

2014

# Buildout Methodology

FINAL DRAFT

This document describes the steps taken to generate the Buildout for the Department of Regional Planning's 2014 Draft General Plan 2035



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**Appendix A - Assumptions / Factors for Current Conditions**

**Appendix B - Assumptions / Factors for Proposed Conditions**

**Appendix C - SCAG post-analysis write-up**

**Appendix D – Natelson Company Employment Density Study 2001 - excerpt**

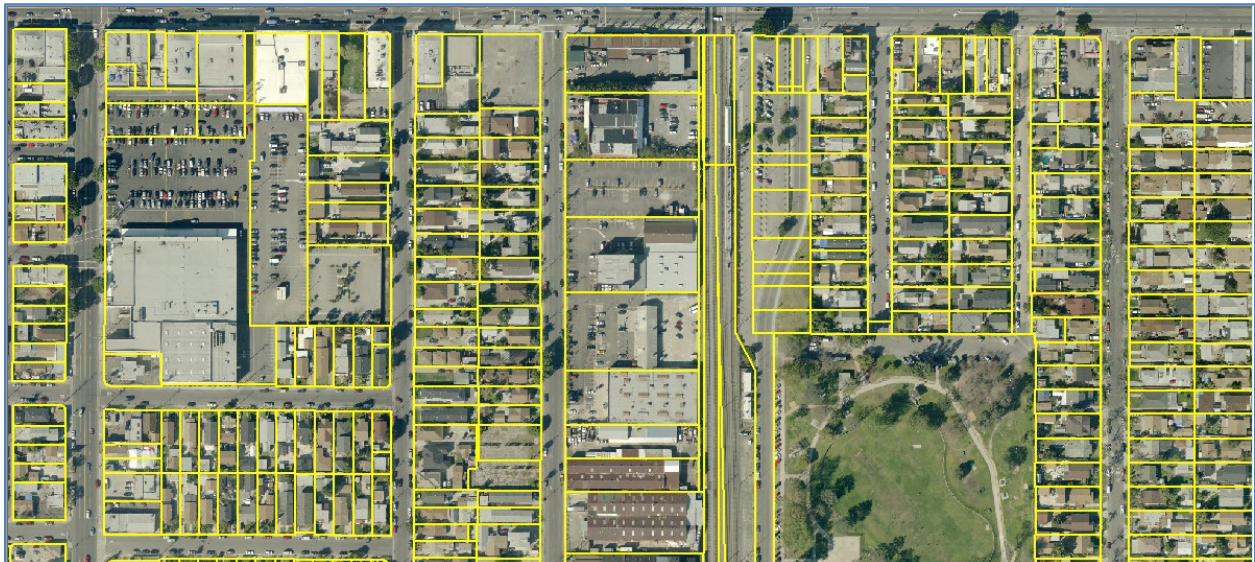
# Overview of Buildout Models

The buildout for the General Plan 2035 was established by Placeworks (formerly The Planning Center) and put into a GIS format by the Department of Regional Planning. Three basic datasets were derived that show existing conditions, current conditions (adopted General Plan), and proposed conditions (General Plan 2035). The following is a generalized description of the buildout and the basic steps and formulas used to arrive at the final projected numbers.

## 1. Existing Conditions

Existing Conditions are based on data from the Los Angeles County Assessor for the unincorporated areas only. The parcels were taken from the April, 2011 version of the Assessor Database. Figure 1.A shows a sample of parcels in the Florence-Firestone Community.

**Figure 1.A**



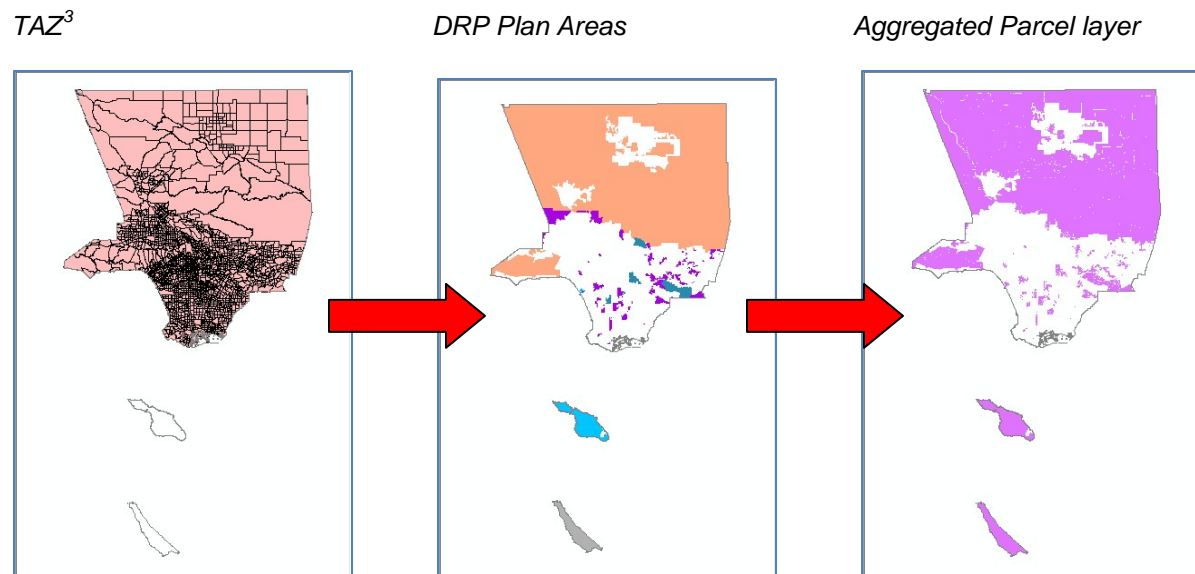
Within the Assessor Parcel data is a 'Use Code' with categories that were established by the Assessor. The parcels were aggregated by Assessor Use Code and in Figure 1.B below, the different colors represent the different Residential, Commercial, and Industrial categories (among others) in this area. Red is commercial, yellow is single-family residential, brown is multi-family residential, and blue is industrial.

**Figure 1.B**



This aggregated parcel layer was then combined with the 2008 Traffic Analysis Zones (TAZ)<sup>1</sup> from the Southern California Association of Governments (SCAG) and the Plan Areas<sup>2</sup> used by the Department of Regional Planning (DRP).

**Figure 1.C**



<sup>1</sup> This TAZ layer (TAZ2K) was from SCAG's 2008 Regional Transportation Plan. More on this in Section 4 and Appendix C.

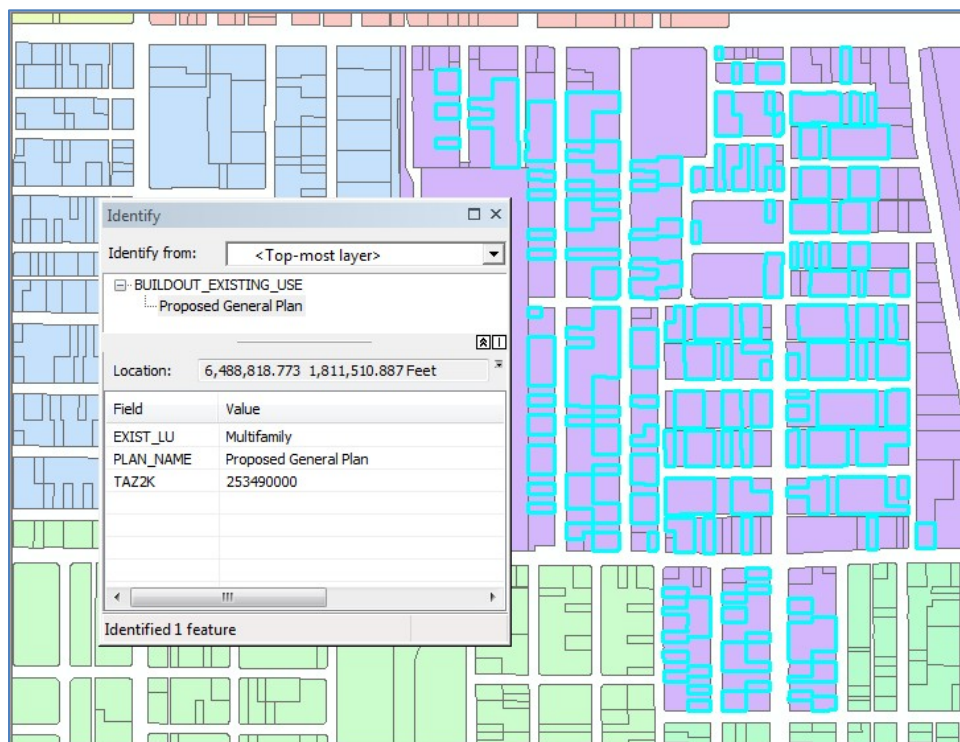
<sup>2</sup> Plan area corresponds to unincorporated boundaries aggregated by the type of plan (ie. General Plan area, Hacienda Heights Community Plan, Malibu Coastal Plan, etc.).

<sup>3</sup> Note that there are no Traffic Analysis Zones for Santa Catalina and San Clemente Islands. However, buildout analysis was still done for both of these islands.



The result of this combination is that each of the Aggregated land use categories have a SCAG TAZ ID and a DRP Planning Area coded into it. In Figure 1.D below the Assessor Land Use layer is colored based on the TAZ IDs. The blue outline is a selected aggregated polygon along with a pop-up window of the fields in the GIS data.

**Figure 1.D**



With this GIS layer now prepared, factors were established for each of the Assessor Land Use Categories in order to begin the calculations for the buildout.

### **Factors**

Existing use, building square footage, and number of dwelling units was provided by the Assessor parcel data. Population estimates were made by applying single-family and multifamily development person per household assumptions (established by the County) to the number of units in each parcel. Employment estimates were made by applying employee per square foot assumptions to nonresidential square footage recorded by the Assessor. The employee assumptions are from the Natelson Company Employment Density Study (see Appendix D), with the exception of public/quasi-public uses, schools, and farms. Employment for public/quasi-public uses were calculated individually due to the range of uses within this category. Schools are estimated to employ 90 persons on average; based on a survey of LAUSD employment. This may vary by school type. Square feet per employee for farmworkers was determined by dividing the number of Los Angeles County farmworkers, as reported in the 2006 American Community Survey, by the building square footage for existing farms. See Figure 1.E below.

**Figure 1.E**

<b>Assessor Land Use</b>	<b>Persons per Household</b>	<b>Square Foot / Emp</b>	<b>Notes</b>
Commercial		511	
Commercial Reg		2,437	
Farm		90	
Industrial		1,306	
Miscellaneous Government		1,306	
Multifamily	2.79		
Office		302	
Parking		0	
Public/Quasi-Public			Calculated individually.
ROW			
School			Calculated individually.
Single-Family	3.85		
Utilities		1,306	
Vacant			
Warehouse		1,306	
Water		1,306	Employment generation factor provided in the event that a utility structure is included, but none are in the water category (according to this data set)

Once the factors are calculated for the various land uses, the following formulas can be applied to arrive at the final numbers:

1. Units - Single-Family and Multi-Family Units were taken directly from Assessor data. When the previously described data aggregation occurred the total units were summarized per land use category per TAZ.
2. Population - Units were multiplied by the Persons per Household factor shown in Figure 1.E above, based on multi-family or single-family:

**Formula:**

**(Units) x (pph) = Population**



3. Employment<sup>4</sup> - Employment is calculated in one of two ways:

a) Employment was generated by determining the Building Square Footage for each employment-generating use. Using a 'Building Outline' layer that was derived from 2008 aerial imagery (see aerial shot on bottom of Page 5), the total building square footage was calculated...taking also into account the total number of floors. For those parcels that did not have a building polygon, building square footage from the Assessor was used.<sup>5</sup>

**Formula:**

**(Building Square Footage) / (Square Foot per Emp) = Employment**

b) Some areas have specific employment factors. A field was added in the GIS layer to indicate whether a factor was applied to a general use, or whether a specific number of employees was determined by either contacting the facility, or getting the information through a Census site, or other online resource. The table below (Figure 1.F) breaks down these uses:

**Figure 1.F**

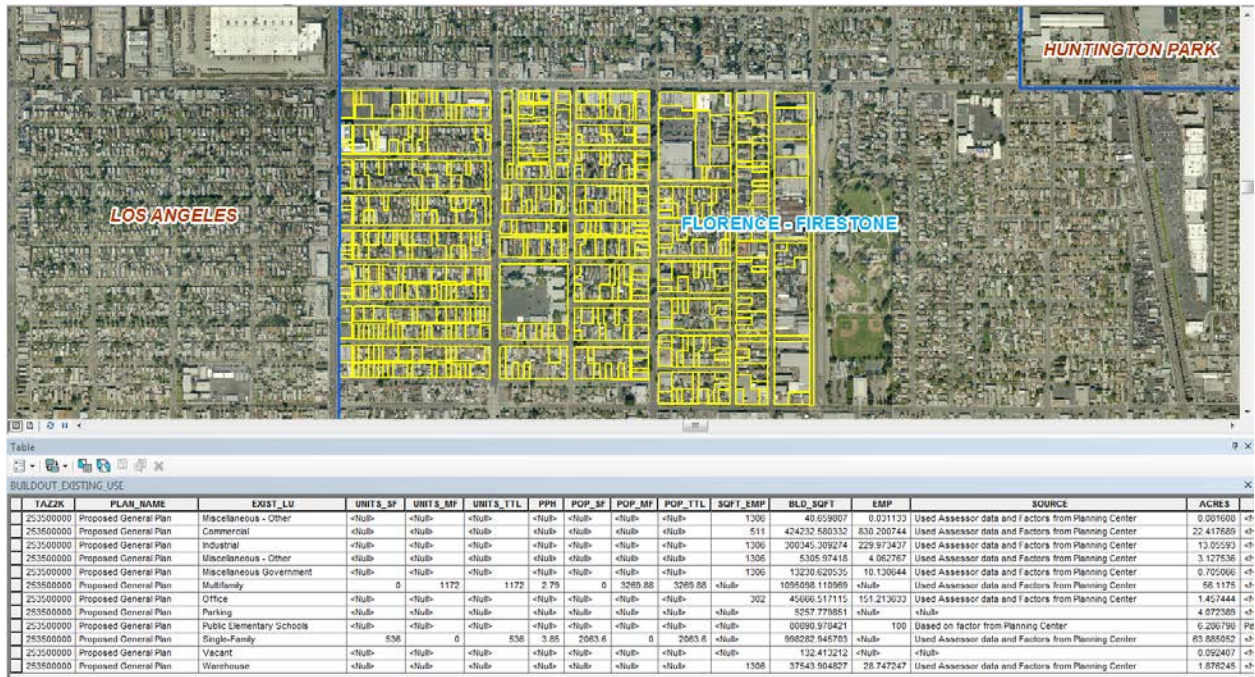
<u>Land Use Type</u>	<u>Factor / Specific number</u>	<u>EMP</u>
Airport	Specific Number	Found # of employees for each site
Amusement Parks	Specific Number	Found # of employees for each site
Cemeteries	Factor	100
City Hall	Specific Number	Found # of employees for each site
Colleges & Universities	Specific Number	Found # of employees for each site
Golf Courses	Factor	50
Hospitals & Medical Centers	Specific Number	Found # of employees for each site
Military Facilities	Specific Number	Found # of employees for each site
Preschools	Factor	90
Private and Charter Schools	Factor	100
Public Elementary Schools	Factor	100
Public High Schools	Factor	250
Public Middle Schools	Factor	100
Regional Parks & Gardens	Factor (small park)	25
Regional Parks & Gardens	Factor (large park)	50

After all of the Units, Population and Employment is determined, then all of the TAZs have a summary of Planning Area, Land Use, total units, population and employment. In Figure 1.G below, the GIS layer represents a sample TAZ and all of the data displayed in the table below it.

<sup>4</sup> For more about Employment, please see section 5 on page 19.

<sup>5</sup> Using this 'Building Outline' GIS layer was favorable as it represented a more accurate depiction of building square footage than what the Assessor had.

Figure 1.G





## **2. Current Conditions (Adopted General Plan)**

For current conditions, the Land Use Policy from the 1980 General Plan was used. In addition to this, there are area, community, local coastal, and specific plans to consider (see Figure 6.B on page 22 for map of these areas):

### Area Plans

Area plans are used for large, continuous areas of the County and allow for comprehensive and detailed planning, as well as for planning in coordination with adjacent cities. The County currently has three adopted area plans:

- Antelope Valley Area Plan (Adopted 1986)
- Santa Clarita Valley Area Plan (Adopted 2012)<sup>6</sup>
- Santa Monica Mountains North Area Plan (Adopted 2000)

### Community Plans

Community plans generally cover smaller geographic areas, even though a community plan area such as East Los Angeles may have a far greater population than that of some Area Plans. Typically community groups, looking for more detailed planning in their communities or for the resolution of a specific land use issue, initiate the preparation of a Community Plan. There were eight adopted Community and Neighborhood Plans in the County at the time of building out the General Plan:

- Altadena Community Plan (Adopted 1986)
- East Los Angeles Community Plan (Adopted 1988)
- Hacienda Heights Community Plan (Adopted 2011)
- Rowland Heights Community Plan (Adopted 1981)
- Twin Lakes Community Plan (Adopted 1991) - see note below
- Walnut Park Neighborhood Plan (Adopted 1987)
- West Athens/Westmont Community Plan (Adopted 1990)

Note: The Twin Lakes Community Plan states that the plan does not itself initiate or recommend any development, intensification of land use, or change in County General Plan Land Use designation or zoning. Therefore the General Plan, not the Community Plan, regulates land use in this area.

### Local Coastal Plans

Land use regulation within areas defined as Coastal Zones includes the additional authoritative power of the California Coastal Commission. The California Coastal Commission has final approval of projects within designated Coastal Zones unless a jurisdiction completes a certified Local Coastal Program (LCP). An LCP is comprised of a Land Use Plan and a Local Implementation Plan (LIP). There were three adopted Local Coastal and Land Use Plans in the County at the time of buildout preparation for the General Plan.

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<sup>6</sup> A different buildout methodology was employed for the Santa Clarita Valley Area Plan update. More on this in on page 14

- Malibu Local Coastal Plan (Adopted 1986)
- Marina Del Rey Land Use Plan (Adopted 2012)
- Santa Catalina Island Local Coastal Plan (Adopted 1983)

### Specific Plans

Three approved specific plans with development potential in the Current General Plan are all located in the Santa Clarita Valley. Some older specific plans were noted, but it was determined that the General Plan designations were either already consistent with or trumped the older zoning designations inherent to each specific plan:

- Newhall Ranch (Adopted 2003)
- Northlake (Adopted 1992)
  
- Universal Studios Specific Plan (Adopted 2013)

Note: The previous buildout effort did not consider the Tejon Ranch/Centennial Specific Plan. The County's General Plan project manager should be able to provide additional information and direction on how this area is to be addressed.

### GIS Analysis

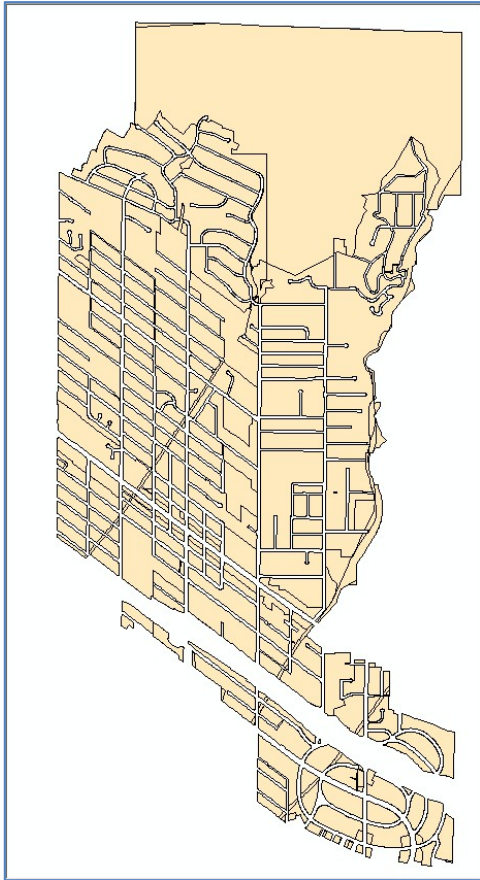
Similar to how the Assessor Land Use was generated, the Adopted Land Use Policy was incorporated into the parcel layer. The parcels were then aggregated based on Land Use category, and then combined with the 2008 TAZ layer from SCAG and the DRP Plan Areas using the same procedure outlined above in the Existing Conditions section (illustrated by Figures 1-A through 1-C). One additional layer was added for Hillside Management, which shows slope areas 25-50% and greater than 50%. The target densities are reduced depending on their range of slope. Additionally, any open space or National Forest areas were not considered for the Hillside Management reduction<sup>7</sup>. See Figure 2.A below for an example in the La Crescenta and Altadena communities and Figure 2.B for a list of plan areas that have this Hillside Management reduction.

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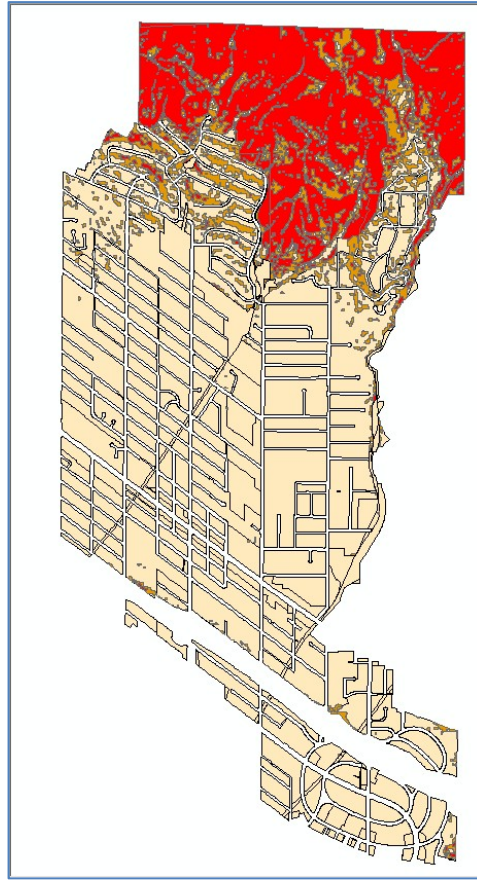
<sup>7</sup> The main reason for this is that adding thousands of small Hillside Management polygons to the GIS layer created a very large file. Since no Residential units are considered in Open Space categories, it was decided to take those Hillside Management areas out as is seen in the Altadena screenshot. Doing this made the data layers easier to process.

**Figure 2.A**

*Land Use Policy - aggregated parcels  
(La Crescenta)*



*Incorporated Hillside Management Slopes  
(La Crescenta)*



*Hillside Management Areas clipped out for Open Space, National Forest, and Specific Plan (Altadena)*



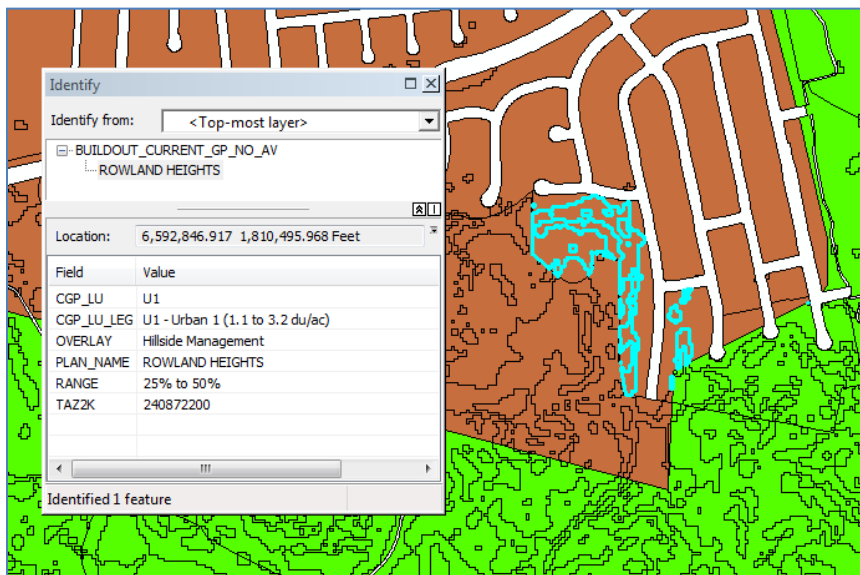
**Figure 2.B**

List of areas where Hillside Management Density Reductions should apply:

- 1980 General Plan Area
- Altadena
- Antelope Valley
- Santa Catalina Island
- Santa Monica Mountains North Area Plan
- Malibu Coastal Plan

Similar to how the GIS layer is set up for the Existing Conditions (Figure 1.D), the figure below shows the GIS layer for the Current Conditions. Land Use is aggregated per TAZ (representing the different colors in Figure 2.C below). The blue outline below is a selected aggregated polygon along with a pop-up window of the fields in the GIS data. Please also note, that unlike the Existing Conditions, this has additional information as to whether this is a 'Hillside Management' area, and what type of slope it is.

**Figure 2.C**



With this GIS layer now prepared, factors were established for each of the Assessor Land Use Categories in order to begin the calculations for the buildout.



## **Factors**

The County of Los Angeles is divided into numerous Community Planning Areas. Assumptions for density and floor area ratio were developed in response to development standards in each Community Plan. Housing projections assume that most areas will develop at 80 percent of the maximum density, with exceptions for designations of no more than one unit per acre, which are expected to buildout at the maximum density. Population projections were established by applying County-determined person per household assumptions for single-family and multifamily housing types. Wherever possible, employment assumptions (using square feet per employee) were provided by the Natelson Company Employment Density Study (see Appendix D). Employment estimates for public uses, such as Public Facilities, Public/Quasi-Public, and Institutions, were determined individually to reflect existing uses.

Residential development on county land outside of Community Plan areas was builtout based on 80 percent of the maximum residential density, with an exception for densities of no more than 1 unit per acre which may build out at the maximum. Population and employment projections utilized the same person per household and square feet per employee assumptions as land in Community Plan areas. See Appendix A for a list of all of the factors per Planning Area and Land Use category.

Once the factors are calculated for the various land uses, the following formulas can be applied to arrive at the final numbers:

1. Units - Single-Family and Multi-Family Units were calculated using the factors in the 'Target Density' and 'MF vs. SF' fields in Appendix A.
  - a) The factors in the 'Target Density' field were multiplied by the total Acres for each aggregated land use polygon. The 'MF vs. SF' field is used to determine which Density factor to use.
  - b) There are certain higher density residential land use categories that should have both single-family and multi-family factors considered. For example, some categories show a "split 50/50" value in the 'MF vs. SF' field (Appendix A), so for those aggregated land use polygons, acreage is multiplied by the single-family density then divided by two; same for the multi-family density.
  - c) For land use designations with an Urban or a rural mixed use category, a further reduction will need to be done to account for a split between residential and commercial. Usually, this is a 50% split between the two, and 50% is used in the 'Formulas' example below.
  - d) Add Single-Family and Multi-Family Units together for Total Units

**Formulas:**

**(Acres) x (Density SF) = Single-Family Units**

**(Acres) x (Density MF) = Multi-Family Units**

**(Acres) x (Density SF / 2; Density MF / 2) = Single / Multi-Family splits**

**[for Mixed Use categories – 50/50 split in example below]**

**(Acres / 2) x (Density SF; Density MF) = Single / Multi-Family residential / commercial reductions**

**(Single-Family Units) + (Multi-Family Units) = Total Units**

2. Population - Single-Family and Multi-Family Population figures were derived by multiplying the Single-Family and Multi-Family Units by the 'Persons per Household' (PPH) figures that are in Appendix A.
  - a) Consult the 'MF vs. SF' field to see whether the Single-Family or Multi-Family populations should be calculated.
  - b) For land use designations with target densities that could accommodate both Single-Family and Multi-Family housing, a PPH factor of 3.60 was used. This PPH factor is an average of 3.85 and 3.34 PPH, reflecting both an assumption of 50/50 SF and MF mix in that designation, and the assumption that household sizes are bigger in lower density multifamily projects than the 2.79 PPH factor for higher density Multi-Family projects.

**Formulas:**

**(Units SF) \* (PPH\_SF) = Single-Family Population - *includes those with '50/50 split'***

**(Units MF) \* (PPH\_MF) = Multi-Family Population - *includes those with '50/50 split'***

**(Single-Family Population) + (Multi-Family Population) = Total Population**

3. Building Square Footage - Target Floor Area Ratio (FAR) factors were used to determine Building Square Footage, which will then determine Employment. The 'Target FAR' field shown in the table in Appendix A has these factors for the non-residential land use categories, and these are simply multiplied by the total square footage of the aggregated land use polygons. For Mixed Use categories, these figures need to be reduced based on a split between Residential and Commercial (usually 50 / 50)

**Formula:**

**(Area) x (FAR) = Building Square Footage**

**[for Mixed Use categories – 50/50 split in example below]**

**(Area / 2) x (FAR) = Building Square Footage**

4. **Employment**<sup>8</sup> – Employment is calculated in one of two ways:

a) Employment was generated one way by using the Building Square Footage calculations from the previous step.

**Formula:**

**(Building Square Footage) / (Square Foot per Emp) = Employment**

b) Some areas have specific employment factors. A field was added in the GIS layer to indicate whether a factor was applied to a general use, or whether a specific number of employees was determined by either contacting the facility, or getting the information through a Census site, or other online resource. Below are the different employment categories and their factors. For the 'Specific Employment Factors', please refer to the table in the 'Existing Conditions' section (Figure 1.F) for these uses.

**Figure 2.D**

<b>Employment Category</b>	<b>Employment Factory</b>
Boat Storage (Marina Del Rey)	TPC factor - 1000
Commercial - General, Neighborhood, Rural	TPC factor - 511
Commercial - Major, Regional	TPC factor - 2437
Commercial - Office, Business Park	TPC factor - 302
Industrial	TPC factor - 1306
Mixed Use (Coast Zone)	TPC factor - 500
OVOV - no specific breakdown	OVOV factor - 729
OVOV - Specific Employment Number	OVOV - Specific Employment Number
Specific Employment Number	Specific Employment Number

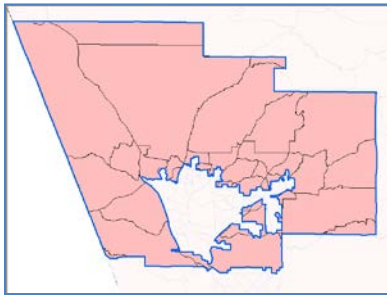
5. **Santa Clarita Valley** – a separate analysis was done for the Santa Clarita Valley than was described above. In June, 2011, the city of Santa Clarita adopted its General Plan as part of the “One Valley, One Vision” joint plan update. This General Plan considered the surrounding unincorporated parts of Santa Clarita Valley, hence, the EIR and Buildout was done for the entire Santa Clarita Valley Planning Area (city and unincorporated). It was decided at a certain point to just use their buildout model and incorporate it into the General Plan 2035 buildout.

<sup>8</sup> For more about Employment, please see section 5 on page 19

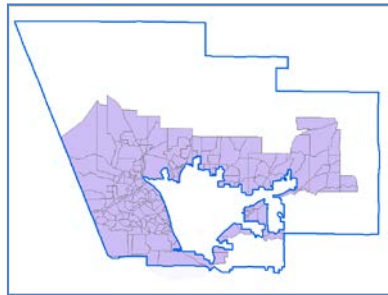
- a) For the OVOV EIR, a different TAZ layer was used, and was compared with the SCAG TAZ layer. The OVOV TAZ polygons were smaller, however, it they did not cover the entire Santa Clarita Valley Planning area as shown below. After consulting with the city, they did verify that they considered the entire planning area (tan and purple areas in third screenshot in Figure 2.E below).

**Figure 2.E**

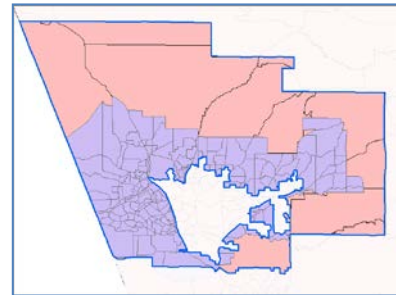
SCAG RTP TAZ:



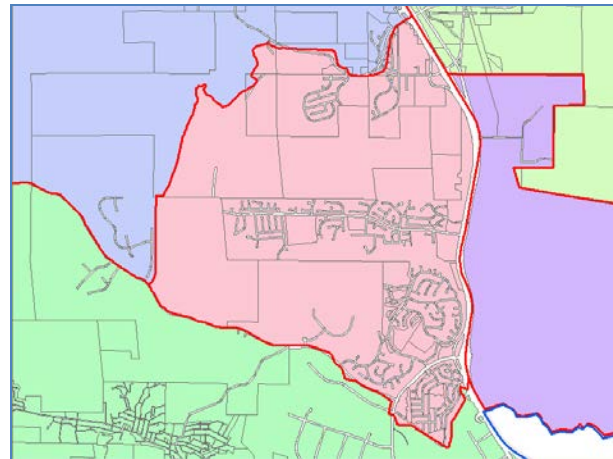
OVOV TAZ:



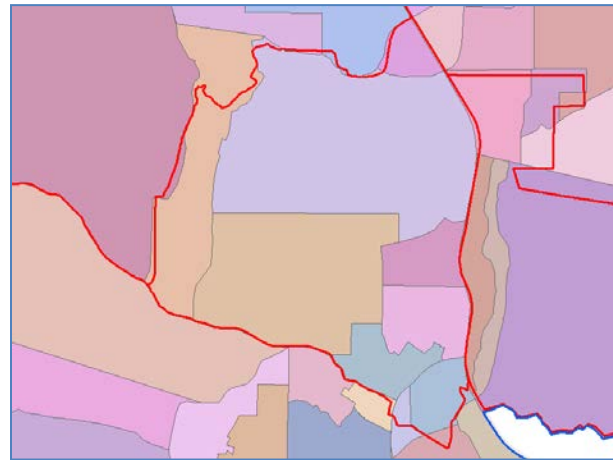
Extent Difference:



- b) In the screenshot to the right, an earlier version of the buildout using the Santa Clarita land use plan, aggregated by SCAG TAZ is shown. This was created using the method described in steps 1-4 above.



- c) In this next screenshot, the multi-colored polygons are the OVOV EIR TAZ boundaries. For comparison, the SCAG TAZ boundaries are also shown in thick red outline. Overall the SCAG and OVOV TAZ boundaries were not coincident, but most often, the intent of the polygons matched what the SCAG boundaries were. So, in order to incorporate the numbers from the OVOV EIR, the OVOV TAZ polygons were given the



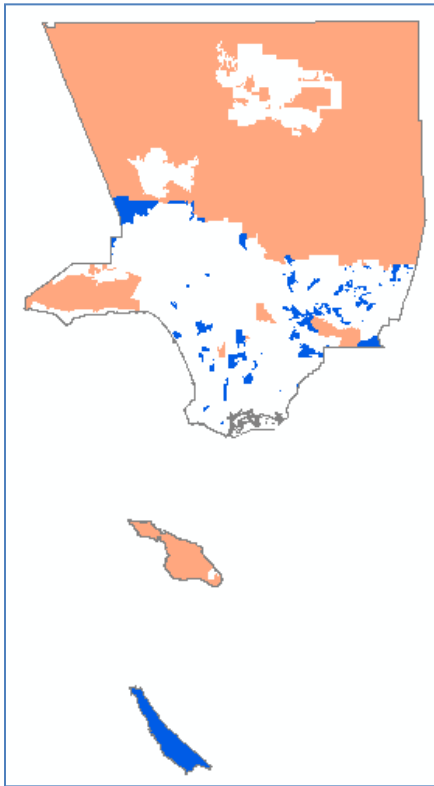


SCAG TAZ ids that they fell mostly or completely within. After these polygons were given a SCAG TAZ, they were re-aggregated into the General Plan 2035 Buildout Model.

### 3. Proposed Conditions (General Plan 2035)

For the Proposed Conditions, the Land Use Policy from the General Plan 2035 was used to generate the units, population, and employment figures using the same method described in Steps 1-4 in the 'Current Conditions (Adopted General Plan)' section. Since those steps are already written out, they will not be repeated here (to see the factors used for the proposed General Plan, please refer to Appendix B). To produce this final dataset, the Proposed General Plan area was combined with all of the Current Condition areas (except for the 1980 General Plan), as is illustrated in Figure 3.A below. The tan area represents current Area / Community Plans, and the dark blue areas represent the General Plan 2035 area:

**Figure 3.A**



#### 4. Accuracy of TAZ Layer vs. Parcels Layer

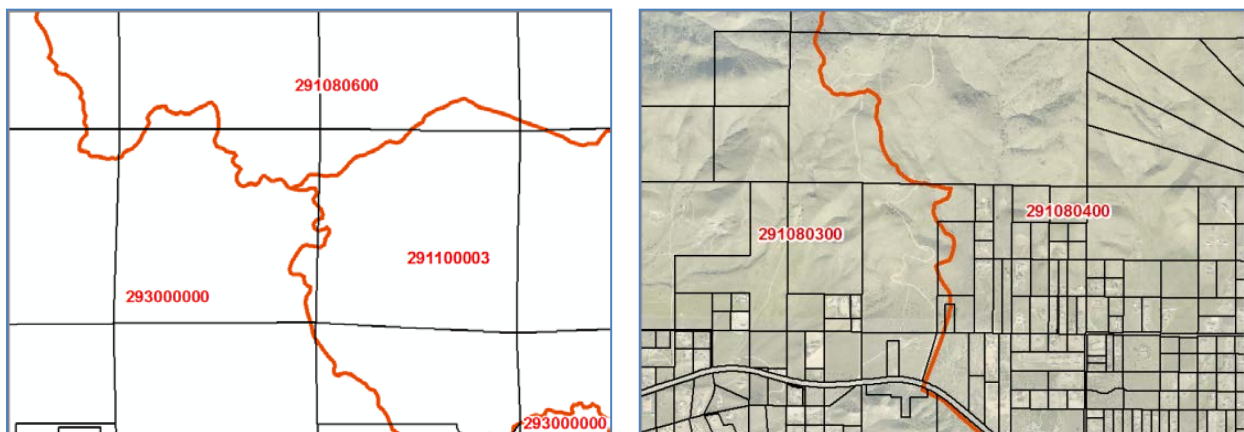
The TAZ layer from SCAG's 2008 "Regional Transportation Plan" was used for the duration of the Buildout iterations. At one point it was discussed to possibly use the 2010 or 2012 TAZ layers as they became available, but for purposes of consistency, it was decided to keep the 2008 layer throughout. It should be noted that the 2008 GIS layer didn't line up with parcels in most areas. The TAZ data layer wasn't meant to line up with parcels, since the RTP covered a large, 6-county area, and it meant to follow 2000 Census geographies. Below in Figure 4.A are some screenshots that show how the lines cut through the parcels, and also a line showing where the line probably meant to go. Ideally it would have been best to update the TAZ linework to better follow parcels, however it would have been a very time consuming process requiring a lot of hours of manual updating.

**Figure 4.A**



Additionally, there are many areas where TAZ boundaries are not meant to follow parcels at all. Mainly these occur in the National Forest, rural areas, or other areas of large, undeveloped land.

**Figure 4.B**



The best approach to take with this when aggregating the parcels by TAZ was to simply incorporate the split in the parcels into the data. So, if a parcel is 20% in one TAZ, and 80% in another, the parcel was simply split and aggregated based on those percentages (ie. 80% of the population / units / employment go in one TAZ, and 20% go into the other). In Figure 4.C below, the parcels are split by two TAZ's, then aggregated based on that split. This was discussed between Planning Center and DRP and it was decided that it was okay to do this, given the fact that there wasn't enough time or resources to fix the source TAZ layer, and that this was not meant to be a parcel level analysis...rather, a TAZ-level analysis.

**Figure 4.C**





## 5. Employment

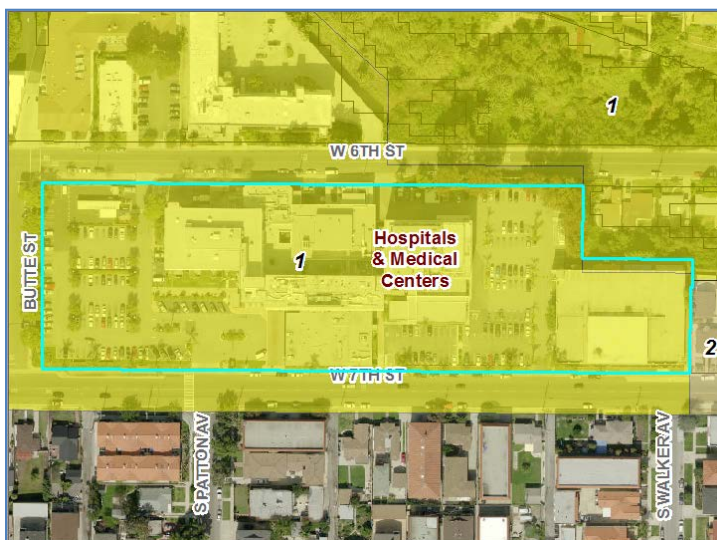
As was mentioned previously, there are Employment factors that are determined by dividing the 'Building Square Footage' by 'Square Footage per Employee', and there are also those that are determined by a specific factor depending on type of employment generator (please see Figure 1.F). In most cases these 'specific factors' correspond with a 'Public', 'Open Space', 'Commercial', or other similar category. However, it is possible that there are some residential land use categories that have some of these employment generating uses as well. A 'Land Types' GIS layer was used to determine all of the 'Use Types' in Figure 1.F, and was integrated into all of the Buildout layers (Existing, Current, and Proposed).

1. Current Conditions - Since Current Conditions are based on Adopted Land Use, there are several residential areas that have an employment generating use. The reason for this was that the older plans (ie. the 1980 General Plan and the 1986 Antelope Valley Plan) allowed for certain "public uses" within residential land use categories. The following excerpt is from the 1980 General Plan land use element:

*"Within the generalized residential areas mapped, a variety of use types and intensities presently exist. Such uses typically include local commercial and industrial services, schools, churches, local parks and other community-serving public facilities."*

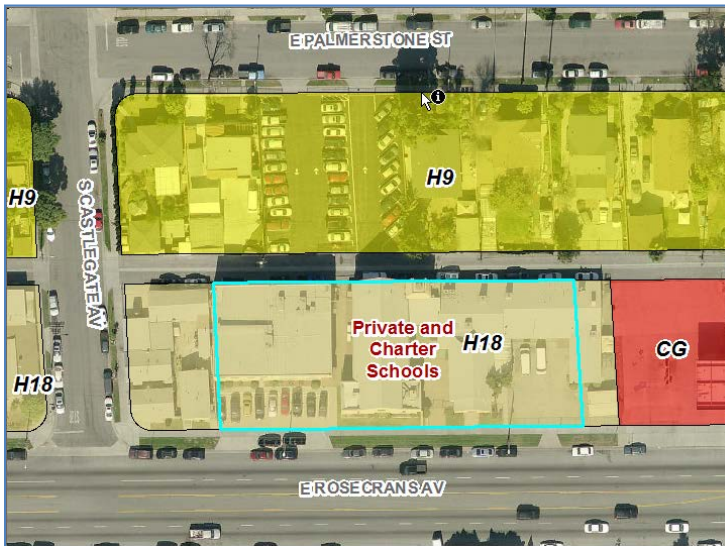
So, it's not abnormal to see examples like what is shown in Figure 5.A where a hospital shows up in a residential land use category. Additionally, there are many cases where private and charter schools show up in residential areas:

**Figure 5.A**

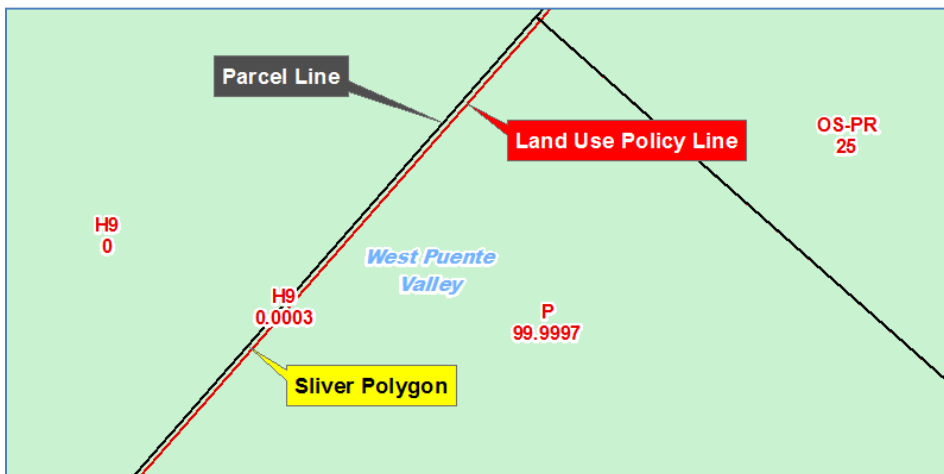


2. Proposed Conditions - Since the proposed land use for the General Plan 2035 is parcel based, all the publically-owned land that have employment generating uses should be coded as either "Public / Semi-Public" or "Open Space". So, in the case of Figure 5.A above, that hospital now has a 'P' category and is no longer residential. Most of the cases in which an employment figure shows up in a proposed residential land use category are those of Private and Charter Schools. Since these are not considered a "Public" use, they have a residential category and therefore, have an employment number:

**Figure 5.B**



3. Sliver Polygons - The other instance where there may be an employment number in a residential category is when the Land Use Policy layer doesn't quite line up with the parcels (where the 'Land Types' GIS layer was derived from). This creates "sliver polygons", and is a common issue whenever doing any overlay analysis with parcels. Given the volume of these sliver polygons and the time constraints, these slivers were left in the buildout.

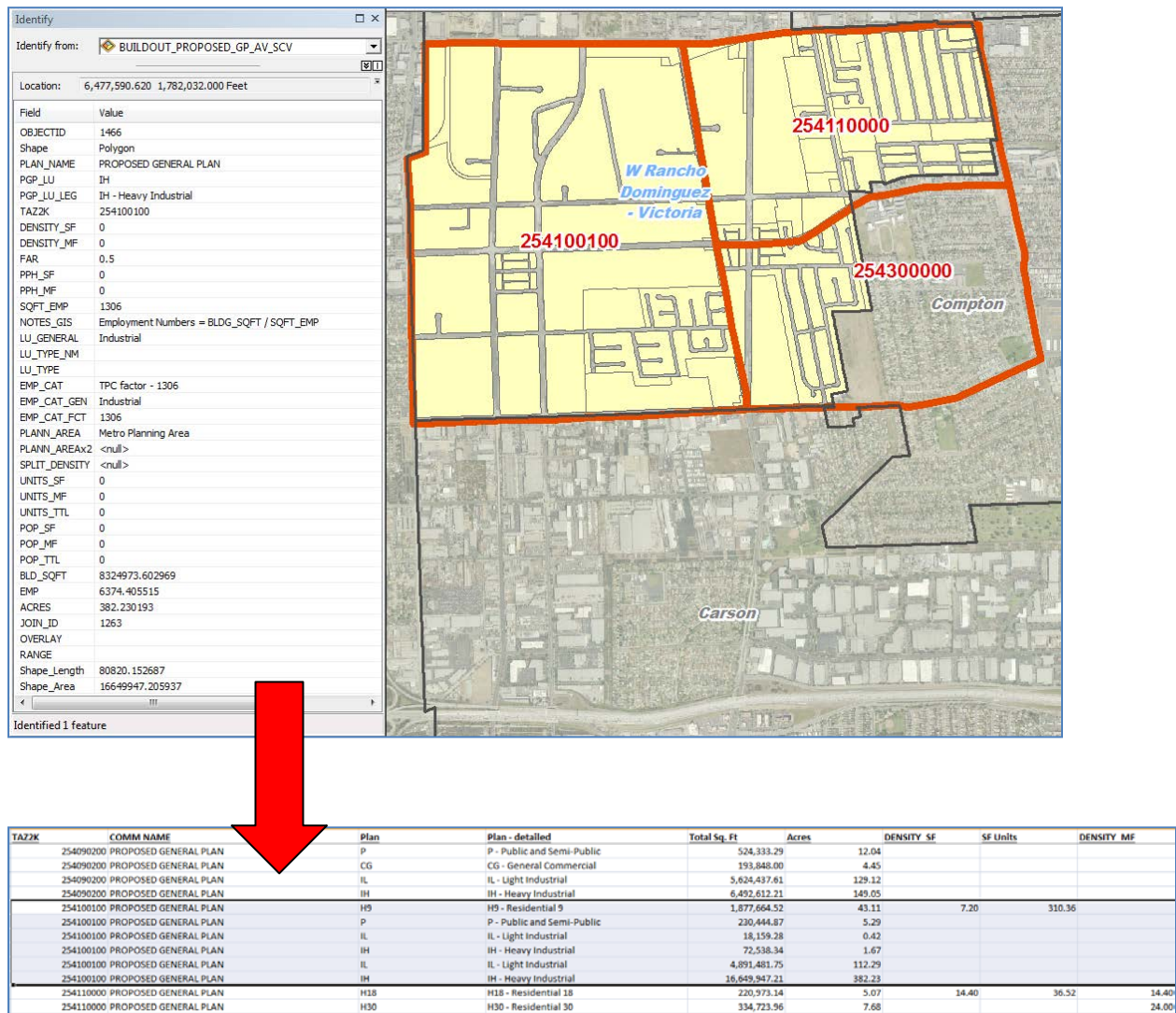


## 6. Exporting GIS layers into spreadsheets / NOP / FTP

Once the GIS analysis was done, the data was then re-allocated based on the needs of the consultants or sub-consultants, and most were then organized into spreadsheets. The spreadsheets were helpful so that consultants who did not have GIS software could work with the data. All three datasets (existing, current general plan, and proposed general plan) were allocated and exported in the following ways:

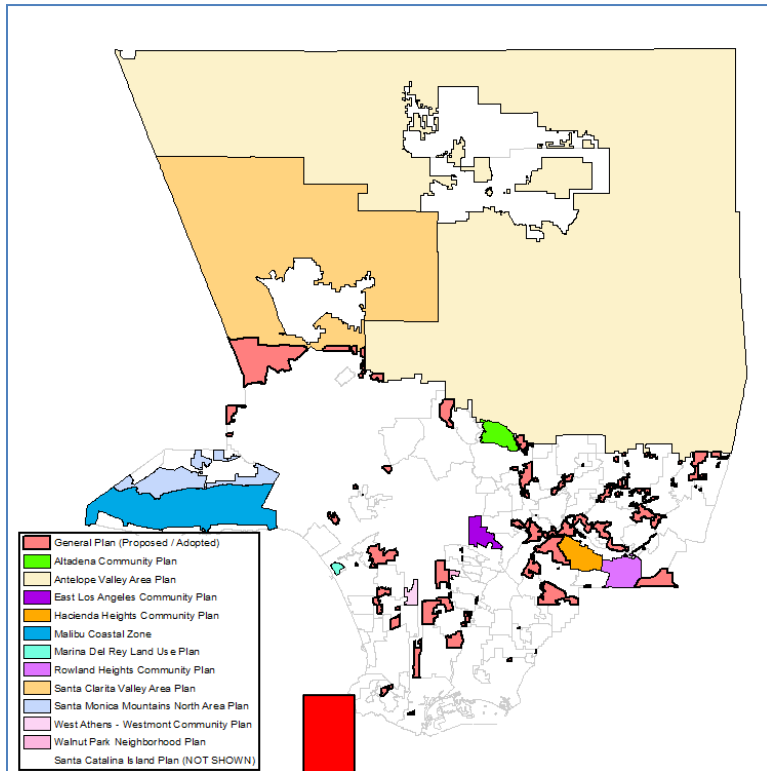
1. **TAZ / Land Use level.** This is a direct export of the GIS layer that is at the level of TAZ and land use. In Figure 6.A below, a few sample TAZ polygons from the GIS layer are shown along with a view of the data, and the extracted spreadsheet. Please note that in the screenshot of the spreadsheet, that the selected rows represent one TAZ; the multiple rows within each TAZ represents different land use categories.

Figure 6.A



2. **Planning Area / Land Use level.** This data was aggregated to a broader level of Planning Area and Land Use. Figure 6.B shows the distribution of these Planning Areas...showing where the General Plan is covered, as well as the Area / Community Plans. The extracted spreadsheet shows a nice breakdown of each area.

Figure 6.B

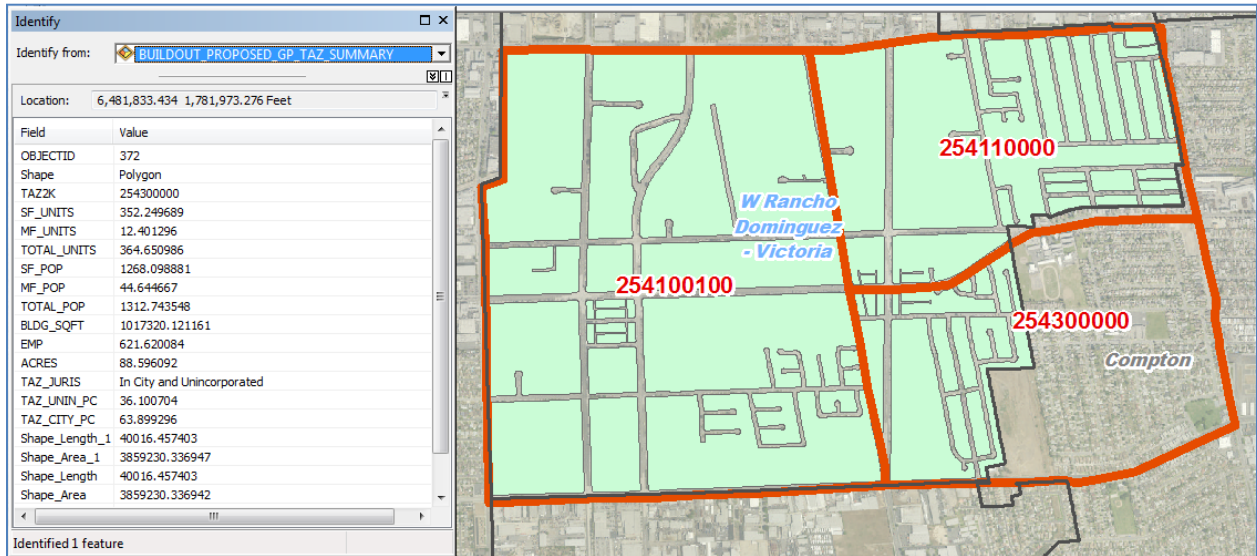


Plan Name	Proposed / Current Land Use	Proposed Land Use (Detailed)	Total Acres	Units SF	Units MF	Total Units	Pop SF	Pop MF	Total Pop	Imp
WEST ATHENS - WESTMONT	RD2.1	RD 2.1 Residence (11 to 18 du/ac)	480.80	3,102.69		3,102.69	11,943.37		11,943.37	325.00
WEST ATHENS - WESTMONT	RD3.1	RD 3.1 Residence (8 to 17 du/ac)	548.77	3,731.61	3,731.61	7,463.23	13,433.81	13,433.81	26,867.62	200.00
WEST ATHENS - WESTMONT	RD1.2	RD 1.2 Bonus (17 to 30 du/ac)	15.29		463.02	463.02	0.00	1,291.83	1,291.83	100.00
WEST ATHENS - WESTMONT	SCD	SCD Density Bonus (30 to 58 du/ac)	1.89		153.02	153.02	0.00	434.18	434.18	
		<b>Total</b>	<b>1,046.75</b>	<b>6,834.32</b>	<b>4,194.25</b>	<b>11,047.56</b>	<b>76,179.38</b>	<b>15,159.82</b>	<b>40,539.40</b>	<b>10,899.00</b>
PROPOSED GENERAL PLAN	CG	CG - General Commercial	963.14							41,841.85
PROPOSED GENERAL PLAN	CM	CM - Major Commercial	6.64							17.24
PROPOSED GENERAL PLAN	CR	CR - Rural Commercial	0.62							13.11
PROPOSED GENERAL PLAN	H2	H2 - Residential 2	1,462.19	2,339.50		2,339.50	9,607.08		9,607.08	100.00
PROPOSED GENERAL PLAN	H3	H3 - Residential 3	1,768.15	7,072.56		7,072.56	27,229.34		27,229.34	100.00
PROPOSED GENERAL PLAN	H9	H9 - Residential 9	14,394.37	309,639.75		309,639.75	373,303.30		373,303.30	3,386.39
PROPOSED GENERAL PLAN	H18	H18 - Residential 18	2,869.36	17,779.31	17,779.31	35,558.62	64,005.52		128,611.05	710.60
PROPOSED GENERAL PLAN	H30	H30 - Residential 30	808.31		19,337.44	19,337.44	51,951.45		51,951.45	426.69
PROPOSED GENERAL PLAN	H50	H50 - Residential 50	117.90		4,715.89	4,715.89	11,157.34		11,157.34	250.00
PROPOSED GENERAL PLAN	H100	H100 - Residential 100	4.93		394.58	394.58		1,100.88	1,100.88	
PROPOSED GENERAL PLAN	HI	HI - Heavy Industrial	1,704.67							28,454.41
PROPOSED GENERAL PLAN	IL	IL - Light Industrial	1,853.30							30,907.09
PROPOSED GENERAL PLAN	MU	MU - Mixed Use	158.36		19,003.16	19,003.16	51,038.80		51,038.80	20,348.95
PROPOSED GENERAL PLAN	OS-BLM	OS-BLM - Bureau of Land Management	75.65							0.00
PROPOSED GENERAL PLAN	OS-C	OS-C - Conservation	7,642.36							0.00
PROPOSED GENERAL PLAN	OS-MR	OS-MR - Mineral Resources	1,088.06							0.46
PROPOSED GENERAL PLAN	OS-NF	OS-NF - National Forest	2,776.64							0.00
PROPOSED GENERAL PLAN	OS-PR	OS-PR - Parks and Recreation	7,105.07							1,625.31
PROPOSED GENERAL PLAN	OS-W	OS-W - Water	2,055.21							108.96
PROPOSED GENERAL PLAN	P	P - Public and Semi-Public	6,914.59							29,266.97
PROPOSED GENERAL PLAN	RL1	RL1 - Rural Land 1	1,153.26	1,153.26		1,153.26	4,440.04		4,440.04	100.66
PROPOSED GENERAL PLAN	RL2	RL2 - Rural Land 2	126.33	63.17		63.17	343.19		343.19	243.19
PROPOSED GENERAL PLAN	RL3	RL3 - Rural Land 3	2,248.56	224.86		224.86	864.92		864.92	61.00
PROPOSED GENERAL PLAN	RL20	RL20 - Rural Land 20	12,755.03	637.55		637.55	2,456.10		2,456.10	0.00
PROPOSED GENERAL PLAN	RL40	RL40 - Rural Land 40	18.42	1.15		1.15	4.44		4.44	0.00
PROPOSED GENERAL PLAN	SP	SP - Specific Plan	300.51							18,700.00
		<b>Total</b>	<b>70,905.83</b>	<b>132,912.30</b>	<b>65,730.88</b>	<b>194,141.68</b>	<b>481,151.74</b>	<b>185,731.99</b>	<b>666,507.71</b>	<b>176,160.71</b>
		<b>Grand Total</b>	<b>1,616,440.25</b>	<b>526,620.72</b>	<b>152,290.15</b>	<b>668,920.87</b>	<b>1,923,281.47</b>	<b>460,091.72</b>	<b>2,383,373.19</b>	<b>477,261.75</b>
		<b>GRAND TOTAL (Minus Catalina Island)</b>	<b>1,570,103.36</b>	<b>516,599.54</b>	<b>152,290.15</b>	<b>668,889.69</b>	<b>1,923,281.47</b>	<b>460,091.72</b>	<b>2,383,373.19</b>	<b>477,261.75</b>



3. **TAZ level only** - This data is aggregated to the TAZ level, so that there is one TAZ per row of data. All of the statistics in the land use categories are summarized per TAZ. Note in Figure 6.C below that there are a couple fields that were added that show the percentage of unincorporated that is covered by a TAZ. In TAZ # 254300000 in the lower right-hand side of the map below, 36% of the TAZ is covered by unincorporated, and 64% is covered by the City of Compton. NOTE: No spreadsheet was exported from this layer.

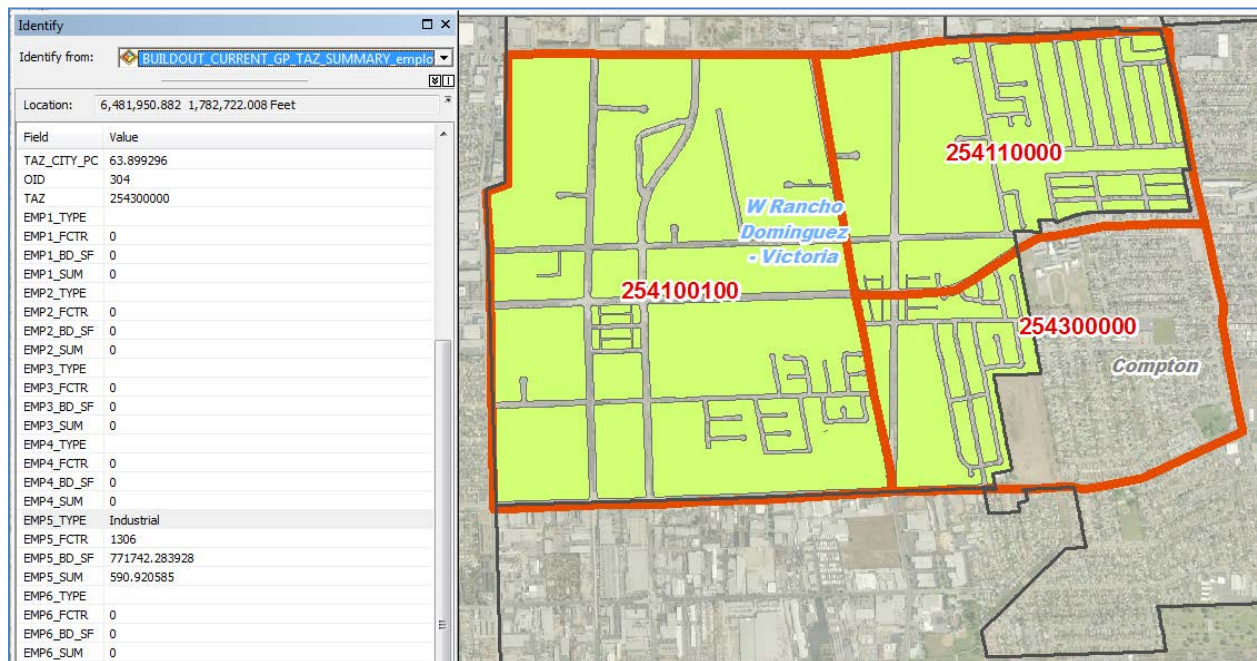
**Figure 6.C**



4. **TAZ level only - with Employment Breakdown.** This is the same as 'TAZ level' in number 3 above, except that it has employment categories for each TAZ. After the land uses and employment factors were aggregated, a pivot table was generated that now shows all the employment per TAZ. In the screenshot below (Figure 6.D), the fields named "EMP1...", "EMP2...", "EMP3..." etc. are the same as the employment categories in Figure 2.D above (page 14). In the case below, this TAZ has only one employment type (Industrial), but if there were other types, they would be listed. NOTE: No spreadsheet was exported from this layer.



**Figure 6.D**



5. **Notice of Preparation.** The Planning Area layers (step 2 above) were used to generate a 'Notice of Preparation' for the pending Environmental Impact Report. This can be viewed on the General Plan webpage in the 'CEQA' section at this location: [http://planning.lacounty.gov/assets/upl/project/gp\\_2035\\_nop.pdf](http://planning.lacounty.gov/assets/upl/project/gp_2035_nop.pdf). A sample of what this table looks like is shown in Figure 6.E below.

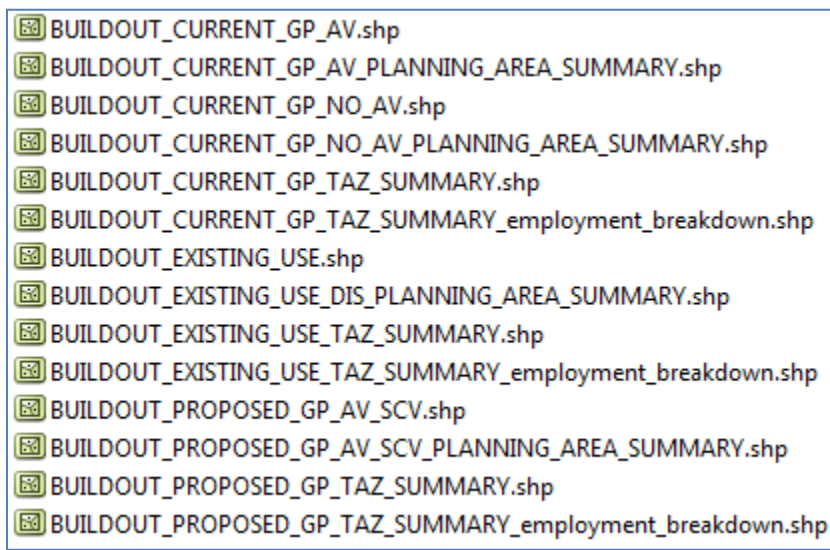
**Figure 6.E**

<b>Table 1 Proposed General Plan</b>						
<i>Land Use Designation</i>	<i>Acres<sup>3</sup></i>	<i>Density / Intensity<sup>4</sup></i>	<i>Units</i>	<i>Population<sup>5</sup></i>	<i>Bldg. Sq. Footage (in thousands)</i>	<i>Jobs<sup>5</sup></i>
<b>COUNTYWIDE GENERAL PLAN (NOT IN A COMMUNITY PLAN) <sup>2</sup></b>						
<b>PROPOSED GENERAL PLAN</b>	<b>106,632</b>	<b>--</b>	<b>205,305</b>	<b>698,114</b>	<b>583,526</b>	<b>182,410</b>
<b>Commercial</b>	<b>1,143</b>	<b>--</b>	<b>0</b>	<b>0</b>	<b>39,325</b>	<b>55,189</b>
CG - General Commercial	812	0.5 (F)	0	0	17,686	35,548
CM - Major Commercial	331	1.5 (F)	0	0	21,636	19,634
CR - Rural Commercial	0.33	0.25 (F)	0	0	4	7
<b>Industrial</b>	<b>3,566</b>	<b>--</b>	<b>0</b>	<b>0</b>	<b>78,573</b>	<b>64,725</b>
IH - Heavy Industrial	1,702	0.5 (F)	0	0	37,064	28,380
IL - Light Industrial	1,824	0.5 (F)	0	0	39,717	30,411
IO - Industrial Office	41	1 (F)	0	0	1,792	5,935
<b>Mixed Use</b>	<b>247</b>	<b>--</b>	<b>29,583</b>	<b>82,535</b>	<b>16,108</b>	<b>31,522</b>
MU - Mixed Use	247	120 (D) / 1.5 (F)	29,583	82,535	16,108	31,522

6. After all the GIS layers were prepared, and all of the relevant spreadsheets were exported, they were all put on the Department of Regional Planning's FTP site to be downloaded by EIR consultants and other parties that were helping with this project (like SCAG). The spreadsheets generated by steps 1 and 2 above were combined into one spreadsheet called 'DRP Buildout' with different tabs denoting existing conditions, current general plan and proposed general plan dataset. In addition to the actual data, there was an 'Assumptions' tab for each dataset that has a brief description of how the assumptions were generated, and a list of what the factors are per land use category. Also added was a 'readme' word file that briefly describes each dataset that was on the FTP site. During this project, several versions of the buildout were created, so each GIS layer has detailed metadata attached to it; this was crucial to keep track of which version each GIS layer represented. Figure 6.F below shows a sample of the file names, metadata, and readme file.

**Figure 6.F**

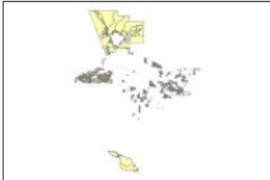
Sample screenshot of GIS file naming convention



## Sample screenshot of metadata attached GIS layer

**Buildout layer for Current General / Area / Comm Plan (except Antelope Valley)**

File Geodatabase Feature Class



Tags  
buildout, current general plan, current conditions

**Summary**  
THIS IS THE SECOND VERSION as of NOVEMBER/DECEMBER 2011 -- IT HAS SINCE BEEN REVISED! This is the buildout generated for the Current General Adopted General Plan and Community Area Plans (excepting Rowland Heights).

**Description**  
This layer was generated using Planning Center methodology for the Current Adopted Land Use Policy. It has been aggregated to the Planning Area / Land Use level of detail. Since this was such a large dataset, it was broken up into Antelope Valley, and all remaining areas (with the exception of Rowland Heights - it is its own layer). **IMPORTANT NOTE-** for the Santa Clarita Valley planning area, the Buildout that was done for that area was used, and has a different methodology than the Planning Center Methodology. This different methodology is broken down only by TAZ, and NOT individual Land Use Categories like the rest of the unincorporated areas. **UPDATED 12/5/11 to incorporate November, 2011 revisions.**

## Sample screenshot of 'Readme' file accompanying FTP folder

**NOTES REGARDING BUILDOUT DATA FILES**

**REVISED – 3/4/13**

*Due to revisions in of the Land Use Policy generated by the Proposed Florence-Firestone Community Plan, General Plan, and Antelope Valley the following proposed land use layers were incorporated into the Buildout data. Note, grayed out areas do not apply to this delivery.*

This directory contains the following data regarding the Buildout:

- DRP\_Buildout.xlsx – spreadsheet broken up into tabs that represent Existing Conditions, Current General Plan, and Proposed General Plan. Within these groups there’s information about what factors were used to generate the units, population and employment numbers. There are also two tabs with the actual data broken down by TAZ/Land Use/Planning area, and the data aggregated by Land Use / Planning Area – summarizing the units, population, and employment numbers in each category.
- GIS Data Layers –Proposed General Plan. There is a metadata file attached to each data layer

## Appendix A

<u>Land Use Plan Category</u>	<u>Target Density</u>	<u>Target FAR<sup>1</sup></u>	<u>MF vs SF</u>	<u>PPH</u>	<u>SF/Emp<sup>2,3</sup></u>	<u>NOTES:</u>
<b>1980 Adopted General Plan</b>						
RC - Rural Communities	1.0	n/a	SF	3.85	n/a	Assume development potential at 100% max
R - Non-Urban/Rural Land (1 unit/5 gross ac - 1 unit/gross ac)	1.0	n/a	SF	3.85	n/a	Assume development potential at 100% max density
1 - Low Density Residential (1 to 6 units/gross ac)	4.8	n/a	SF	3.85	n/a	Assume development occurs at 80% max density
2 - Low/Medium Density Residential (6 to 12 units/gross ac)	9.6	n/a	SF	3.85	n/a	Assume development occurs at 80% max density
3 - Medium Density Residential (12 to 22 units/gross ac)	17.6	n/a	split 50/50	3.6	n/a	Assume development occurs at 80% max density
4 - High Density Residential (22+ units/gross ac)	33.0	n/a	MF	2.79	n/a	Assume 1.5 the minimum density.
C - Major Commercial	n/a	0.5			511	0.5 is roughly equivalent to the FAR value for the 85 <sup>th</sup> percentile of existing intensities
I - Major Industrial	n/a	0.5			1306	0.5 is roughly equivalent to the FAR value for the 85 <sup>th</sup> percentile of existing intensities
P - Public and Semi-Public Facilities	n/a	0.5				individually estimated
O - Open Space	n/a	0			n/a	
<b>Altadena Community Plan</b>						
1 - Estate/Equestrian (1 du/2.5 gross ac)	0.4	n/a	SF	3.85		
2 - Low Density (1 to 6 du/gross ac)	4.8	n/a	SF	3.85		
3 - Low Medium Density (6 to 12 du/gross ac)	9.6	n/a	SF	3.85		
4 - Medium Density (12 to 22 du/gross ac)	17.6	n/a	MF	2.79		
BP - Business Park (max FAR 1.0)	n/a	0.6			302	Maximum Lot coverage is 60%; Height limit is 35 feet.
General Commercial (max FAR 1.8)	n/a	1.0			302	Used FAR range from "Business Commercial" category from previous analysis.
MU - Mixed Use "Center" (12.1-22 du/gross ac & max FAR 2.7)	17.6	1.4	MF	2.79	511	80% residential and 20% comm
I - Institutions (no density/intensity specified)	n/a	0.5				Individual review; assumed 50 employees where appropriate (some sites did not have any employees); assume 0.5 for public/institution categories.
N - Non-Urban (up to 1 du/gross ac)	1.0	n/a	SF	3.85		
Non-urban <25% slope (1du/5 to 1 du/1 gross ac)	1.0	n/a	SF	3.85		
Non-urban 25-50% slope (1 du/10 to 1 du/2 gross ac)	0.5	n/a	SF	3.85		
Non-urban >50% (1 du/ 20 gross ac)	0.05	n/a	SF	3.85		
Utilities	n/a	n/a				Applies to SoCal Edison transmission ROW in the San Gabriel Mtn foothills & existing transformer stations.
NF - National Forest and Nat For Managed Lands	n/a	n/a				
PR - Public and Private Recreation	n/a	n/a				
Miscellaneous Open Space	n/a	n/a				Cemetery and associated structures
Public Streets	n/a	n/a				Public streets, roads, and avenues.
SP - La Vina Specific Plan						272 units, potential school
<b>Antelope Valley Area Plan</b>						
C - Commercial	n/a	0.5			511	
M - Industry	n/a	0.5			1306	
N1 - Non-Urban 1 (max 0.5 du/gross ac)	0.5	n/a	SF	3.85		
N2 - Non-Urban 2 (max 1.0 du/gross ac)	1.0	n/a	SF	3.85		
O - Open Space	n/a	n/a				
O-NF - National Forest	n/a	n/a				
O-W - Water Body	n/a	n/a				
P - Public Service Facilities	n/a	0.5				individually estimated; assumed 0.5 for public/institutional categories.

## Appendix A (cont)

<u>Land Use Plan Category</u>	<u>Target Density</u>	<u>Target FAR<sup>1</sup></u>	<u>MF vs SF</u>	<u>PPH</u>	<u>SF/Emp<sup>2,3</sup></u>	<u>NOTES:</u>
Airport	n/a	n/a				individually estimated (under Public Facilities in "Resources" spreadsheet); Designation applies to Palmdale Airport property.
U1 - Urban 1 (0 to 3.3 du/gross ac)	2.6	n/a	SF	3.85		
U1.5 - Urban 1.5 (0 to 2.0 du/gross ac)	1.6	n/a	SF	3.85		
U2 - Urban 2 (0 to 6.6 du/gross ac)	5.3	n/a	SF	3.85		
U2-D (0 to 4 du/gross ac)	3.2	n/a	SF	3.85		
Urban 3 (0 to 15.0 du/gross ac)	12.0	n/a	split 50/50	3.6		
U3-D (0 to 10 du/gross ac)	8.0	n/a	split 50/50	3.6		
Urban 4 (15.1 du/gross acre and greater)	15.1	n/a	split 50/50	3.6		
<b>East Los Angeles Community Plan</b>						
CC - Community Commercial (max lot coverage: 90%; max building height: 35 ft)	n/a	1.5			511	
CM - Commercial Manufacturing (max lot coverage: 90%; max building height: 40 ft)	n/a	1.3			1306	
CR - Commercial Residential (0 to 30 du/net ac; max lot coverage: 90%; max building height: 40 ft)	24.0	1.2	MF	2.79	511	
I - Industrial (max building height: 35 ft)	n/a	1.0			1306	
LD - Low Density Residential (0 to 8 du/net ac)	6.4	n/a	SF	3.85		
LMD - Low/Medium Density Residential (0 to 17 du/net ac)	13.6	n/a	split 50/50	3.6		
MC - Major Commercial (max lot coverage: 90%; max building height: 40 ft)	n/a	1.5			2437	
MD - Medium Density Residential (0 to 30 du/net ac)	24.0	n/a	MF	2.79		
P - Public Use (max building height: 40 ft)	n/a	0.5				individually estimated; assume 0.5 for public/institution categories
<b>Hacienda Heights Community Plan</b>						
Rural Land 1 (Max 1 du/ac)	1.0	n/a	SF	3.85		On legend, but not mapped.
Rural Land 2 (Max 1 du / 2 ac)	0.5	n/a	SF	3.85		
Rural Land 5 (Max 1 du / 5 ac)	0.2	n/a	SF	3.85		On legend, but not mapped.
Rural Land 10 (Max 1 du/10 ac)	0.1	n/a	SF	3.85		
Residential 2 (0-2 du/ac)	1.6	n/a	SF	3.85		
Residential 5 (0-5 du/ac)	4.0	n/a	SF	3.85		
Residential 9 (0-9 du/ac)	7.2	n/a	SF	3.85		
Residential 18 (0-18 du/ac)	14.4	n/a	split 50/50	3.6		
Residential 30 (18-30 du/ac)	24.0	n/a	MF	2.79		
Residential 50 (30-50 du/ac)	40.0	n/a	MF	2.79		
General Commercial (max FAR 1.0 and 18-30 du/ac)	n/a	1.0			511	Assume commercial (FAR) as the intended use. Used assumptions from last analysis.
Light Industrial ( max FAR 1.0)	n/a	0.5			1306	Used assumptions from last analysis.
Public and Semi-Public Community Serving	n/a	0.5				individually estimated: 50 park (future); 50 library - not in "Resources" spreadsheet; no assumptions included in last buildout; assumed 0.5 for public/institutional categories.
Public and Semi-Public Utilities and Facilities	n/a	0.5				
Public and Semi-Public Transportation Facilities	n/a	n/a				
Open Space Parks and Recreation	n/a	n/a				
Open Space Conservation	n/a	n/a				
<b>Malibu Local Coastal Plan</b>						
11 - Institution and Public Facilities	n/a	0.2				individually estimated; FAR assumed at same target as commercial categories.



## Appendix A (cont)

<u>Land Use Plan Category</u>	<u>Target Density</u>	<u>Target FAR</u> <sup>1</sup>	<u>MF vs SF</u>	<u>PPH</u>	<u>SF/Emp</u> <sup>2,3</sup>	<u>NOTES:</u>
12 - Rural Business	n/a	0.2			511	FAR assumed at same target of commercial categories.
13 - General Commercial (Max FAR 0.2)	n/a	0.2			511	Max FAR for commercial categories is 0.2 (See Malibu LUP policy P138D)
14 - Office/Commercial Services (Max FAR 0.2)	n/a	0.2			302	Max FAR for commercial categories is 0.2 (See Malibu LUP policy P138D)
16 - Low-Intensity Visitor-Serving Comm Rec (Max FAR 0.2)	n/a	0.2			511	Max FAR for commercial categories is 0.2 (See Malibu LUP policy P138D)
17 - Recreation-Serving Commercial (Max 0.2)	n/a	0.2			511	Max FAR for commercial categories is 0.2 (See Malibu LUP policy P138D)
18 - Parks	n/a	n/a				
3 - Rural Land I (1 du/10 ac)	0.1	n/a	SF	3.85		
4 - Rural Land II (1 du/5 ac)	0.2	n/a	SF	3.85		
5 - Rural Land III (1 du/2 ac)	0.5	n/a	SF	3.85		
6 - Residential I (1 du/ac)	1.0	n/a	SF	3.85		
7 - Residential II (2 du/ac)	1.6	n/a	SF	3.85		
8A - Residential III(A) (2 to 4 du/ac)	3.2	n/a	SF	3.85		
8B - Residential III(B) (4 to 6 du/ac)	4.8	n/a	SF	3.85		
9A - Residential IV(A) (6 to 8 du/ac)	6.4	n/a	SF	3.85		
9B - Residential IV(B) (8 to 10 du/ac)	8.0	n/a	SF	3.85		
9C - Residential IV(C) (10-20 du/ac)	16.0	n/a	MF	2.79		
M2 - Mountain Land (1 du/20 ac)	0.1	n/a	SF	3.85		
MU - Mixed Use - Specific Plan Required	n/a	0.2			500	FAR assumed at same FAR of commercial categories.
Significant Watershed and Resource Mgmt Areas (Overlay)						HMA only.
<b>Marina Del Rey Land Use Plan</b>						
B - Boat Storage	n/a	0.1			1000	
H - Hotel	n/a	1027 rooms			1/room	Height Limited - 45-225 feet
MC - Marine Commercial	n/a	0.5			511	Height Limited - 45 feet
O - Office	n/a	1.0			302	Height Limited - 225 feet
OS - Open Space	n/a	n/a				
P - Parking	n/a	n/a				
PF - Public Facilities	n/a	0.5				Individually estimated / Height Limited - 45 feet
R III - Residential III (0 to 35 du/ac)	28.0	n/a	MF	2.79		
R IV - Residential IV (0 to 45 du/ac)	36.0	n/a	MF	2.79		
R V - Residential V (0 to 75 du/ac)	60.0	n/a	MF	2.79		
VS/CC - Visitor-Serving / Convenience Commercial	n/a	0.5			511	Height Limited - 45 feet
W - Water	n/a	n/a				
Active Senior Accommodations (Pending approval by Coastal)	n/a	2.8				20 employees (need to add this to other spreadsheet); New LU category that's pending certification at Coastal. No intensity/density. FAR of approved project: 2.77
<b>Rowland Heights Community Plan</b>						
C - Commercial	n/a	1.0			511	
I - Industrial	n/a	0.6			1306	
N1 - Non-Urban 1 (0 to 0.2 du/gross ac)	0.2	n/a	SF	3.85		
N2 - Non-Urban 2 (0.3 to 1.0 du/gross ac)	1.0	n/a	SF	3.85		
O - Open Space	n/a	n/a				
TOS - Transitional Open Space (N1)	0.2	n/a	SF	3.85		
TOS - Transitional Open Space (N2)	1.0	n/a	SF	3.85		
TOS - Transitional Open Space (U1)	2.6	n/a	SF	3.85		
U1 - Urban 1 (1.1 to 3.2 du/gross ac)	2.6	n/a	SF	3.85		
U2 - Urban 2 (3.3 to 6.0 du/gross ac)	4.8	n/a	SF	3.85		
U3 - Urban 3 (6.1 to 12.0 du/gross ac)	9.6	n/a	SF	3.85		
U4 - Urban 4 (12.1 to 22.0 du/gross ac)	17.6	n/a	MF	2.79		
U5 - Urban 5 (22.1-35.0 du/gross ac)	28.0	n/a	MF	2.79		

## Appendix A (cont)

Land Use Plan Category	Target Density	Target FAR <sup>1</sup>	MF vs SF	PPH	SF/Emp <sup>2,3</sup>	NOTES:
<b>Santa Catalina Island Local Coastal Plan</b>						
<i>Santa Catalina Island Land Use (areas outside of Two Harbors)</i>						
Open Space / Structured Recreation	n/a	n/a				
Conservation / Primitive Recreation	n/a	n/a				
Extractive Use	n/a	n/a				
Industrial / Transportation / Utilities					1306	
Utility & Industrial					-	Not mapped - area annexed, but still part of
Residential (max 22 du/ac)	17.6				-	Not mapped - area annexed, but still part of
<i>Two Harbors Land Use</i>						
Conservation / Recreation	n/a	n/a				
Industrial / Transportation					1306	
Open Space / Recreation	n/a	n/a				
View Corridor						
Lodges / Inns						
Commercial					511	
Marine Commercial					511	
Residential (max 19 du/ac)	15.2					
Utilities / Services						
undefined						Area in Two Harbors where the LU designation could not be determined from LU policy map.
<b>Santa Clarita Valley Area Plan</b>						
<b>Santa Monica Mountains North Area Plan</b>						
C - Commercial (max FAR 0.5)	n/a	0.5			511	built range max is 1.0, which exceed maximum intensity.
CR - Commercial Recreation - Limited Intensity (max FAR 0.3)	n/a	0.3			511	Assume max FAR.
N1 - Rural Residential 1 (1 du/gross ac max)	1.0	n/a	SF	3.85		
N10 - Mountain Lands 10 (1 du/10 gross ac max)	0.1	n/a	SF	3.85		
N2 - Rural Residential 2 (1 du/2 gross ac max)	0.5	n/a	SF	3.85		
N20 - Mountain Lands 20 (1 du/20 gross ac max)	0.1	n/a	SF	3.85		
N5 - Mountain Lands 5 (1 du/5 gross ac max)	0.2	n/a	SF	3.85		
OS - Open Space	n/a	n/a				
OS-DR - Open Space Deed Restricted	n/a	n/a				
OS-W - Open Space Water	n/a	n/a				
OS-P - Open Space Parks	n/a	n/a				
P - Public and Semi-Public Facilities	n/a	0.5				individually estimated; assume 0.5 for public/institutions categories
U2 - Residential 2 (2 du/ net ac max)	1.6	n/a	SF	3.85		
U4 - Residential 4 (4 du/net ac max)	3.2	n/a	SF	3.85		
U8 - Residential 8 (8 du/net ac max)	6.4	n/a	SF	3.85		
TC-Transportation Corridor	n/a	n/a				
SP-Specific Plan						
SEA-SEA Overlay	n/a	n/a				
<b>West Athens - Westmont Community Plan</b>						
C.1 - Regional Commercial	n/a	1.0			2437	
C.2 - Community Commercial	n/a	1.0			511	
C.3 - Neighborhood Commercial	n/a	0.5			511	
C.4 - Commercial Manufacturing	n/a	0.6			1306	
CR - Commercial Recreation	n/a	0.3			511	Assume lower intensity than GP assumption because of the lower-intensity nature of Commercial-Recreation.
OS.1 - Recreation / Open Space	n/a	n/a				
PL.1 - Public/Quasi-Public Use	n/a	0.7				individually estimated
RD 2.3 - Single Family Residence (0 to 8 du/ac)	6.4	n/a	SF	3.85		

**Appendix A (cont)**

<u>Land Use Plan Category</u>	<u>Target Density</u>	<u>Target FAR</u> <sup>1</sup>	<u>MF vs SF</u>	<u>PPH</u>	<u>SF/Emp</u> <sup>2,3</sup>	<u>NOTES:</u>
RD 3.1 - Two Family Residence (0 to 17 du/ac)	13.6	n/a	split 50/50	3.6		
RD 3.2 - Medium Density Bonus (0 to 30 du/ac)	24.0	n/a	MF	2.79		
SCD - Senior Citizen Density Bonus (Max 50 du/ac)	40.0	n/a	MF	2.79		
<b>Walnut Park Neighborhood Plan</b>						
GC - General Commercial	n/a	1.3			511	
MC - Mixed Commercial	n/a	0.5			511	
NP 1 - Neighborhood Preservation I	7.2	n/a	SF	3.85		These categories do not have densities. Used zoning and revised target densities.
NP 2 - Neighborhood Preservation 2	14.4	n/a	SF	3.85		These categories do not have densities. Used zoning and revised target densities.
NR - Neighborhood Revitalization (up to 30 du/ac on parcels > 40,000 sq ft)	24.0	n/a	MF	2.79		
OC - Office Commercial	n/a	0.6			302	
R/P - Residential / Parking	7.2	n/a	SF	3.85		4.41 acres divided into 27 parcels that are almost completely developed with single family homes and there are no plans to increase densities
PU/I - Public Use / Institutional	n/a	0.5				individually estimated
<b>Additional assumptions (HMAs)</b>						
Hillside Management Areas (HMAs): 25% to 50% slope (Max 1 du/ 2 acres)	0.5	n/a	SF	3.85		
Hillside Management Areas (HMAs): Greater than 50% slope (Max 1 du / 20 acres)	0.05	n/a	SF	3.85		

<sup>1</sup> For non-residential designations, FAR is assumed to be the larger of either: the highest FAR value of the range of existing conditions OR the GP assumption, when applicable. Some non-residential uses have specific assumptions as provided by a specific plan or the County.

<sup>2</sup> For residential designations density is generally assumed to be 80% of the maximum density unless the maximum density less than one unit per acre, in which case the maximum density it used.

<sup>3</sup> Yellow highlighted background indicates that the Community Plan does not specify density/intensity so General Plan assumptions were used. It may also indicate an assumption provided directly from County staff.

## Appendix B

<u>Land Use Plan Category</u>	<u>Target Density</u>	<u>Target FAR</u>	<u>MF vs SF</u>	<u>PPH</u>	<u>SF/Emp</u>	<u>NOTES:</u>
<b>Proposed General Plan</b>						
<b>Rural</b>						
Rural Land 1	1.0	n/a	SF	3.85	n/a	While there is an allowance of FAR 0.5 to account for agricultural and other non-residential uses permitted in the RL categories, the buildout model uses the target densities for buildout.
Rural Land 2	0.5	n/a	SF	3.85	n/a	
Rural Land 5	0.2	n/a	SF	3.85	n/a	
Rural Land 10	0.1	n/a	SF	3.85	n/a	
Rural Land 20	0.1	n/a	SF	3.85	n/a	
Rural Land 40	0.03	n/a	SF	3.85	n/a	
<b>Residential</b>						
Residential 2	1.6	n/a	SF	3.85	n/a	
Residential 5	4.0	n/a	SF	3.85	n/a	
Residential 9	7.20	n/a	SF	3.6	n/a	
Residential 18	14.4	n/a	split 50/50	3.6	n/a	
Residential 30	24.0	n/a	MF	2.79	n/a	
Residential 50	40.0	n/a	MF	2.79	n/a	
Residential 100	80.0	n/a	MF	2.79	n/a	
Residential 150	120.0	n/a	MF	2.79	n/a	
<b>Commercial</b>						
Rural Commercial	n/a	0.25	n/a	n/a	511	
General Commercial	n/a	0.5	n/a	n/a	511	The General Plan Land Use Legend includes residential densities in CG and CM; however, for the purposes of the buildout model, we used the FAR, under the assumption that the general intended use of these land use designations are commercial uses.
Major Commercial	n/a	1.5	n/a	n/a	2437	
<b>Industrial</b>						
Light Industrial	n/a	0.5	n/a	n/a	1306	
Heavy Industrial	n/a	0.5	n/a	n/a	1306	
Office and Professional	n/a	1.0	n/a	n/a	302	
<b>Mixed Use</b>						
Rural Mixed Use	4.0	0.25	split 25/75	3.85	511	
Mixed Use	120.0	1.5	MF	2.79	511	
<b>Public</b>						
Public and Semi-Public Facilities	n/a	1.5			indiv	individually estimated
<b>Open Space</b>						
Open Space Conservation	n/a	0.0	n/a	n/a	n/a	
Open Space Parks and Recreation	n/a	0.0	n/a	n/a	n/a	
Open Space National Forest	n/a	0.0	n/a	n/a	n/a	
Bureau of Land Management	n/a	0.0	n/a	n/a	n/a	
Water	n/a	0.0	n/a	n/a	n/a	
Mineral Resources	n/a	0.0	n/a	n/a	n/a	
Military	n/a	0.0	n/a	n/a	n/a	

## **Appendix C**

When the buildout GIS conversion process was started by DRP in 2011, the TAZ data from SCAG's '2008 Regional Transportation Plan' was used. During the process of working on the buildout, a draft version of the '2012 - 2035 Regional Transportation Plan' was released.<sup>1</sup> It was decided at a meeting with DRP, The Planning Center, Iteris, and SCAG that the projections, and socio-economic data generated from this plan would be used as part of the traffic study for the 2035 General Plan EIR. This presented a challenge in that the buildout generated from DRP used the TAZ zones from the 2008 plan, and the TAZ zones used in the 2012-2035 plan had different ID numbers and different geographies. SCAG agreed to take on the task of using the DRP Buildout and incorporating it into the updated TAZ zones. Appendix C was prepared by SCAG, and outlines the steps in this process and the products generated for the EIR Traffic Study.

This document was created to illustrate how the three files, requested by LA County, developed in 2011 and 2013

### **I. 2010 Existing conditions (generated 12/6/11)**

This file was developed by applying TAZ level distributions provided by LA County Planning Department's build-out file and controlling to SCAG's draft unincorporated area projections. The LA County build-out file was sent to SCAG on 8/31/2011.

Data: 2010 existing conditions data (generated 12/6/11)

- MODEL10\_T1\_EMP\_LAproposedGP\_SED\_120611.CSV
- MODEL10\_T1\_PH\_LAproposedGP\_SED\_120611.CSV
- MODEL10\_T1\_TRUCK\_LAproposedGP\_SED\_120611.CSV
- Area: SCAG
- Geographic level: Tier1
- Variables: Major variables (Pop, HH, Emp) and Secondary variables
- Observation: 4109

Steps:

1. Calculated households based on county's housing units;
2. Converted County's TAZ2k level build-out file into SCAG's existing tier2 system ;
3. Applied LA County's build-out distributions to develop the 2035 Population, Household, and Employment;
4. Interpolated the 2010 based on the growth distributions between 2008 to 2035;
5. Applied SCAG's draft 2010 county unincorporated control to the distributions.

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<sup>1</sup> As of 12/11/13, this plan is still in draft form after a public comment period was concluded.



## **Appendix C (cont)**

### **II. Post 2035 (generated 7/1/13)**

**The file was developed based on LA County's 2035 proposed general plan build-out . This file was sent to SCAG on 6/19/2013. It is to reflect LA County's general plan distributions only. None of SCAG's growth distributions, either county unincorporated or TAZ level, was applied.**

Step 1: Downloaded LA county Unincorporated Area 2035 Buildout Proposed GP data

- Buildout\_proposed\_gp\_taz\_summary.dbf
- Geographic level: TAZ2k
- Variables: Pop, HH, Emp
- Observation: 554

Step 2: Developed Correspondence table between TAZ2k and Tier1

- Used RTP12 SCAG 2035 mpu file

Step 3: Converted LA county Unincorporated Area TAZ2k data into Tier1

- Geographic level: Tier1
- Variables: Pop, HH, Emp
- Observation: 553

Step 4: Calculated 2035 LA county Incorporated Area data of 553 Tier1

- Data Source: 2035 City/Tier1 data from RTP12 May version City/Tier2 data
- Geographic level: Tier1
- Variables: Pop, HH, Emp
- Observation: 553

Step 5: Added LA County Unincorporated Area Tier1 data(Step 3) and LA county Incorporated Area Tier1 data(Step 4)

- Geographic level: Tier1
- Variables: Pop, HH, Emp
- Observation: 553

Step 6: Calculated 2035 Tier1 secondary variables distribution

- Data Source: 2035 RTP12 May version Tier1 data
- Geographic level: Tier1
- Variables: Secondary variables

## ***Appendix C (cont)***

- Observation: 553

Step 7: Applied 2035 Tier1 secondary variables distribution(Step 6) into major variables(Step 5)

- Geographic level: Tier1
- Variables: Major variables (Pop, HH, Emp) and Secondary variables
- Observation: 553

Step 8: Final Data Format

- Same data format at Tier1
- MODEL\_35\_T1\_EMP\_Proposed GP\_070113.CSV
- MODEL\_35\_T1\_PH\_Proposed GP\_070113.CSV
- MODEL\_35\_T1\_TRUCK\_Proposed GP\_070113.CSV
- Area: LA county Unincorporated Area
- Geographic level: Tier1
- Variables: Major variables (Pop, HH, Emp) and Secondary variables
- Observation: 553

## **Appendix C (cont)**

### **III. 2010 + project (generated 7/22/13)**

**This file was a result of adjustments requested by LA County. It took the unincorporated portion of TAZs growth projection figures out from the 2010 existing conditions generated on 12/6/2011 and replaced with post 2035 figures developed on 7/1/2013.**

Step 1: Read 2010 Existing conditions data (generated 12/6/11)

- MODEL10\_T1\_EMP\_LAproposedGP\_SED\_120611.CSV
- MODEL10\_T1\_PH\_LAproposedGP\_SED\_120611.CSV
- MODEL10\_T1\_TRUCK\_LAproposedGP\_SED\_120611.CSV
- Area: SCAG
- Geographic level: Tier1
- Variables: Major variables (Pop, HH, Emp) and Secondary variables
- Observation: 4109

Step 2: Read Post 2035 data (generated 7/1/13)

- MODEL\_35\_T1\_EMP\_Proposed GP\_070113.CSV
- MODEL\_35\_T1\_PH\_Proposed GP\_070113.CSV
- MODEL\_35\_T1\_TRUCK\_Proposed GP\_070113.CSV
- Area: LA county Unincorporated Area
- Geographic level: Tier1
- Variables: Major variables (Pop, HH, Emp) and Secondary variables
- Observation: 553

Step 3: Replaced 553 Observations of 2010 existing conditions data (Step 1) with Post 2035 data (Step 2)

- MODEL10\_T1\_EMP\_LAproposedGP\_SED\_120611\_rev.CSV
- MODEL10\_T1\_PH\_LAproposedGP\_SED\_120611\_rev.CSV
- MODEL10\_T1\_TRUCK\_LAproposedGP\_SED\_120611\_rev.CSV
- Area: SCAG
- Geographic level: Tier1
- Variables: Major variables (Pop, HH, Emp) and Secondary variables
- Observation: 4109

## **Appendix D**

Employment assumptions were chosen by Placeworks using the Natelson Company Employment Density Study for the SCAG region for 2001. The full document of the study can be found here:

<http://www.mwcog.org/uploads/committee-documents/bl5aX1pa20091008155406.pdf>

The following is an excerpt from that document, first Section I. the Introduction, then Section V. the Employment Density Data. Within Section V, the Table 4B shows some of the “Square Feet / Employee” factors used in this buildout:

### **I. INTRODUCTION**

The objective of this study is to derive employment density factors for use in the Small Area Allocation Model (SAAM) currently being developed by the Southern California Association of Governments (SCAG). Specifically, the study has estimated employment densities for ten major land use categories. For purposes of this study, an employment density factor is defined as the number of employees per square feet of building space and acres of land. As detailed in this report, the consultant has utilized a “multi-step” approach to derive these employment density factors. Figure 1 on the following page provides a diagrammatic summary of the study process.

Section II of this report provides an executive summary of the major findings of the study. Section III provides the findings of an extensive review of previous

studies/papers on employment density factors. Section IV provides an overview of the study methodology. Finally, Section V provides the estimated employment density factors derived by the study. Where possible, all findings are presented both at the individual county level and for the overall six-county region. The appendices fully document the technical/statistical analysis employed in this study.

## V. EMPLOYMENT DENSITY DATA

Tables 1 through 14 provide the final employment density factors, measured in terms of square feet of building space per employee, for each of 10 land use categories. The employment density factors are presented for each individual county and the entire SCAG region in two formats:

1. One based on the median employees per acre density and the median FAR; and
2. One based on the weighted average of employees per acre density and the weighted average FAR.

In addition, the tables also separate out the two different sets of parcel records as described in section IV. The tables labeled “NARROW POLYGON SELECTION” include data from the first set of parcel records, ones that were in polygons with employment densities (measured in terms of employees per acre) around the mean. The tables labeled “BROAD POLYGON SELECTION” include data from the second set of parcel records, ones that were in a completely random set of polygons.<sup>4</sup>

The tables provide the following key information for each land use category.

1. **Number of records**: the total number of parcel records that the FAR was calculated from.
2. **FAR**: The ratio of building area and land area (measured in terms of square feet). Presented as the median FAR and the weighted average FAR.
3. **Employees per Acre**: the ratio of employees and total acres of land. Presented as the median employees per acre and the weighted average employees per acre.
4. **Net Gross Adjustment Factor**: factor to “net out” roads and other non-building related areas that were included in the polygons, which provided the area acreages in the employees per acre density factors.
5. **Building Efficiency**: factor utilized to exclude any non-work related space in a building (i.e., common areas).<sup>5</sup>

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<sup>4</sup> For Imperial County the Assessor’s office does not include building area and land area in parcel records. Therefore, in order to calculate employment density factors for Imperial county we relied upon FAR data from rural areas in Riverside and San Bernardino Counties. This prevented us from providing Imperial County employment density factors in the two formats—narrow and broad—since they had to be combined to generate an adequate sample size of parcel records.

<sup>5</sup> These factors were derived from previous retail, office, and industrial development projects that the consultant has completed. They should be regarded as rough estimates of building efficiency factors, not definitive factors that apply to every type of retail, office, or industrial building spaces.



6. **Square Feet per Employee**: the product of square feet per employee (the reciprocal of employees per acre, converted to square feet), the FAR, the Net Gross Adjustment Factor, and the Building Efficiency Factor.

BROAD POLYGON SELECTION

**Table 1A**

**Derivation of Square Feet per Employee Based on:**

**--MEDIAN EMPLOYEES PER ACRE**

**--MEDIAN FAR**

**FIVE COUNTY REGION**

Net/Gross Adjustment Factor:

0.75

Land Use Category	# of Records	FAR	Employees/Acre	Building Efficiency	Square Feet/Employee
Regional Retail	27	0.59	14.99	0.80	1,023
Other Retail/Svc.	1013	0.28	13.49	0.85	585
Low-Rise Office	349	0.36	22.91	0.90	466
High-Rise Office	46	1.19	116.32	0.90	300
Hotel/Motel	16	0.61	11.04	N/A	1,804
R & D/Flex Space	70	0.31	18.13	0.95	527
Light Manufacturing	1047	0.35	11.63	0.95	924
Heavy Manufacturing	0	--	17.05	N/A	--
Warehouse	121	0.42	10.63	0.95	1,225
Government Offices	32	0.37	16.23	0.90	672

**Table 2A**

**Derivation of Square Feet per Employee Based on:**

**--AVERAGE EMPLOYEES PER ACRE**

**--AVERAGE FAR**

**FIVE COUNTY REGION**

Net/Gross Adjustment Factor:

0.75

Land Use Category	# of Records	FAR	Employees/Acre	Building Efficiency	Square Feet/Employee
Regional Retail	27	0.65	19.71	0.80	857
Other Retail/Svc.	1013	0.27	21.98	0.85	344
Low-Rise Office	349	0.43	43.95	0.90	288
High-Rise Office	46	1.86	175.49	0.90	311
Hotel/Motel	16	1.17	33.07	N/A	1,152
R & D/Flex Space	70	0.23	20.53	0.95	344
Light Manufacturing	1047	0.25	17.83	0.95	439
Heavy Manufacturing	0	--	31.14	N/A	--
Warehouse	121	0.30	11.40	0.95	814
Government Offices	32	0.46	51.67	0.90	261

NARROW POLYGON SELECTION

**Table 1B**

**Derivation of Square Feet per Employee Based on:**

**--MEDIAN EMPLOYEES PER ACRE**

**--MEDIAN FAR**

**FIVE COUNTY REGION**

Net/Gross Adjustment Factor:

0.75

Land Use Category	# of Records	FAR	Employees/Acre	Building Efficiency	Square Feet/Employee
Regional Retail	24	0.46	14.99	0.80	798
Other Retail/Svc.	445	0.39	13.49	0.85	813
Low-Rise Office	222	0.47	22.91	0.90	600
High-Rise Office	35	1.14	116.32	0.90	289
Hotel/Motel	6	0.45	11.04	N/A	1,333
R & D/Flex Space	45	0.36	18.13	0.95	609
Light Manufacturing	695	0.41	11.63	0.95	1,089
Heavy Manufacturing	1	0.89	17.05	N/A	1,700
Warehouse	50	0.44	10.63	0.95	1,274
Government Offices	10	0.47	16.23	0.90	843

**Table 2B**

**Derivation of Square Feet per Employee Based on:**

**--AVERAGE EMPLOYEES PER ACRE**

**--AVERAGE FAR**

**FIVE COUNTY REGION**

Net/Gross Adjustment Factor:

0.75

Land Use Category	# of Records	FAR	Employees/Acre	Building Efficiency	Square Feet/Employee
Regional Retail	24	0.71	19.71	0.80	948
Other Retail/Svc.	445	0.41	21.98	0.85	514
Low-Rise Office	222	0.47	43.95	0.90	315
High-Rise Office	35	1.83	175.49	0.90	306
Hotel/Motel	6	0.46	33.07	N/A	459
R & D/Flex Space	45	0.38	20.53	0.95	569
Light Manufacturing	695	0.29	17.83	0.95	501
Heavy Manufacturing	1	0.89	31.14	N/A	931
Warehouse	50	0.35	11.40	0.95	960
Government Offices	10	0.48	51.67	0.90	272

BROAD POLYGON SELECTION

**Table 3A**

**Derivation of Square Feet per Employee Based on:**

**--MEDIAN EMPLOYEES PER ACRE**

**--MEDIAN FAR**

**LOS ANGELES COUNTY**

Net/Gross Adjustment Factor:

0.75

Land Use Category	# of Records	FAR	Employees/Acre	Building Efficiency	Square Feet/Employee
Regional Retail	0	--	18.45	0.80	--
Other Retail/Svc.	431	0.41	15.71	0.85	730
Low-Rise Office	117	0.49	30.75	0.90	471
High-Rise Office	29	2.00	156.07	0.90	377
Hotel/Motel	7	0.62	17.14	N/A	1,179
R & D/Flex Space	3	1.40	25.31	0.95	1,717
Light Manufacturing	327	0.55	14.17	0.95	1,214
Heavy Manufacturing	0	--	42.95	N/A	--
Warehouse	8	0.62	12.65	0.95	1,518
Government Offices	5	1.25	16.78	0.90	2,182

**Table 4A**

**Derivation of Square Feet per Employee Based on:**

**--AVERAGE EMPLOYEES PER ACRE**

**--AVERAGE FAR**

**LOS ANGELES COUNTY**

Net/Gross Adjustment Factor:

0.75

Land Use Category	# of Records	FAR	Employees/Acre	Building Efficiency	Square Feet/Employee
Regional Retail	0	--	18.86	0.80	--
Other Retail/Svc.	431	0.39	25.76	0.85	424
Low-Rise Office	117	0.60	55.28	0.90	319
High-Rise Office	29	3.60	240.77	0.90	440
Hotel/Motel	7	1.21	51.91	N/A	--
R & D/Flex Space	3	1.31	22.61	0.95	1,796
Light Manufacturing	327	0.49	18.49	0.95	829
Heavy Manufacturing	0	--	48.18	N/A	--
Warehouse	8	0.63	12.96	0.95	1,518
Government Offices	5	3.12	63.63	0.90	1,442

NARROW POLYGON SELECTION

**Table 3B**

**Derivation of Square Feet per Employee Based on:**

**--MEDIAN EMPLOYEES PER ACRE**

**--MEDIAN FAR**

**LOS ANGELES COUNTY**

Net/Gross Adjustment Factor:

0.75

Land Use Category	# of Records	FAR	Employees/Acre	Building Efficiency	Square Feet/Employee
Regional Retail	13	0.78	18.45	0.80	1,102
Other Retail/Svc.	228	0.47	15.71	0.85	836
Low-Rise Office	82	0.51	30.75	0.90	487
High-Rise Office	28	2.22	156.07	0.90	418
Hotel/Motel	3	0.46	17.14	N/A	877
R & D/Flex Space	10	0.56	25.31	0.95	688
Light Manufacturing	216	0.47	14.17	0.95	1,040
Heavy Manufacturing	1	0.89	42.95	N/A	675
Warehouse	20	0.45	12.65	0.95	1,094
Government Offices	1	1.57	16.78	0.90	2,745

**Table 4B**

**Derivation of Square Feet per Employee Based on:**

**--AVERAGE EMPLOYEES PER ACRE**

**--AVERAGE FAR**

**LOS ANGELES COUNTY**

Net/Gross Adjustment Factor:

0.75

Land Use Category	# of Records	FAR	Employees/Acre	Building Efficiency	Square Feet/Employee
Regional Retail	13	1.76	18.86	0.80	2,437
Other Retail/Svc.	228	0.47	25.76	0.85	511
Low-Rise Office	82	0.56	55.28	0.90	299
High-Rise Office	28	2.50	240.77	0.90	305
Hotel/Motel	3	0.47	51.91	N/A	298
R & D/Flex Space	10	1.36	22.61	0.95	1,862
Light Manufacturing	216	0.45	18.49	0.95	749
Heavy Manufacturing	1	0.89	48.18	N/A	602
Warehouse	20	0.49	12.96	0.95	1,172
Government Offices	1	1.57	63.63	0.90	724