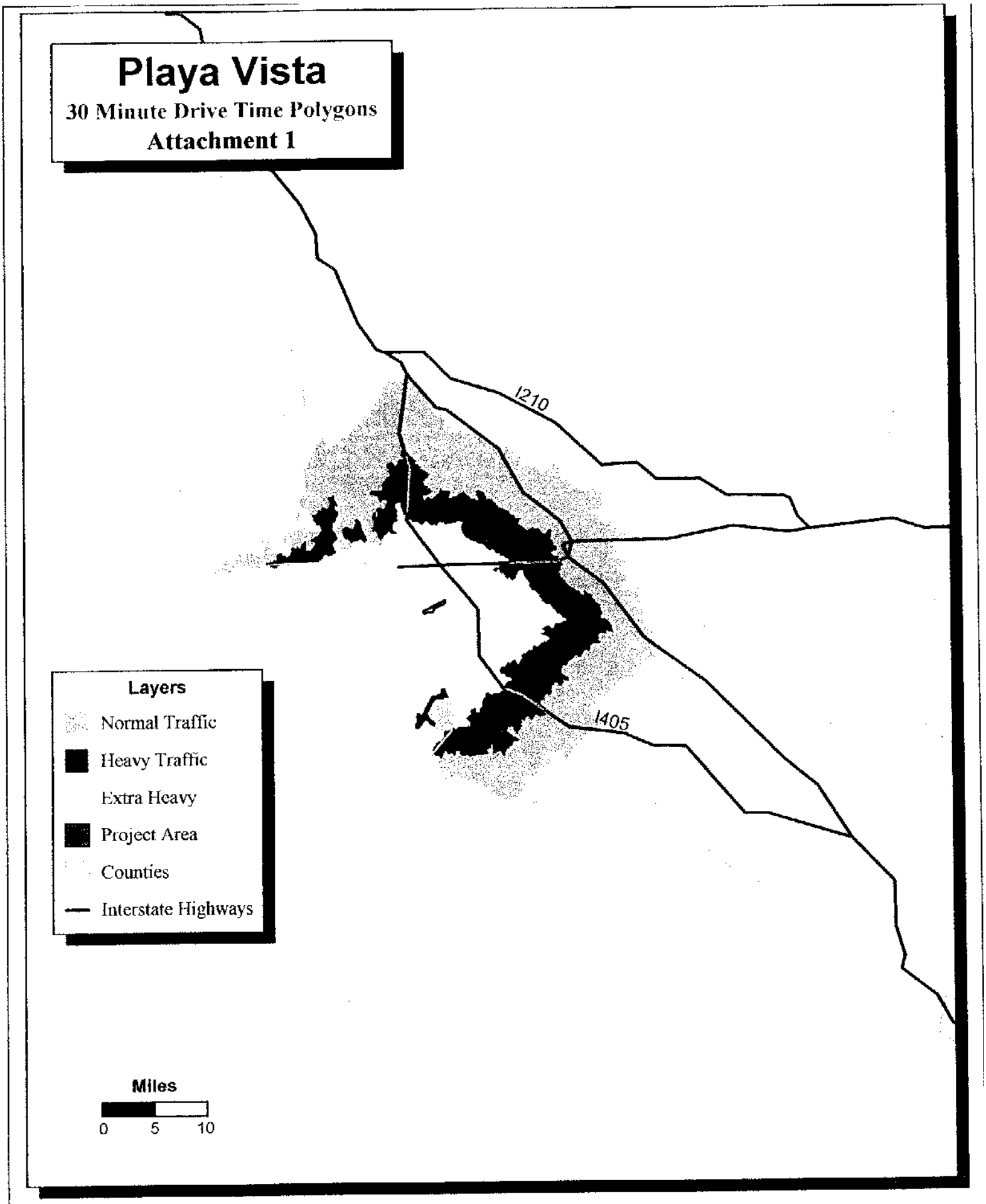
**Descriptive Statistics**

| | N | Mean | Std. Deviation |
|---|---|---|---|
| Public School K-12 Enrollment | 150841 | .4049 | .7838 |
| Valid N (listwise) | 150841 | | |

Condominium Status: Non-condo/SFR
Bedrooms: 4
Ownership: Owner Occupied

**Descriptive Statistics**

| | N | Mean | Std. Deviation |
|---|---|---|---|
| Public School K-12 Enrollment | 2674182 | .6647 | 1.0610 |
| Valid N (listwise) | 2674182 | | |


Playa Vista
30 Minute Drive Time Polygons
Attachment 1
I210
I405
Layers
Normal Traffic
Heavy Traffic
Extra Heavy
Project Area
Counties
Interstate Highways
Miles
0
5
10

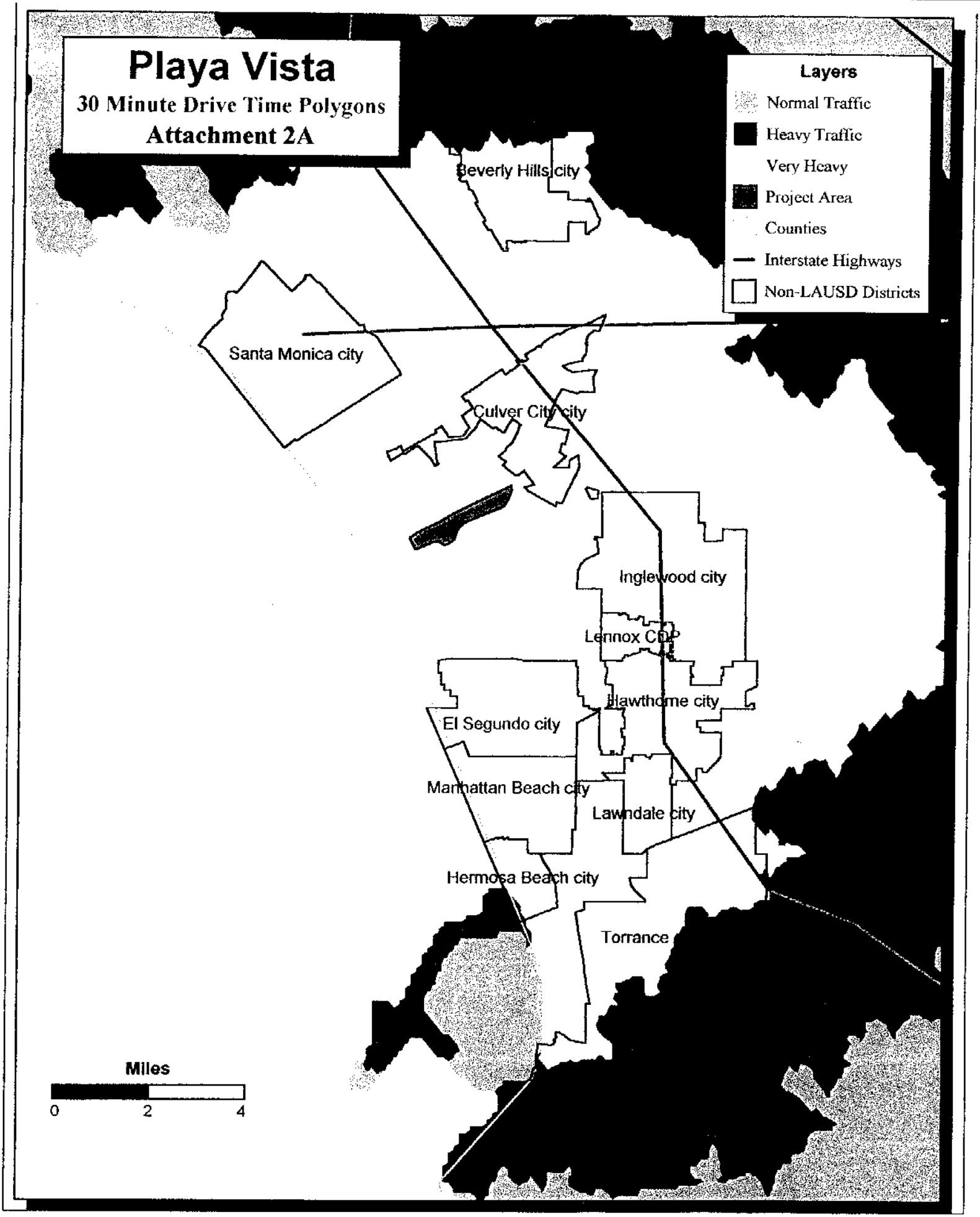
Attachment 2

**Calculation of weighted average % of workers out of district**
**Based on GIS Analysis**

| Occupation | Total Workers | Outside District | % Outside |
|---|---|---|---|
| Management | 74,419 | 26,592 | 35.7% |
| Sales | 83,951 | 27,619 | 32.9% |
| Admin Support | 121,514 | 38,788 | 31.9% |
| Bus. Ops | 19,184 | 6,649 | 34.7% |
| Weighted Avg. | 299,068 | 99,648 | 33.3% |

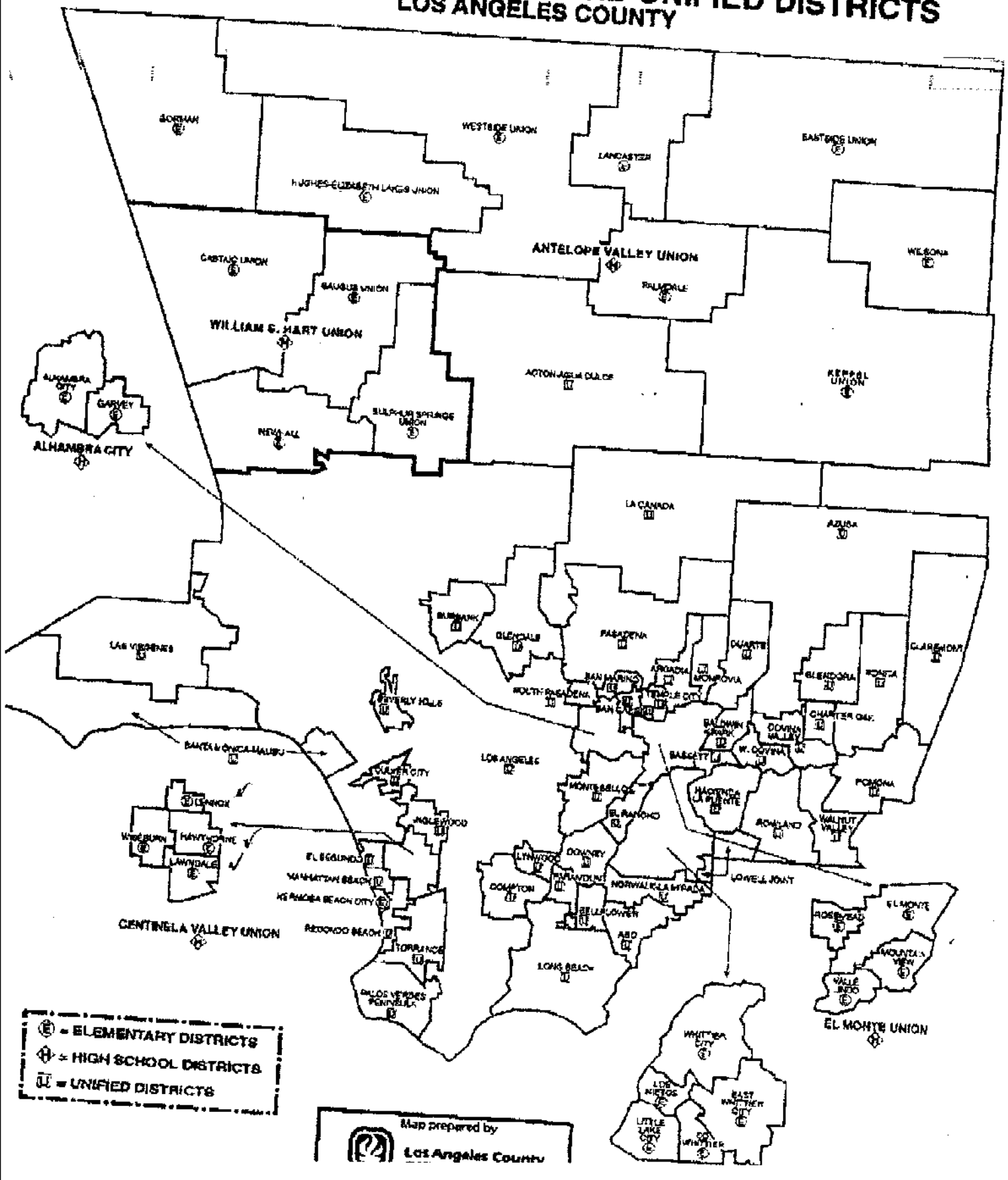
## Total Area in Square Miles

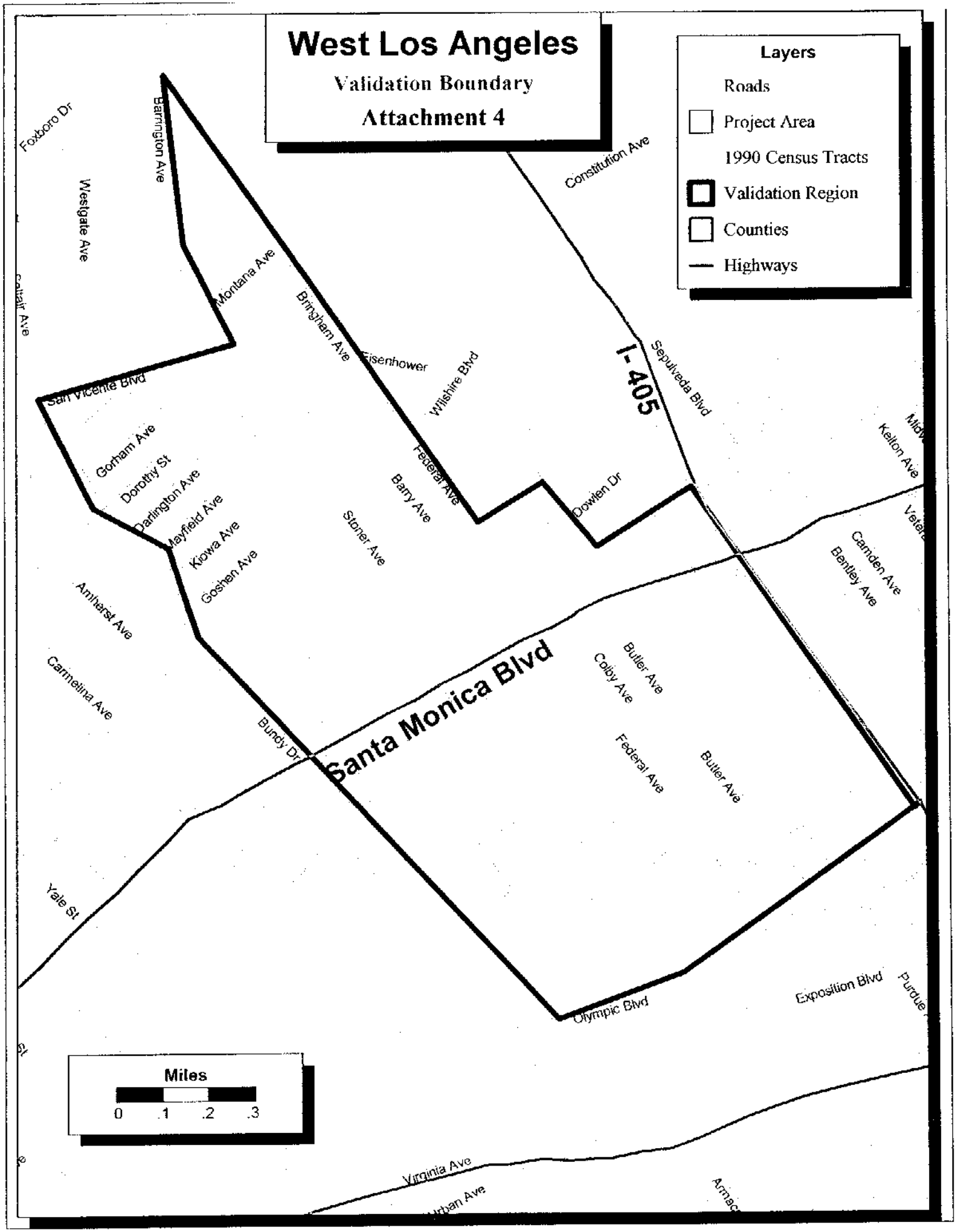
| | 30 Minute Drive Time Region | Non-LAUSD Districts within Drive Time Region | Percent of Area Outside LAUSD |
|---|---|---|---|
| Total Area in Square Miles | 168 | 70 | 42% |


Playa Vista
30 Minute Drive Time Polygons
Attachment 2A
Layers
Normal Traffic
Heavy Traffic
Very Heavy
Project Area
Counties
Interstate Highways
Non-LAUSD Districts
Beverly Hills city
Santa Monica city
Culver City city
Inglewood city
Lennox CDP
Hawthorne city
El Segundo city
Manhattan Beach city
Lawndale city
Hermosa Beach city
Torrance
Miles
0
2
4

ATTACHMENT 3

# ELEMENTARY, HIGH SCHOOL AND UNIFIED DISTRICTS
## LOS ANGELES COUNTY




West Los Angeles
Validation Boundary
Attachment 4
Layers
Roads
Project Area
1990 Census Tracts
Validation Region
Counties
Highways
Foxboro Dr
Barrington Ave
Westgate Ave
Montana Ave
Bringham Ave
Constitution Ave
Sepulveda Blvd
I-405
Wilshire Blvd
Eisenhower
San Vicente Blvd
Gorham Ave
Dorothy St
Darlington Ave
Mayfield Ave
Kiowa Ave
Goshen Ave
Barry Ave
Federal Ave
Stoner Ave
Dowlen Dr
Kelton Ave
Camden Ave
Bentley Ave
Amherst Ave
Carmelina Ave
Bundy Dr
Santa Monica Blvd
Butler Ave
Colby Ave
Federal Ave
Butler Ave
Yale St
Olympic Blvd
Exposition Blvd
Purdue
Virginia Ave
Miles
0 .1 .2 .3

# Attachment 5

# IMH Model Output using California Statewide Census Data

Attachment

# SFRs - Owned

Units — Value Range (% of State Median Home Value)

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ | Total |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | |
| 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | 0 | 0 | 0 | 0 | 137 | 137 |
| 3 | 0 | 0 | 0 | 0 | 524 | 524 |
| 4 | 0 | 0 | 0 | 0 | 44 | 44 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 1 | 0 | 0 | 0 | 705 | 706 |

K-5 Public/Unit — Value Range

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ |
|---|---|---|---|---|---|
| 0 | 0.00 | 0.19 | 0.26 | 0.31 | 0.26 |
| 1 | 0.09 | 0.27 | 0.32 | 0.33 | 0.21 |
| 2 | 0.08 | 0.11 | 0.15 | 0.14 | 0.10 |
| 3 | 0.23 | 0.22 | 0.18 | 0.10 | 0.14 |
| 4 | 0.33 | 0.28 | 0.23 | 0.18 | 0.20 |
| 5 | 0.40 | 0.33 | 0.16 | 0.25 | 0.20 |

5-11 Public/Unit — Value Range

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ |
|---|---|---|---|---|---|
| 0 | 0.04 | 0.11 | 0.28 | 0.23 | 0.13 |
| 1 | 0.06 | 0.19 | 0.18 | 0.21 | 0.14 |
| 2 | 0.05 | 0.08 | 0.10 | 0.10 | 0.07 |
| 3 | 0.16 | 0.15 | 0.12 | 0.08 | 0.10 |
| 4 | 0.27 | 0.21 | 0.19 | 0.13 | 0.16 |
| 5 | 0.33 | 0.27 | 0.15 | 0.21 | 0.16 |

HS Public/Unit — Value Range

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ |
|---|---|---|---|---|---|
| 0 | 0.05 | 0.13 | 0.27 | 0.27 | 0.16 |
| 1 | 0.06 | 0.20 | 0.25 | 0.26 | 0.17 |
| 2 | 0.05 | 0.08 | 0.12 | 0.12 | 0.09 |
| 3 | 0.19 | 0.17 | 0.15 | 0.10 | 0.12 |
| 4 | 0.31 | 0.26 | 0.23 | 0.17 | 0.20 |
| 5 | 0.38 | 0.34 | 0.16 | 0.25 | 0.20 |

K-5 Private/Unit — Value Range

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ |
|---|---|---|---|---|---|
| 0 | 0.01 | 0.02 | 0 | 0.04 | 0.02 |
| 1 | 0.00 | 0.02 | 0.03 | 0.03 | 0.04 |
| 2 | 0.00 | 0.01 | 0.02 | 0.02 | 0.03 |
| 3 | 0.02 | 0.03 | 0.04 | 0.05 | 0.05 |
| 4 | 0.04 | 0.06 | 0.07 | 0.09 | 0.09 |
| 5 | 0.05 | 0.08 | 0.077 | 0.10 | 0.13 |

Attachment

5-11 Private/Unit — Value Range

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ |
|---|---|---|---|---|---|
| 0 | 0.00 | 0.02 | 0.03 | 0.01 | 0.02 |
| 1 | 0.00 | 0.01 | 0.02 | 0.02 | 0.01 |
| 2 | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 |
| 3 | 0.01 | 0.01 | 0.03 | | 0.02 |
| 4 | 0.02 | 0.02 | 0.03 | | 0.03 |
| 5 | 0.03 | 0.04 | | | 0.06 |

HS Private/Unit — Value Range

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ |
|---|---|---|---|---|---|
| 0 | 0.00 | 0.01 | 0.00 | 0.04 | 0.01 |
| 1 | 0.00 | 0.01 | 0.02 | 0.02 | 0.02 |
| 2 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 |
| 3 | 0.01 | 0.01 | 0.01 | | 0.02 |
| 4 | 0.02 | 0.02 | 0.03 | | 0.04 |
| 5 | 0.02 | 0.04 | | | 0.07 |

K-5 Public Students

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ | Total |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | 0 | 0 | 0 | 0 | 14 | 14 |
| 3 | 0 | 0 | 0 | 0 | 73 | 73 |
| 4 | 0 | 0 | 0 | 0 | 9 | 9 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 0 | 0 | 0 | 0 | 96 | 96 |

5-11 Public Students

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ | Total |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | 0 | 0 | 0 | 0 | 10 | 10 |
| 3 | 0 | 0 | 0 | 0 | 52 | 52 |
| 4 | 0 | 0 | 0 | 0 | 7 | 7 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 0 | 0 | 0 | 0 | 69 | 69 |

HS Public Students

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ | Total |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | 0 | 0 | 0 | 0 | 12 | 12 |
| 3 | 0 | 0 | 0 | 0 | 63 | 63 |
| 4 | 0 | 0 | 0 | 0 | 9 | 9 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 0 | 0 | 0 | 0 | 84 | 84 |

Attachment

K-5 Private Students

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ | Total |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | 0 | 0 | 0 | 0 | 4 | 4 |
| 3 | 0 | 0 | 0 | 0 | 26 | 26 |
| 4 | 0 | 0 | 0 | 0 | 4 | 4 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 0 | 0 | 0 | 0 | 34 | 34 |

5-11 Private Students

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ | Total |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | 0 | 0 | 0 | 0 | 1 | 1 |
| 3 | 0 | 0 | 0 | 0 | 10 | 10 |
| 4 | 0 | 0 | 0 | 0 | 1 | 1 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 0 | 0 | 0 | 0 | 13 | 13 |

HS Private Students

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ | Total |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | 0 | 0 | 0 | 0 | 1 | 1 |
| 3 | 0 | 0 | 0 | 0 | 10 | 10 |
| 4 | 0 | 0 | 0 | 0 | 2 | 2 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 0 | 0 | 0 | 0 | 14 | 14 |

Total Students

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ | Total |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | 0 | 0 | 0 | 0 | 26 | 26 |
| 3 | 0 | 0 | 0 | 0 | 136 | 136 |
| 4 | 0 | 0 | 0 | 0 | 18 | 18 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 0 | 0 | 0 | 0 | 180 | 180 |

Attachment 5

IMH Model Output using Statewide California Data

## Condos - Owned

Units — Value Range (% of State Median Home Value)

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ | Total |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 1,121 | 417 | 0 | 1,538 |
| 2 | 0 | 410 | 580 | 919 | 880 | 2,789 |
| 3 | 0 | 0 | 0 | 0 | 590 | 590 |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 0 | 410 | 1,700 | 1,336 | 1,470 | 4,917 |

K-5 Public/Unit — Value Range

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ |
|---|---|---|---|---|---|
| 0 | 0.05 | 0.04 | 0.15 | 0.07 | 0.15 |
| 1 | 0.06 | 0.04 | 0.06 | 0.08 | 0.06 |
| 2 | 0.06 | 0.05 | 0.03 | 0.02 | 0.03 |
| 3 | 0.17 | 0.14 | 0.08 | 0.05 | 0.05 |
| 4 | 0.22 | 0.12 | 0.21 | 0.16 | 0.09 |
| 5 | 0.22 | 0.26 | 0.22 | 0.16 | 0.53 |

5-11 Public/Unit — Value Range

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ |
|---|---|---|---|---|---|
| 0 | 0.01 | 0.04 | 0.1 | 0.06 | 0.06 |
| 1 | 0.04 | 0.02 | 0.03 | 0.05 | 0.02 |
| 2 | 0.03 | 0.03 | 0.02 | 0.01 | 0.02 |
| 3 | 0.14 | 0.09 | 0.06 | 0.05 | 0.04 |
| 4 | 0.21 | 0.11 | 0.13 | 0.08 | 0.07 |
| 5 | 0.21 | 0.20 | 0.18 | 0.07 | 0.28 |

HS Public/Unit — Value Range

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ |
|---|---|---|---|---|---|
| 0 | 0.070 | 0.070 | 0.030 | 0.070 | 0.110 |
| 1 | 0.050 | 0.030 | 0.040 | 0.090 | 0.060 |
| 2 | 0.040 | 0.030 | 0.030 | 0.030 | 0.020 |
| 3 | 0.160 | 0.120 | 0.070 | 0.070 | 0.050 |
| 4 | 0.190 | 0.200 | 0.130 | 0.110 | 0.120 |
| 5 | 0.200 | 0.440 | 0.129 | 0.092 | 0.140 |

K-5 Private/Unit — Value Range

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ |
|---|---|---|---|---|---|
| 0 | - | 0.020 | - | - | 0.060 |
| 1 | 0.010 | 0.010 | 0.010 | 0.010 | 0.010 |
| 2 | 0.015 | 0.010 | 0.010 | 0.010 | 0.010 |
| 3 | 0.020 | 0.030 | 0.020 | 0.010 | 0.020 |
| 4 | 0.040 | 0.050 | 0.030 | 0.030 | 0.070 |
| 5 | 0.041 | 0.048 | 0.035 | 0.035 | 0.070 |

Attachment 5

5-11 Private/Unit Value Range

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ |
|---|---|---|---|---|---|
| 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.01 | 0.01 | 0.01 | 0.00 | 0.01 |
| 4 | 0.00 | 0.02 | 0.02 | 0.00 | 0.06 |
| 5 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

HS Private/Unit Value Range

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ |
|---|---|---|---|---|---|
| 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 |
| 2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.01 | 0.01 | 0.01 | 0.01 | 0.02 |
| 4 | 0.00 | 0.01 | 0.02 | 0.01 | 0.02 |
| 5 | 0.00 | 0.00 | 0.00 | 0.00 | 0.05 |

K-5 Public Students

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ | Total |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 67 | 33 | 0 | 101 |
| 2 | 0 | 20 | 17 | 18 | 26 | 83 |
| 3 | 0 | 0 | 0 | 0 | 30 | 30 |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 0 | 20 | 85 | 52 | 56 | 213 |

5-11 Public Students

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ | Total |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 34 | 21 | 0 | 54 |
| 2 | 0 | 12 | 12 | 9 | 18 | 51 |
| 3 | 0 | 0 | 0 | 0 | 24 | 24 |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 0 | 12 | 45 | 30 | 41 | 129 |

HS Public Students

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ | Total |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 45 | 38 | 0 | 82 |
| 2 | 0 | 12 | 17 | 28 | 18 | 75 |
| 3 | 0 | 0 | 0 | 0 | 30 | 30 |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 0 | 12 | 62 | 65 | 47 | 187 |

Attachment 5

K-5 Private Students

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ | Total |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 11 | 4 | 0 | 15 |
| 2 | 0 | 4 | 6 | 9 | 9 | 28 |
| 3 | 0 | 0 | 0 | 0 | 12 | 12 |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 0 | 4 | 17 | 13 | 21 | 55 |

5-11 Private Students

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ | Total |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 | 0 | 0 | 0 | 0 | 6 | 6 |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 0 | 0 | 0 | 0 | 6 | 6 |

HS Private Students

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ | Total |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 11 | 4 | 0 | 15 |
| 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 | 0 | 0 | 0 | 0 | 12 | 12 |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 0 | 0 | 11 | 4 | 12 | 27 |

Total Students

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ | Total |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 112 | 71 | 0 | 183 |
| 2 | 0 | 33 | 35 | 46 | 44 | 158 |
| 3 | 0 | 0 | 0 | 0 | 59 | 59 |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 0 | 33 | 147 | 117 | 103 | 400 |

# Condos - Rented (Apartments)

Units — Value Range (% of State Median Home Value)

| Bedrooms | <50 | 50-100 | 100-150 | 150-200 | 200+ | Total |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | |
| 1 | 0 | 246 | 369 | 123 | 400 | 1,138 |
| 2 | 0 | 246 | 369 | 123 | 1,876 | 2,614 |
| 3 | 0 | 0 | 0 | 0 | 463 | 463 |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 0 | 492 | 738 | 246 | 2,739 | 4,215 |

K-5 Public/Unit — Value Range

| Bedrooms | <50 | 50-100 | 100-150 | 150-200 | 200+ |
|---|---|---|---|---|---|
| 0 | 0.14 | 0.25 | 0.18 | 0.1 | 0.12 |
| 1 | 0.16 | 0.18 | 0.15 | 0.05 | 0.05 |
| 2 | 0.28 | 0.24 | 0.12 | 0.05 | 0.05 |
| 3 | 0.53 | 0.47 | 0.23 | 0.11 | 0.11 |
| 4 | 0.78 | 0.79 | 0.39 | 0.26 | 0.07 |
| 5 | 0.78 | 0.79 | 0.89 | 0.93 | 0.99 |

5-11 Public/Unit — Value Range

| Bedrooms | <50 | 50-100 | 100-150 | 150-200 | 200+ |
|---|---|---|---|---|---|
| 0 | 0.09 | 0.11 | 0.11 | 0.03 | 0.04 |
| 1 | 0.08 | 0.10 | 0.09 | 0.05 | 0.06 |
| 2 | 0.14 | 0.13 | 0.06 | 0.03 | 0.03 |
| 3 | 0.17 | 0.26 | 0.20 | 0.24 | 0.26 |
| 4 | 0.42 | 0.49 | 0.23 | 0.19 | 0.10 |
| 5 | 0.42 | 0.49 | 0.13 | 0.06 | 0.06 |

HS Public/Unit — Value Range

| Bedrooms | <50 | 50-100 | 100-150 | 150-200 | 200+ |
|---|---|---|---|---|---|
| 0 | 0.04 | 0.1 | 0.13 | 0.05 | 0.08 |
| 1 | 0.06 | 0.10 | 0.10 | 0.10 | 0.09 |
| 2 | 0.13 | 0.13 | 0.09 | 0.08 | 0.06 |
| 3 | 0.18 | 0.28 | 0.24 | 0.29 | 0.32 |
| 4 | 0.31 | 0.54 | 0.27 | 0.33 | 0.31 |
| 5 | 0.31 | 0.41 | 0.51 | 0.41 | 0.44 |

K-5 Private/Unit — Value Range

| Bedrooms | <50 | 50-100 | 100-150 | 150-200 | 200+ |
|---|---|---|---|---|---|
| 0 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 |
| 1 | 0.01 | 0.00 | 0.02 | 0.01 | 0.02 |
| 2 | 0.01 | 0.02 | 0.02 | 0.03 | 0.03 |
| 3 | 0.03 | 0.04 | 0.03 | 0.03 | 0.03 |
| 4 | 0.00 | 0.00 | 0.11 | 0.15 | 0.20 |
| 5 | | 0.00 | 0.00 | | |

Attachment 5

5-11 Private/Unit

| | Value Range | | | | |
|---|---|---|---|---|---|
| **Bedrooms** | **<50** | **50-100** | **100-150** | **150-200** | **200+** |
| 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 |
| 2 | 0.00 | 0.00 | 0.01 | 0.01 | 0.02 |
| 3 | 0.02 | 0.00 | 0.01 | 0.01 | 0.01 |
| 4 | 0.00 | 0.00 | 0.01 | 0.01 | 0.02 |
| 5 | | 0.00 | 0.00 | | |

HS Private/Unit

| | Value Range | | | | |
|---|---|---|---|---|---|
| **Bedrooms** | **<50** | **50-100** | **100-150** | **150-200** | **200+** |
| 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1 | 0.00 | 0.00 | 0.01 | 0.01 | 0.02 |
| 2 | 0.01 | 0.00 | 0.00 | 0.01 | 0.01 |
| 3 | 0.02 | 0.00 | 0.01 | 0.00 | 0.01 |
| 4 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| 5 | | 0.00 | 0.00 | | |

K-5 Public Students

| **Bedrooms** | **<50** | **50-100** | **100-125** | **125-150** | **150+** | **Total** |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 44 | 55 | 6 | 18 | 124 |
| 2 | 0 | 59 | 44 | 7 | 94 | 204 |
| 3 | 0 | 0 | 0 | 0 | 51 | 51 |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 0 | 103 | 100 | 13 | 163 | 378 |

5-11 Public Students

| **Bedrooms** | **<50** | **50-100** | **100-125** | **125-150** | **150+** | **Total** |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 25 | 33 | 6 | 22 | 86 |
| 2 | 0 | 32 | 22 | 4 | 56 | 114 |
| 3 | 0 | 0 | 0 | 0 | 118 | 118 |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 0 | 57 | 55 | 10 | 196 | 318 |

HS Public Students

| **Bedrooms** | **<50** | **50-100** | **100-125** | **125-150** | **150+** | **Total** |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 25 | 37 | 12 | 36 | 110 |
| 2 | 0 | 32 | 33 | 9 | 106 | 181 |
| 3 | 0 | 0 | 0 | 0 | 150 | 150 |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 0 | 57 | 70 | 22 | 292 | 440 |

Attachment 5

K-5 Private Students

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ | Total |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 7 | 1 | 6 | 15 |
| 2 | 0 | 5 | 7 | 3 | 59 | 75 |
| 3 | 0 | 0 | 0 | 0 | 15 | 15 |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 0 | 5 | 15 | 5 | 81 | 105 |

5-11 Private Students

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ | Total |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 0 | 1 | 4 | 5 |
| 2 | 0 | 0 | 4 | 2 | 34 | 40 |
| 3 | 0 | 0 | 0 | 0 | 5 | 5 |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 0 | 0 | 4 | 3 | 43 | 50 |

HS Private Students

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ | Total |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 4 | 1 | 6 | 11 |
| 2 | 0 | 0 | 0 | 1 | 9 | 11 |
| 3 | 0 | 0 | 0 | 0 | 5 | 5 |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 0 | 0 | 4 | 2 | 20 | 26 |

Total Students

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ | Total |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 69 | 92 | 18 | 54 | 234 |
| 2 | 0 | 91 | 77 | 16 | 200 | 385 |
| 3 | 0 | 0 | 0 | 0 | 201 | 201 |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 0 | 160 | 170 | 34 | 455 | 819 |

**Summary of IMH Model Results**

| | Condos Owned | SFR owned | Rental | Total |
|---|---|---|---|---|
| **Public School** | | | | |
| K-6 | 213 | 96 | 378 | 687 |
| 6-8 | 129 | 69 | 318 | 516 |
| 9-12 | 187 | 84 | 440 | 711 |
| Total Public | 528 | 249 | 1,137 | 1,914 |

| | Condos Owned | SFR owned | Rental | Total |
|---|---|---|---|---|
| **Private School** | | | | |
| K-6 | 55 | 34 | 105 | 194 |
| 6-8 | 6 | 13 | 50 | 69 |
| 9-12 | 27 | 14 | 26 | 67 |
| Total Private | 88 | 61 | 181 | 330 |

Adjustment Factors Used to Reconcile Numbers of Bedrooms

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ |
|---|---|---|---|---|---|
| 1 | 1.1687 | 1.1687 | 1.1687 | 1.1687 | 1.1687 |
| 2 | 1.0814 | 1.0814 | 1.0814 | 1.0814 | 1.0814 |
| 3 | 0.5750 | 0.5750 | 0.5750 | 0.5750 | 0.5750 |

**Bedroom Reconciliation**

| | |
|---|---|
| 0 | 0 |
| 1 | 1,538 |
| 2 | 2,926 |
| 3 | 1,114 |
| 4 | 44 |
| 5 | 0 |

# Attachment 5

**Summary of IMH Model Results**

| Public School | Condos Owned | SFR owned | Rental | Total |
|---|---|---|---|---|
| K-6 | 111 | 41 | 125 | 277 |
| 6-8 | 54 | 19 | 57 | 130 |
| 9-12 | 65 | 25 | 59 | 149 |
| Total Public | 230 | 85 | 241 | 556 |

| Private School | Condos Owned | SFR owned | Rental | Total |
|---|---|---|---|---|
| K-6 | 31 | 19 | 15 | 65 |
| 6-8 | 8 | 10 | 4 | 21 |
| 9-12 | 13 | 10 | 3 | 25 |
| Total Private | 52 | 38 | 21 | 111 |

Adjustment Factors Used to Reconcile Numbers of Bedrooms

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ |
|---|---|---|---|---|---|
| 1 | 0.9940 | 0.9940 | 0.9940 | 0.9940 | 0.9940 |
| 2 | 0.9895 | 0.9895 | 0.9895 | 0.9895 | 0.9895 |
| 3 | 1.0290 | 1.0290 | 1.0290 | 1.0290 | 1.0290 |
| 4 | 1.05 | 1.05 | 1.05 | 1.05 | 1.05 |

**Bedroom Reconciliation**

| | |
|---|---|
| 0 | 0 |
| 1 | 320 |
| 2 | 756 |
| 3 | 572 |
| 4 | 34 |
| 5 | 0 |

# Attachment 6

# IMH Model Output using Los Angeles Census Data

Attachment 6

# SFRs - Owned

| Units | Value Range | | | | | |
|---|---|---|---|---|---|---|
| **Bedrooms** | **<50** | **50-100** | **100-125** | **125-150** | **150+** | **Total** |
| 0 | 0 | 0 | 0 | 0 | 0 | |
| 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | 0 | 0 | 0 | 0 | 137 | 137 |
| 3 | 0 | 0 | 0 | 0 | 524 | 524 |
| 4 | 0 | 0 | 0 | 0 | 44 | 44 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 1 | 0 | 0 | 0 | 705 | 706 |

| K-5 Public/Unit | Value Range | | | | |
|---|---|---|---|---|---|
| **Bedrooms** | **<50** | **50-100** | **100-125** | **125-150** | **150+** |
| 0 | 0.00 | 0.31 | 0.47 | 0.39 | 0.27 |
| 1 | 0.11 | 0.35 | 0.26 | 0.32 | 0.17 |
| 2 | 0.06 | 0.15 | 0.15 | 0.13 | 0.07 |
| 3 | 0.19 | 0.20 | 0.14 | 0.13 | 0.09 |
| 4 | 0.22 | 0.17 | 0.13 | 0.08 | 0.11 |
| 5 | 0.24 | 0.23 | 0.22 | 0.21 | 0.11 |

| 5-11 Public/Unit | Value Range | | | | |
|---|---|---|---|---|---|
| **Bedrooms** | **<50** | **50-100** | **100-125** | **125-150** | **150+** |
| 0 | 0.07 | 0.06 | 0.24 | 0.09 | 0.15 |
| 1 | 0.11 | 0.16 | 0.18 | 0.15 | 0.09 |
| 2 | 0.05 | 0.09 | 0.08 | 0.09 | 0.03 |
| 3 | 0.09 | 0.12 | 0.06 | 0.06 | 0.04 |
| 4 | 0.20 | 0.12 | 0.08 | 0.07 | 0.06 |
| 5 | 0.11 | 0.13 | 0.15 | 0.13 | 0.10 |

| HS Public/Unit | Value Range | | | | |
|---|---|---|---|---|---|
| **Bedrooms** | **<50** | **50-100** | **100-125** | **125-150** | **150+** |
| 0 | 0.15 | 0.13 | 0.32 | 0.33 | 0.13 |
| 1 | 0.12 | 0.20 | 0.28 | 0.21 | 0.13 |
| 2 | 0.07 | 0.10 | 0.13 | 0.09 | 0.06 |
| 3 | 0.10 | 0.17 | 0.11 | 0.14 | 0.07 |
| 4 | 0.20 | 0.16 | 0.13 | 0.09 | 0.10 |
| 5 | 0.29 | 0.18 | 0.20 | 0.18 | 0.12 |

| K-5 Private/Unit | Value Range | | | | |
|---|---|---|---|---|---|
| **Bedrooms** | **<50** | **50-100** | **100-125** | **125-150** | **150+** |
| 0 | 0.01 | 0.02 | 0 | 0.04 | 0.02 |
| 1 | 0.00 | 0.02 | 0.03 | 0.03 | 0.04 |
| 2 | 0.00 | 0.01 | 0.02 | 0.02 | 0.03 |
| 3 | 0.02 | 0.03 | 0.04 | 0.05 | 0.05 |
| 4 | 0.04 | 0.06 | 0.07 | 0.09 | 0.09 |
| 5 | 0.05 | 0.08 | 0.077 | 0.10 | 0.13 |

Attachment 6

5-11 Private/Unit — Value Range

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ |
|---|---|---|---|---|---|
| 0 | 0.00 | 0.02 | 0.03 | 0.01 | 0.02 |
| 1 | 0.00 | 0.01 | 0.02 | 0.02 | 0.01 |
| 2 | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 |
| 3 | 0.01 | 0.01 | 0.03 | | 0.02 |
| 4 | 0.02 | 0.02 | 0.03 | | 0.03 |
| 5 | 0.03 | 0.04 | | | 0.06 |

HS Private/Unit — Value Range

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ |
|---|---|---|---|---|---|
| 0 | 0.00 | 0.01 | 0.00 | 0.04 | 0.01 |
| 1 | 0.00 | 0.01 | 0.02 | 0.02 | 0.02 |
| 2 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 |
| 3 | 0.01 | 0.01 | 0.01 | | 0.02 |
| 4 | 0.02 | 0.02 | 0.03 | | 0.04 |
| 5 | 0.02 | 0.04 | | | 0.07 |

K-5 Public Students

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ | Total |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | 0 | 0 | 0 | 0 | 10 | 10 |
| 3 | 0 | 0 | 0 | 0 | 47 | 47 |
| 4 | 0 | 0 | 0 | 0 | 5 | 5 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 0 | 0 | 0 | 0 | 62 | 62 |

5-11 Public Students

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ | Total |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | 0 | 0 | 0 | 0 | 4 | 4 |
| 3 | 0 | 0 | 0 | 0 | 21 | 21 |
| 4 | 0 | 0 | 0 | 0 | 3 | 3 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 0 | 0 | 0 | 0 | 28 | 28 |

HS Public Students

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ | Total |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | 0 | 0 | 0 | 0 | 8 | 8 |
| 3 | 0 | 0 | 0 | 0 | 37 | 37 |
| 4 | 0 | 0 | 0 | 0 | 4 | 4 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 0 | 0 | 0 | 0 | 49 | 49 |

Attachment 6

K-5 Private Students

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ | Total |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | 0 | 0 | 0 | 0 | 4 | 4 |
| 3 | 0 | 0 | 0 | 0 | 26 | 26 |
| 4 | 0 | 0 | 0 | 0 | 4 | 4 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 0 | 0 | 0 | 0 | 34 | 34 |

5-11 Private Students

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ | Total |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | 0 | 0 | 0 | 0 | 1 | 1 |
| 3 | 0 | 0 | 0 | 0 | 10 | 10 |
| 4 | 0 | 0 | 0 | 0 | 1 | 1 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 0 | 0 | 0 | 0 | 13 | 13 |

HS Private Students

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ | Total |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | 0 | 0 | 0 | 0 | 1 | 1 |
| 3 | 0 | 0 | 0 | 0 | 10 | 10 |
| 4 | 0 | 0 | 0 | 0 | 2 | 2 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 0 | 0 | 0 | 0 | 14 | 14 |

Total Students

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ | Total |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | 0 | 0 | 0 | 0 | 18 | 18 |
| 3 | 0 | 0 | 0 | 0 | 84 | 84 |
| 4 | 0 | 0 | 0 | 0 | 9 | 9 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 0 | 0 | 0 | 0 | 111 | 111 |

# Condos - Owned

Units — Value Range

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ | Total |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 1,121 | 417 | 0 | 1,538 |
| 2 | 0 | 410 | 580 | 919 | 880 | 2,790 |
| 3 | 0 | 0 | 0 | 0 | 590 | 590 |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 0 | 410 | 1,701 | 1,336 | 1,470 | 4,918 |

K-5 Public/Unit — Value Range

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ |
|---|---|---|---|---|---|
| 0 | 0 | 0.07 | 0.16 | 0 | 0 |
| 1 | 0.06 | 0.05 | 0.06 | 0.06 | 0.03 |
| 2 | 0.05 | 0.05 | 0.05 | 0.02 | 0.03 |
| 3 | 0.12 | 0.14 | 0.01 | 0.02 | 0.03 |
| 4 | 0.01 | 0.03 | 0.39 | 0.39 | 0.04 |
| 5 | 0.00 | 0.00 | | | 0.00 |

5-11 Public/Unit — Value Range

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ |
|---|---|---|---|---|---|
| 0 | 0 | 0.12 | 0.01 | 0 | 0 |
| 1 | 0.00 | 0.02 | 0.01 | 0.02 | 0.01 |
| 2 | 0.00 | 0.02 | 0.01 | 0.01 | 0.01 |
| 3 | 0.04 | 0.05 | 0.06 | 0.01 | 0.03 |
| 4 | 0.04 | 0.04 | 0.04 | 0.02 | 0.08 |
| 5 | 0.00 | 0.00 | | | 0.19 |

HS Public/Unit — Value Range

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ |
|---|---|---|---|---|---|
| 0 | - | 0.090 | - | - | - |
| 1 | 0.130 | 0.030 | 0.040 | 0.070 | 0.030 |
| 2 | 0.020 | 0.020 | 0.020 | 0.020 | 0.010 |
| 3 | 0.240 | 0.160 | 0.070 | 0.070 | 0.030 |
| 4 | - | 0.160 | 0.060 | 0.240 | 0.040 |
| 5 | - | - | | | 0.370 |

K-5 Private/Unit — Value Range

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ |
|---|---|---|---|---|---|
| 0 | - | 0.020 | - | - | 0.060 |
| 1 | 0.010 | 0.010 | 0.010 | 0.010 | 0.010 |
| 2 | 0.015 | 0.010 | 0.010 | 0.010 | 0.010 |
| 3 | 0.020 | 0.030 | 0.020 | 0.010 | 0.020 |
| 4 | 0.040 | 0.050 | 0.030 | 0.030 | 0.070 |
| 5 | 0.041 | 0.048 | 0.035 | 0.035 | 0.070 |

Attachment 6

5-11 Private/Unit Value Range

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ |
|---|---|---|---|---|---|
| 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.01 | 0.01 | 0.01 | 0.00 | 0.01 |
| 4 | 0.00 | 0.02 | 0.02 | 0.00 | 0.06 |
| 5 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

HS Private/Unit Value Range

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ |
|---|---|---|---|---|---|
| 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 |
| 2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.01 | 0.01 | 0.01 | 0.01 | 0.02 |
| 4 | 0.00 | 0.01 | 0.02 | 0.01 | 0.02 |
| 5 | 0.00 | 0.00 | 0.00 | 0.00 | 0.05 |

K-5 Public Students

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ | Total |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 67 | 25 | 0 | 92 |
| 2 | 0 | 21 | 29 | 18 | 26 | 94 |
| 3 | 0 | 0 | 0 | 0 | 18 | 18 |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 0 | 21 | 96 | 43 | 44 | 204 |

5-11 Public Students

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ | Total |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 11 | 8 | 0 | 20 |
| 2 | 0 | 8 | 6 | 9 | 9 | 32 |
| 3 | 0 | 0 | 0 | 0 | 18 | 18 |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 0 | 8 | 17 | 18 | 27 | 69 |

HS Public Students

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ | Total |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 45 | 29 | 0 | 74 |
| 2 | 0 | 8 | 12 | 18 | 9 | 47 |
| 3 | 0 | 0 | 0 | 0 | 18 | 18 |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 0 | 8 | 56 | 48 | 27 | 139 |

Attachment 6

K-5 Private Students

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ | Total |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 11 | 4 | 0 | 15 |
| 2 | 0 | 4 | 6 | 9 | 9 | 28 |
| 3 | 0 | 0 | 0 | 0 | 12 | 12 |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 0 | 4 | 17 | 13 | 21 | 55 |

5-11 Private Students

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ | Total |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 | 0 | 0 | 0 | 0 | 6 | 6 |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 0 | 0 | 0 | 0 | 6 | 6 |

HS Private Students

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ | Total |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 11 | 4 | 0 | 15 |
| 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 | 0 | 0 | 0 | 0 | 12 | 12 |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 0 | 0 | 11 | 4 | 12 | 27 |

Total Students

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ | Total |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 112 | 54 | 0 | 166 |
| 2 | 0 | 29 | 41 | 37 | 35 | 141 |
| 3 | 0 | 0 | 0 | 0 | 35 | 35 |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 0 | 29 | 153 | 91 | 71 | 343 |

# Condos - Rented

Units

| Bedrooms | Value Range <50 | 50-100 | 100-150 | 150-200 | 200+ | Total |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | |
| 1 | 0 | 246 | 369 | 123 | 400 | 1,138 |
| 2 | 0 | 246 | 369 | 123 | 1,876 | 2,614 |
| 3 | 0 | 0 | 0 | 0 | 463 | 463 |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 0 | 492 | 738 | 246 | 2,739 | 4,215 |

K-5 Public/Unit

| Bedrooms | Value Range <50 | 50-100 | 100-150 | 150-200 | 200+ |
|---|---|---|---|---|---|
| 0 | 0.2 | 0.35 | 0.32 | 0.26 | 0.32 |
| 1 | 0.23 | 0.32 | 0.17 | 0.17 | 0.17 |
| 2 | 0.36 | 0.49 | 0.08 | 0.08 | 0.08 |
| 3 | 0.65 | 0.74 | 0.18 | 0.18 | 0.18 |
| 4 | 2.08 | 0.00 | 0.25 | 0.25 | 0.25 |
| 5 | | | | | |

5-11 Public/Unit

| Bedrooms | Value Range <50 | 50-100 | 100-150 | 150-200 | 200+ |
|---|---|---|---|---|---|
| 0 | 0.2 | 0.13 | 0.18 | 0.18 | 0.17 |
| 1 | 0.12 | 0.13 | 0.07 | 0.02 | 0.02 |
| 2 | 0.09 | 0.23 | 0.03 | 0.03 | 0.03 |
| 3 | 0.00 | 0.21 | 0.11 | 0.11 | 0.11 |
| 4 | 1.00 | 0.00 | 0.00 | | |
| 5 | | | | | |

HS Public/Unit

| Bedrooms | Value Range <50 | 50-100 | 100-150 | 150-200 | 200+ |
|---|---|---|---|---|---|
| 0 | 0 | 0.1 | 0.27 | 0.27 | 0.27 |
| 1 | 0.09 | 0.16 | 0.08 | 0.02 | 0.02 |
| 2 | 0.07 | 0.19 | 0.12 | 0.05 | 0.05 |
| 3 | 0.47 | 0.20 | 0.17 | 0.14 | 0.11 |
| 4 | 0.54 | 0.00 | 0.00 | | |
| 5 | | | | | |

K-5 Private/Unit

| Bedrooms | Value Range <50 | 50-100 | 100-150 | 150-200 | 200+ |
|---|---|---|---|---|---|
| 0 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 |
| 1 | 0.01 | 0.00 | 0.02 | 0.01 | 0.02 |
| 2 | 0.01 | 0.02 | 0.02 | 0.03 | 0.03 |
| 3 | 0.03 | 0.04 | 0.03 | 0.03 | 0.03 |
| 4 | 0.00 | 0.00 | 0.11 | 0.15 | 0.20 |
| 5 | | 0.00 | 0.00 | | |

Attachment 6

5-11 Private/Unit

| Bedrooms | Value Range <50 | 50-100 | 100-150 | 150-200 | 200+ |
|---|---|---|---|---|---|
| 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 |
| 2 | 0.00 | 0.00 | 0.01 | 0.01 | 0.02 |
| 3 | 0.02 | 0.00 | 0.01 | 0.01 | 0.01 |
| 4 | 0.00 | 0.00 | 0.01 | 0.01 | 0.02 |
| 5 | | 0.00 | 0.00 | | |

HS Private/Unit

| Bedrooms | Value Range <50 | 50-100 | 100-150 | 150-200 | 200+ |
|---|---|---|---|---|---|
| 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1 | 0.00 | 0.00 | 0.01 | 0.01 | 0.02 |
| 2 | 0.01 | 0.00 | 0.00 | 0.01 | 0.01 |
| 3 | 0.02 | 0.00 | 0.01 | 0.00 | 0.01 |
| 4 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| 5 | | 0.00 | 0.00 | | |

K-5 Public Students

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ | Total |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 79 | 63 | 21 | 68 | 230 |
| 2 | 0 | 121 | 30 | 10 | 150 | 310 |
| 3 | 0 | 0 | 0 | 0 | 83 | 83 |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 0 | 199 | 92 | 31 | 301 | 624 |

5-11 Public Students

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ | Total |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 32 | 26 | 2 | 8 | 68 |
| 2 | 0 | 57 | 11 | 4 | 56 | 128 |
| 3 | 0 | 0 | 0 | 0 | 51 | 51 |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 0 | 89 | 37 | 6 | 115 | 247 |

HS Public Students

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ | Total |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 39 | 30 | 2 | 8 | 79 |
| 2 | 0 | 47 | 44 | 6 | 94 | 191 |
| 3 | 0 | 0 | 0 | 0 | 51 | 51 |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 0 | 86 | 74 | 9 | 153 | 321 |

Attachment 6

K-5 Private Students

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ | Total |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 7 | 1 | 6 | 15 |
| 2 | 0 | 5 | 7 | 3 | 59 | 75 |
| 3 | 0 | 0 | 0 | 0 | 15 | 15 |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 0 | 5 | 15 | 5 | 81 | 105 |

5-11 Private Students

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ | Total |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 0 | 1 | 4 | 5 |
| 2 | 0 | 0 | 4 | 2 | 34 | 40 |
| 3 | 0 | 0 | 0 | 0 | 5 | 5 |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 0 | 0 | 4 | 3 | 43 | 50 |

HS Private Students

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ | Total |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 4 | 1 | 6 | 11 |
| 2 | 0 | 0 | 0 | 1 | 9 | 11 |
| 3 | 0 | 0 | 0 | 0 | 5 | 5 |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 0 | 0 | 4 | 2 | 20 | 26 |

Total Students

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ | Total |
|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 118 | 92 | 23 | 76 | 310 |
| 2 | 0 | 167 | 74 | 16 | 244 | 501 |
| 3 | 0 | 0 | 0 | 0 | 134 | 134 |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 0 | 285 | 166 | 39 | 454 | 945 |

**Summary of Household Model Results**

| | Condos Owned | SFR owned | Rental | Total |
|---|---|---|---|---|
| Total Public | | | | |
| K-6 | 204 | 62 | 624 | 890 |
| 6-8 | 69 | 28 | 247 | 344 |
| 9-12 | 139 | 49 | 321 | 509 |
| Total Public | 412 | 139 | 1,192 | 1,743 |

| | Condos Owned | SFR owned | Rental | Total |
|---|---|---|---|---|
| Total Private | | | | |
| K-6 | 55 | 34 | 105 | 194 |
| 6-8 | 6 | 13 | 50 | 69 |
| 9-12 | 27 | 14 | 26 | 67 |
| Total Private | 88 | 61 | 181 | 330 |

Adjustment Factors Used to Reconcile Numbers of Bedrooms

| Bedrooms | <50 | 50-100 | 100-125 | 125-150 | 150+ |
|---|---|---|---|---|---|
| 1 | 1.1794 | 1.1794 | 1.1794 | 1.1794 | 1.1794 |
| 2 | 1.0830 | 1.0830 | 1.0830 | 1.0830 | 1.0830 |
| 3 | 0.5760 | 0.5760 | 0.5760 | 0.5760 | 0.5760 |

**Bedroom Reconciliation**

| | |
|---|---|
| 0 | 0 |
| 1 | 1,538 |
| 2 | 2,927 |
| 3 | 1,114 |
| 4 | 44 |
| 5 | 0 |

ATTACHMENT 7

## TABLE A9 - 5 - E

## FREEWAY/NON-FREEWAY AND WORK/NON-WORK VMT AND ADT PERCENT ASSUMPTIONS, BY PERIOD OF DAY
*(in Percent)*

First estimate project related ADT. By using the following ADT rates determine work and nonwork related percent of ADT for that time period. Using these rates determine vehicle miles traveled by trip-type. By using the following VMT rates determine percent VMT on freeways and non-freeways for that time period. Use next table to determine speeds. Speeds are needed to determine emission factors to be used.

| | Percent VMT By Road-Type and Period of the Day | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Travel Period of the Day | AM Peak | | Off Peak | | PM Peak | | Daily | |
| Trip-Types Year | 1987 | 2010 | 1987 | 2010 | 1987 | 2010 | 1987 | 2010 |
| Percent VMT Traveled | | | | | | | | |
| on Freeways | 51.1 | 51.1 | 52.2 | 52.2 | 47.0 | 47.0 | 50.6 | 50.6 |
| on Non-freeways | 48.9 | 48.9 | 47.8 | 47.8 | 53.0 | 53.0 | 49.4 | 49.4 |
| | Percent ADT By Trip-Type and Period of the Day | | | | | | | |
| Percent Trips Associated With | | | | | | | | |
| Work-ADT | 58.88 | 58.95 | 26.47 | 26.6 | 32.46 | 32.61 | -- | -- |
| Non work- ADT | 41.12 | 41.05 | 73.53 | 73.4 | 67.54 | 67.38 | -- | -- |

Source: Based on LARTS (Prepared by CalTrans District 7, November 15, 1991)

## TABLE A9 - 5 - F

## INPUT ASSUMPTIONS TO DETERMINE SPEEDS BY TRIP-TYPE
*(Miles per Hour)*

Include an assumption for the road-type. Select recommended default for the travel period of the day for each pollutant. Include the appropriate speed for each trip-type. Select the emission factors from Tables 9 - 5 - J, K, L, or N for that speed. Then use the formula at the beginning of Table A9 - 5. Weighted average between weekday and weekend speeds should be determined for each time period before selecting the emission factor.

| | Traveling Speeds by Counties, Road-type and Period of the Day | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Travel Period of the Day | AM Peak* | | Off Peak* | | PM Peak* | | Daily | |
| Area Types Road-Types Year | 1987 | 2010 | 1987 | 2010 | 1987 | 2010 | 1987 | 2010 |
| *Recommended Defaults | (CO, and NOx) | | (ROCs) | | (SOx, PM10 & Pb) | | | |
| Regional Average Speeds | 27.925 | 24.25 | 39.05 | 37.0 | 23.55 | 18.875 | 31.275 | 27.425 |
| *HOV (mitigation)* | *34.0* | *31.0* | *58.0* | *53.0* | *35.0* | *28.0* | *49.0* | *40.0* |
| Freeways | 33.0 | 33.0 | 51.0 | 49.0 | 29.0 | 26.0 | 40.0 | 38.0 |
| Non-Freeway | 18.7 | 16.0 | 27.7 | 26.0 | 14.7 | 12.0 | 20.7 | 17.7 |
| Major | 17.0 | 15.0 | 29.0 | 28.0 | 15.0 | 12.0 | 21.0 | 18.0 |
| Primary | 21.0 | 15.0 | 29.0 | 25.0 | 15.0 | 11.0 | 22.0 | 17.0 |
| Secondary | 18.0 | 18.0 | 25.0 | 25.0 | 14.0 | 13.0 | 19.0 | 18.0 |
| County Average Speeds | | | | | | | | |
| Los Angeles | 24.0 | 21.0 | 34.0 | 33.0 | 18.0 | 15.0 | 26.0 | 23.0 |
| Orange County | 22.0 | 21.0 | 36.0 | 36.0 | 19.0 | 18.0 | 27.0 | 26.0 |
| Riverside | 40.0 | 27.0 | 46.0 | 42.0 | 34.0 | 22.0 | 41.0 | 32.0 |
| San Bernardino | 34.0 | 27.0 | 39.0 | 35.0 | 30.0 | 20.0 | 35.0 | 28.0 |

Source: Based on LARTS (Prepared by CalTrans District 7, Nov. 15, 1991).

* Use *AM Peak Speeds* to select emission factors for CO, and NOx, use *Off Peak Speeds* to select emission factors for ROC; use *PM Peak Speeds* for SOx, PM10 and Pb.