

## AD HOC STAFF REPORT

**SUBJECT:** Land Use and Travel Model Follow-up

**MEETING DATE:** October 6, 2011

**AGENDA ITEM:** 4

**STAFF CONTACT:** Peter Imhof, Bill Yim

**RECOMMENDATION:**

Receive report on responses to questions and issues raised regarding the Land Use and Travel Model update.

**DISCUSSION:**

On September 7, 2011, SBCAG staff together with model consultant Caliper Corporation hosted a workshop to share progress and seek input on the land use and travel model update. Local agency staff raised a number of insightful questions and issues at that workshop. SBCAG also received written comments from the County and Cities of Carpinteria, Goleta, Solvang and Santa Barbara.

Caliper has summarized the questions raised and provided responses to all of the comments raised (Attachment 1) and revised the technical memorandum regarding the land use model (Attachment 2) and interactive website accordingly. SBCAG staff and Caliper have additionally met or spoken with local agency staff to address specific technical questions.

A chief purpose of the land use model will be to describe hypothetical future land use and transportation scenarios at the regional level for purposes of the Sustainable Communities Strategy. It is important to emphasize that, given this purpose, the land use model is not intended to replicate local General Plans in detail, but to create a generalized framework for regional planning. SBCAG appreciates the many comments, which individually and collectively will serve to strengthen and clarify the land use model.

**ATTACHMENTS:**

1. Local Agency Questions and Answers
2. Technical Memo: Land Use/Demographic Data

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## Attachment 1: Local Agency Questions and Answers

### Santa Barbara City

1. Additional mixed use categories are required by Santa Barbara City

New mixed use categories were added to handle the Santa Barbara City mixed use General Plan categories, as indicated in red:

General Plan Category	UPlan Land Use Type
Industry Urban Reserve Service Commercial <b>Mixed Uses Industry &amp; High Density Residential</b>	Industry Industry Industry <b>Industry</b>
Downtown Commercial Mixed uses Urban Reserve Service Commercial General Commercial <b>Mixed Uses High Density Commercial &amp; High Density Residential</b>	High Density Commercial High Density Commercial High Density Commercial High Density Commercial High Density Commercial <b>High Density Commercial</b>
High density residential Planned Development Mixed uses Urban Reserve <b>Mixed Uses Industry &amp; High Density Residential</b> <b>Mixed Uses High Density Commercial &amp; High Density Residential</b> <b>Mixed Uses Low Density Commercial &amp; High Density Residential</b>	High Density Residential High Density Residential High Density Residential High Density Residential <b>High Density Residential</b> <b>High Density Residential</b> <b>High Density Residential</b>
Neighborhood Commercial Planned Development Mixed uses Urban Reserve Office Visitor Commercial Highway Commercial <b>Mixed Uses Low Density Commercial &amp; Low Density Residential</b> <b>Mixed Uses Low Density Commercial &amp; High Density Residential</b>	Low Density Commercial Low Density Commercial Low Density Commercial Low Density Commercial Low Density Commercial Low Density Commercial Low Density Commercial <b>Low Density Commercial</b> <b>Low Density Commercial</b>
Medium density residential Planned Development Mixed uses Urban Reserve	Medium Density Residential Medium Density Residential Medium Density Residential Medium Density Residential
Low density residential <b>Mixed Uses Low Density Commercial &amp; Low Density Residential</b>	Low Density Residential <b>Low Density Residential</b>
Very low density residential	Very Low Density Residential
Agriculture Utility Services	Discouragement Discouragement
Public lands & open space Transportation Corridor Airport Institutional	Mask Mask Mask Mask
Military	Attractor

School Reservation Casino	Attractor Attractor
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## Carpinteria

1. Can you forward the density thresholds for the industry, low and high Commercial ranges for the UPlan land use categories?

The default UPlan densities countywide are as follows:

Land Use	Acres per DU	Avg. Sq. Footage	Floor Area Ratio
High density residential	0.05		
Medium density residential	0.25		
Low density residential	2		
Very low density residential	20		
Industry		500	0.23
Commercial High		200	0.35
Commercial Low		300	0.15

Where:

Avg. Sq. Footage – These parameters allow the user to define the average amount of building space per employee for each of the employment categories. These estimates might be found in publications by business, labor, or real estate organizations. The typical square feet per employee is 333 for office, 400 for retail and 667 for warehousing/distribution (<http://www.fhwa.dot.gov/scalds/fullrpt98.pdf> ).

Floor Area Ratio – This is the Floor Area Ratio for each of the employment categories. FAR is calculated by dividing the total square footage of a building by the square footage of its lot. The figures used here should be estimates of average FAR across the geographic analysis unit. FARs are usually regulated by zoning.

2. Trip Generation Rates

In reviewing the land use categories and comparing our General Plan designations and those of UPLAN, we are not clear on the categorization of our land uses in terms of those used in the UPLAN model. In order for the City to accurately comment on the land use assumptions provided in the Land Use and Demographic Data Technical Memo, we are requesting that Caliper Corporation provide the trip generation rates that are to be applied to the six general land use categories listed on page 4. We are also interested in the trip generation rates that will be used in the Public Lands and Open Space/Recreation categories, including discouragement, mask and attractor (listed on page 5).

Please see the response provided in answer to Goleta, question 1; and to Santa Barbara County, question 5 under “General Plan/UPlan Land Use Category Table.”

### 3. Mixed Use Land Use Zones

As was expressed at the September 7, 2011 workshop, we have concerns regarding how the models handle mixed use zones. We are unclear on how the model assigns residential uses and commercial uses in a mixed use zone. We are requesting that Caliper Corporation provide a more detailed description including land use assumptions and trip generation rates for the mixed use zoning. This is an important issue for the City to understand as all of our Commercial Planned Development zone district (in the General Commercial Land Use Designation) and all of our Industrial Research Park zone (in the RDI Land Use Designation) allow mixed use as well as allowing for residential development only. It is also important to note that we have very few undeveloped lots in the City (an undeveloped lots map can be found on our website under Community Development - Planning Information - Maps).

Please see the response provided in answer to Santa Barbara City, question 1; and to Santa Barbara County, question 6 under "General Plan/UPlan Land Use Category Table."

### 4. Public Facilities, Agriculture and Open Space Land Use Zones

The City is also concerned about how the trip generation rates are utilized for areas that are zoned Public Facilities, Agriculture and Open Space/Recreation in and in the vicinity of Carpinteria. Many trip generating uses exist or may exist in the future in all of these land use categories in and around the City.

- a. The City is requesting more detailed information on land use assumptions and trip generation rates for these land uses.

Please see the response provided in answer to Goleta, question 1; and to Santa Barbara County, question 5 under "General Plan/UPlan Land Use Category Table."

- b. Further, we are requesting information on how the models utilize these land use categories in the existing conditions and future conditions.

They will be masked and so will remain static, unless identified as special generators or for redevelopment.

### 5. Mask and Discouragement

We are still not clear, even after the discussion at our workshop on September 7, on how the Mask and Discouragement are used in the UPLAN model. In one area (page 5), these terms seem to represent land uses. Later in Appendix I of the Technical Memo dated 8/31/2011, it seems to reflect an action in the modeling. We have restated our understanding of the Mask and Discouragement terminology below.

- a. Please review and clarify what these terms mean and how they are used if our understanding is not correct.

Mask - The existing land use is not permitted to grow or change in the future model conditions. The existing land use is "locked" from accepting more employment or residential units.

Discouragement -The existing land use is limited in its ability to grow or change in future conditions. There is some ability for this land use category to accept more employment or residential units, but not in an unrestricted manner.

We do not know what the limitations are in Mask or Discouragement and how they are determined.

There are areas where development cannot occur, called exclusions. Exclusions include features such as lakes and rivers, public open space, existing built-out urban areas, and other such features. The user can also specify the percentage of urban area to remain vacant even though the land is developable. Once the user decides which features are to be excluded, the model adds the various exclusion grids to generate a "Mask."

Some features such as habitats, 100-year floodplains, and farmland might be developable at a high price. These features are called discouragements. Any features which will discourage development can be used as discouragements. The user can specify buffers and weights, indicating to what extent the development will be discouraged. The defaults chosen are a weight of -20 with no buffers. The discouragements are combined with attractions to form a final attraction grid. The values of cells in the final attraction grid will be smaller because of the discouragements, making them less desirable.

- b. Can each agency determine which zones or uses within a TAZ, Census block, or land use category are masked or discouraged?

Developed areas can be identified as available for redevelopment, and in this way are removed from the mask. Specific undeveloped areas can also be identified. Discouragements are countywide land use types that discourage growth, and these can be modified as required by SBCAG.

- c. Is there one assumption for each term in the model used County wide?

Correct.

## 6. Road System

We are presently working on a map that depicts the traffic control systems in place for the Carpinteria road network. We are also evaluating the road network to be used in the model for completeness and accuracy. Can Caliper Corporation provide a PDF or AutoCAD map of the road system in and adjacent to the City of Carpinteria, including the TAZ loading points? In previous models, we have not had any input on these data and the results have not truly represented how traffic flows in and near the City.

We are currently finishing a draft highway network. We are awaiting final comments from SBCAG and the local communities on the TAZ geography before we create the TAZ connectors. TAZ connectors will be automatically created as a first pass and then manually adjusted based upon aerial imagery and other available GIS maps. We intend to make this draft version available to SBCAG and all locals for comments and revisions.

#### 7. Census Block Data

We have been reviewing the Census Block Data for the City and have found several areas that do not reflect actual conditions. On Monday night, September 26, the City Council will be considering proceeding with a formal challenge of the 2010 Census Data. If the Census Data is used in the models for this project, we will need to carefully review and adjust the data before it is used in the models. The staff report for this item can be found on the City's website under "City Council" at [www.carpinteria.ca.us](http://www.carpinteria.ca.us).

We use Census block data since it provides the most detailed and up-to-date population and household data available. We do acknowledge that local data can be more accurate and our goal is to collect the most accurate demographic inputs for the model. Regardless of the results of local challenges, we intend to use reasonable locally adjusted Census inputs for the model.

### Goleta

#### 1. We require the UPlan trip generation rates

The main outputs from the UPlan model are households and employment distributed by TAZ. UPlan can also estimate land use units like square footage by land use category. The UPlan model does not actually predict any trips. Trip estimation will be performed by the travel demand model. The travel demand model will use the household, employment, and land use unit outputs from UPlan, alongside with other input land use data by TAZ to estimate trips. The trip models will likely be combinations of trips generated by employee and trips generated by land use value (e.g. trips per 1000 square feet of commercial floor space, which are outputs from UPlan). The land use layers used for the trip models will be consistent with the layers generated for UPlan.

The estimation of trip generation rates has not been performed yet and will be performed over the next several weeks. Trip rate estimation will use observed trip survey data and will involve the estimation of linear regression models using the observed trips as the dependent variable and the land use units and employment types as the independent variables. The current trip generation rates, units, and employment types used in the local city travel demand models will be taken into account.

#### 2. We require the UPlan land use designation definitions

Please see the table provided in answer to Carpinteria, question 1.

## Santa Barbara County

### UPlan Land Use Types

1. While the concept of attractors is clear, the methodology does not detail the dataset that populates the urban edge, amenity, major arterial, and services grids. This information is essential to our review in confirming the accuracy of the baseline to inform the model.

There is a minimum set of layers that are used to run UPlan. These are as follows:

Name	Type	Source
Highways	Attractor	Caliper Network
Arterial Roads Major	Attractor	Caliper Network
Arterial Roads Minor	Attractor	Caliper Network
Ramps	Attractor	Caliper Network
Census Blocks with Growth	Attractor	2000 Blocks with 2000 Census; & ACS 2009 data disaggregated from Block Groups to 2000 Blocks
Spheres of Influence (SOI)	Attractor	<a href="#">Link</a>
CA Natural Diversity Database (CNDDDB)	Discourager	<a href="#">Link</a>
FEMA (floodplain)	Discourager	<a href="#">Link</a>
National Wetland Inventory	Discourager	<a href="#">Link</a>
DEM/Slope	Discourager	<a href="#">Link</a>
Ag. Preserve	Discourager	<a href="#">Link</a>
Vernal Pools	Discourager	<a href="#">Link</a> ; Isla Vista, Goleta, Orcutt, North County
Protected Areas Database	Mask	<a href="#">Link</a> ; Layer CPAD16_Holdings (CPAD, formerly PCTL)
County Boundary	Mask	<a href="#">Link</a> ; county_bnd.shp
Existing developed land/Urban Area	Mask	<a href="#">Link</a> ; NLCD
Hydrology	Mask	<a href="#">Link</a> ; nhdfline.shp
Hydrology Lakes	Mask	<a href="#">Link</a> ; NHDWaterbody.shp
General Plans	--	County and incorporated city general plan layers
TAZ	--	Caliper TAZs

2. In the discussion of why and why not to use the sub areas, please clarify whether the memo is referring to the raster grids or the UPlan default land use categories.

The UPlan grids are rasters of the vector/raster data (see the previous table), that include the UPlan land uses as part of the General Plan layer.

3. The memo should clarify what is meant by “examples” of residential densities. Please describe the residential densities being proposed.

Please see the table provided in answer to Carpinteria, question 1.

4. In addition, the densities for commercial land use need to be provided. Please indicate the Floor Area Ratio (FAR) or coverage and building height methodology being used in the Industry, Mixed uses, and Commercial density categories.

Please see the answer to Carpinteria, question 1.

#### General Plan/UPlan Land Use Category Table

1. We remain concerned that limiting land use information to broad residential or commercial categories will make verifying baseline and future mixed uses difficult. It has not been clearly demonstrated how mixed use zoning in the County will be accounted for when the proposed baseline and model will be limited to general plan categories.

Please see the answer to Santa Barbara City, question 1.

2. Please describe how the model can establish a baseline using a broad range of densities.

The model uses the General Plans as the baseline. Average densities are used in the categorization of land uses by type.

3. While SBCAG and Caliper described assigning multiple residential and commercial land use categories to the general plan land uses. A preliminary review of the data the datasets sent out on September 12 did not reveal this distinction in the data.

Please see the answer to Santa Barbara City, question 1.

4. Please provide separate categories for federal, military, state, tribal, university, and airports.

Within the County there are various locations where trip generation and household and employment allocation are unique. They cannot be generically modeled in UPlan or the travel models. These locations are commonly referred to as special generators and can include land uses such as casinos, prisons, military bases, college campuses, etc. In these cases, both the UPlan allocations and the generated trips are predetermined using observed data and/or specially determined rates. In UPlan, these land use areas will exist but will not be part of the allocation process, and will have fixed employment, household and population values as output. In the travel model, the trips generated from these special generators will similarly be predetermined.

UCSB, VAFB, the Prison, Chumash, and airports, etc. are "special generators" and will be handled directly and separately in the travel model. Like the current model, the number of jobs (as attractors) in the base case will be subtracted out from the land use databases by TAZs (and other grid layers). Future projections of these special generators will be coming from the original data sources, if available, and if not, from reasonable assumptions based on history and professional judgment. The following excerpt from the SBCAG 2005 Model Final Report explains how special generators were modeled.

#### *Special Generators*

The special generator analysis for the SBCAG region is largely based on guidelines from the previous SBCAG model. Before performing a special generator analysis, occupancy factors to convert vehicle trips to person trips were computed for each of the trip purposes. These are obtained from the survey data:

#### Occupancy Factors

<b>Trip Purpose</b>	<b>Occupancy Factor</b>
Home-Based Work	1.074 persons/vehicle
Home-Based Other	1.750 persons/vehicle
Non Home-Based Other	1.717 persons/vehicle
Non Home-Based Work	1.150 persons/vehicle

The various special generators are discussed below:

- **Parks, Beaches and Missions:**

The special generators for each of the parks, beaches and missions were based on the total number of vehicle trips obtained at these centers on a weekday. Following the procedure similar to the 1996 model, 75% of the vehicle trips are assigned to Home-Based Other trips and 25% of the vehicle trips assigned to visitor trips. The vehicle trips are converted to person trips and assigned to Home-Based Other attractions and Visitor Attractions based on occupancy factors. The results of the trip calculations by trip purpose are placed into a table that lists special generators, their rates, and their trips. These trips are then added to the resulting trips of the trip generation model. Since some of these trips were generated by employment, an appropriate amount of employment was taken out of the demographics tables to ensure that no double-counting took place.

- **Vandenberg Air Force Base:**

The special generator productions and attractions for the air force base are based on the total number of employees (8044). A factor of 1.70 vehicle trips/employee was used to compute the total number of trips as 13675. Based on the earlier model, 50% percent of the total vehicle trips were assigned to Home-Based Work trips and 50% were assigned to Home-Based Other trips. The vehicle trips were converted to person trips by using occupancy factors and the number of person trips were split equally to yield the respective productions and attractions.

- **U.S. Penitentiary:**

The special generators was computed in exactly the same manner as the air force base with the difference being that a factor of 6 vehicle trips/employee (from the ITE Trip Generation Manual) was used to compute the total vehicle trips from the number of employees. This is in accordance with the previous version of the SBCAG model.

- **Commercial Airports:**

The total vehicle trips available at the commercial airports were split in the ratio 2:1 to yield Home-Based Work and Visitor vehicle trips. The occupancy factors were applied and the person trips were assigned to Home-Based Work attractions and Visitor attractions respectively.

- **General Aviation Airports:**

The total vehicle trips were equally split among Home-Based Other, Non Home-Based Work and Non Home-Based Other respectively. The occupancy factors were applied and all the person trips were assigned to the respective attractions.

- **Casino:**

The procedure used was the same for the number of current and future number of employees.

The special generator productions and attractions are added to the productions and attractions obtained earlier for each of the trip purposes for all zones, except for the zones containing the Vandenberg Air Force base.

In this Vandenberg case, the values in the special generator file replace the productions and attractions for that zone. This is done due to the fact that trip making patterns in an Air-Force base differ widely from city trip patterns and the best method to capture this effect would be to conduct a separate trip analysis for the Air Force Base.

For this model update, we will revisit each of these special generators and delete and add to this list as necessary. For example, we will probably add UCSB, SB City College, and other institutions to this list. We will also revisit the trip production and attraction methodology assumptions for each special generator and revise as necessary. Finally we will update each special generator rate with the most up-to-date information available for 2010.

5. The County remains concerned that jobs and housing in jurisdictions outside the cities/county jurisdictions be distributed in a manner similar to the process used previously for UCSB.

In so far as housing is concerned, SBCAG will work with Caliper to develop base case housing data for these special generators and how to handle them. For UCSB, we will review their methodology and we will incorporate the methodology if feasible and integrate within the main model stream.

The trip generation models will be similar to the attraction generation models developed for SBCAG and the local cities. These models estimate person trips by employment rates and land use unit rates. An existing list of land use variables is shown below for the City of Santa Barbara model from their travel model final report:

<b>TABLE 1 MODEL LAND USE CATEGORIES</b>	
<b>Residential</b>	
<b>Land Use Type</b>	<b>Units</b>
Single-Family (SF)	Dwelling Units
Multi-Family Zero Cars (MF_0)	Dwelling Units
Multi-Family One Car (MF_1)	Dwelling Units
Multi-Family Two Cars (MF_2)	Dwelling Units
Multi-Family Three or More Cars (MF_3P)	Dwelling Units
<b>Non-Residential</b>	
<b>Land Use Type</b>	<b>Units</b>
Commercial Services	Thousand Square-feet
Entertainment	Thousand Square-feet
Auto Related	Thousand Square-feet
Restaurant	Thousand Square-feet
Retail	Thousand Square-feet
Lodging	Thousand Square-feet
Office	Thousand Square-feet
Institutional	Thousand Square-feet
Industrial	Thousand Square-feet
Hospital	Thousand Square-feet
Religious Facilities	Thousand Square-feet
Police and Fire Services	Thousand Square-feet
Elementary and Middle School	Students
High Schools	Students
Colleges	Students
Recreation (Parks and Beaches)	Relative Popularity <sup>2</sup>
Golf	Acres
SBCAG_Agricultural <sup>1</sup>	Employees
SBCAG_Industrial <sup>1</sup>	Employees
SBCAG_Commercial <sup>1</sup>	Employees
SBCAG_Office <sup>1</sup>	Employees
SBCAG_Service <sup>1</sup>	Employees
<sup>1</sup> Data adapted from SBCAG TAZs uses SBCAG units of employment. <sup>2</sup> Recreational trips are generated at the home end (either Residential or Lodging) and distributed to the various Recreational areas of the City based on their relative popularity. Relative popularity was calibrated using count data near the recreational sites. Source: Fehr & Peers, 2008.	

Each local city model and the current SBCAG model contains variations on the land use and/or employment variable used and the trip rate per employee and/or land use unit (e.g., Commercial Services square feet). The upcoming model development process will estimate the land use employment and units to be used for the updated SBCAG model. The model will most likely be an amalgamation and subsequent subset of the current local model variables and rates. Rates will most likely be estimated using available trip survey data. For the base year 2010, the TAZ-based land use units will be derived from the general plan databases. Employment will be aggregated from the InfoUSA employment

database. For the future years, employment by TAZ will be an estimated output of the UPlan allocation model. UPlan also uses conversion factors and other variables that allow it to estimate the various land use units. Thus both the employment-based and land use unit-based inputs by TAZ will be direct outputs of the UPlan model. The exception to the UPlan allocations will be special generators, which are explained in a separate section. It is important to note that the final list of employment and land use unit variables cannot be determined until after the model estimation process is completed.

6. If General Plan zones 9-13 are all treated as High Density Commercial (single zone), how does UPlan generalize between this variation, or does it?

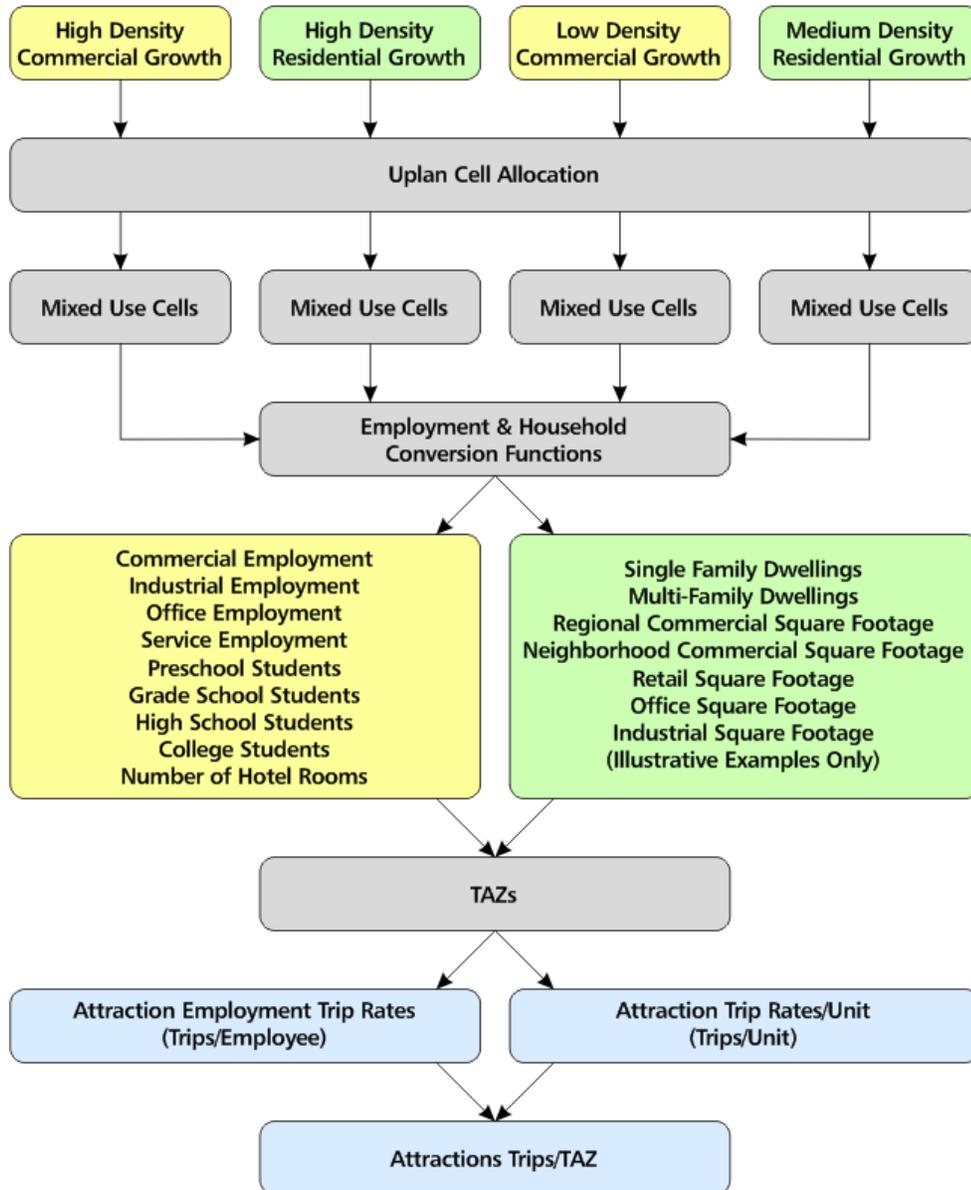
UPlan allocates future growth starting with the highest valued (most attractive) cells. As the higher valued cells are consumed, the model looks for incrementally lower valued cells until all acres of projected land consumption are allocated. The model does this for each of the land use categories. Projected land consumption is based on the land area required to satisfy the employment and residential projections.

By default, the model starts with industry, then proceeds to high density commercial, high-density residential, low-density commercial, medium-density residential, low-density residential and very low density residential. This order is chosen to represent the way in which the land market typically operates - higher valued land uses are more competitive in acquiring the most desired properties, thereby outbidding the less valuable uses. The allocation sequence matters when mixed uses are designated in the General Plan because they encompass different types of land use.

The allocation routine converts future acres consumed to the number of cells needed. It then determines how many cells are available in the highest valued category. If this is less than what is needed, it simply converts all those cells to the designation of the land use it is allocating at that time. It then subtracts the number of cells it just allocated and moves on to the next highest cell value and again determines how many cells are available. As mentioned above, the allocation only occurs in the land use categories that are designated in the General Plan crosswalk table.

In terms of the general ranges of density allowable in an area, UPlan has settings to specify the average size of a lot (in acres) for each of the density classes. The number of units per acre is typically specified in the General Plan, and assumed/observed averages can be used to assign the land uses by type.

The following flow diagram is an example of the flow between the various models. As an example case, Mixed Use cells are used. This is not an exhaustive description of the model, but is simply illustrative of certain inputs and outputs.



### Attractions, Discouragements, and Prohibitions

1. The narrative should explain what specific things attract and discourage growth.

Please see the table in answer to question 1 under “UPlan Land Use Types” above.

2. Masks should distinguish between things that will actually exclude jobs and population, such as lakes, and open space areas which may have a job or housing.

All developed areas are masked unless manually identified for redevelopment.

3. This section would be more helpful if integrated in the UPlan Land Use Types methodology beginning on page 3.

Implemented as requested.

#### Data Sources

1. Please clarify the purpose behind the “diagram” of allowable uses discussion. Please clarify what merits the citation of state law.

Text removed from document as it was not directly relevant.

2. The narrative mentions the “crosswalk” concept of overlapping jurisdictions. Please clarify if you are describing areas in the unincorporated county that lie within a city sphere of influence.

This is not referring to a geographical overlap, but an overlap in the terminology used in the various general plans and the need to best represent this for use within UPlan.

- a. For purposes of the model, it is important to ensure the information is accurately attributed to existing jurisdictions. Assuming that annexations would occur is speculative and may be modeled, but should not be considered as part of the baseline.

The existing General Plans are used for the base year.

#### Census LEHD 2009 Job Estimates

1. Please clarify how the place-of-residence, place-of-work information was used in preparing the TAZs.

The LEHD data was not a major factor in the determination of the geography of the TAZs. Factors such as the geography of the local TAZs, geography of Census blocks, street network geography, aerial imagery, and current household and population by block were used to determine geography. After the TAZ geography was determined, the LEHD data was considered for use as employment inputs by TAZ. The LEHD data was compared with the TAZ-aggregated InfoUSA point data and discrepancies were found. Since the InfoUSA data was considered to be more accurate and since the dataset was verified and updated by SBCAG, we decided to use InfoUSA as the main dataset for employment inputs. The LEHD data will be used for future modeling purposes. It will be used to estimate and verify jobs-to-housing flows for the external models and can be used to refine TAZ geography outside of Santa Barbara County. It can also be used to verify Home-Based Work trips in the model during the validation process.

#### InfoUSA Employment Data

1. We acknowledge that this data reflects jobs not previously accounted for and is very helpful for establishing an accurate baseline.

The 2010 InfoUSA jobs database picks up previously unaccounted for unincorporated jobs due to the use of additional employment databases and more accurate geocoding of the employer

addresses in rural areas. The data has been refined over the ten years since the previous 2000 data and should be considered more accurate and complete.

2. We remain concerned about the methodology the model will use to project job growth in areas with previously uncounted jobs, as job growth is commonly used to predict housing needs. We strongly suggest using a growth ratio consistent with industry trends in the region, or some other interpolation, rather than a rate skewed by calculations using zero.

The employment projections will not use the previous year 2000 employment estimates but will incorporate only the year 2010 estimates. As a result, for those unincorporated areas that may have been underreported in the year 2000, there would not show a disproportionate increase in employment from 2000-2010. The employment forecast will use the year 2010 as a new baseline and the countywide forecast allocated to the local jurisdictions based on the 2010 distribution of jobs.

### Comparison of Employment Estimates

1. It would be helpful if the South Coast unincorporated area “Other” category was distinguished from the Goleta Community Plan area.

The employment estimates have been broken out for the Goleta Community Plan area (8,473 jobs) as well as the Goleta Valley Unincorporated area (9,977 jobs) and provided to the county staff.

2. The data tables themselves include entries with zero jobs that could be home or sole proprietor businesses (Lompoc Area – Other Unincorporated). Please confirm these entries. The TPAC should consider how to account for these jobs types since they may reduce trip counts.

This is the breakdown of 0, 1, 2, and 3+ employees in the InfoUSA database:

- 0 employees: 5,300 / 18,000 records
- 1 employee: 2,700 / 18,000 records
- 2 employees: 2,000 / 18,000 records
- 3+ : the rest of the records

Thus, “0 employees” is significant in the database in terms of share of businesses. Of course, in terms of total share of employment, it would mean 5,300 / 187,000 employees or 3% of the total, which is small but not insignificant. The documentation of the NUMBER\_EMP field in the InfoUSA documentation for 1 employee and zero employees is unclear, so we will make an educated interpretation of the data. In general, 3% is not large and the distribution of zero employee records in this database is fairly even across the county. Also, this is going to be controlled based on the RGF. For trip making purposes, we assume that “0 employees” means 1 employee.

### **SBCAG, Local, Ventura and SLO Travel Model Demographic Data**

1. This is the first mention of the rest of two other Tri-County areas being modeled in this project. This represents significant land area under several jurisdictions being included in this baseline.

The current model includes both San Luis Obispo and Ventura Counties. Typically, in these travel demand models, the main models and input datasets are constrained to the study area, in this case Santa Barbara County. However, in order to model external travel into and out of the County, external models are developed for travel outside of the county that goes into or through the county. These are usually not as detailed as the model inside the county. We will gather household, population, and employment inputs by TAZ for the external counties in order to develop external/internal commuting models for these areas. However, we will not gather the intricate land use data for the external areas nor will we apply any land use models outside of the county.

2. Please elaborate in the introduction on how SBCAG has coordinated review and calibration of the model with the other agencies involved

SBCAG has obtained delineated TAZs and TADs for both San Luis Obispo and Ventura Counties that Caliper has used to create external TAZs. SBCAG will obtain base and future year employment, population, and household estimates from the SLOCOG and SCAG travel demand models for use in the external travel model development process. We will also use SLOCOG and SCAG travel networks for the development of the external portion of our highway and transit networks. For calibration and validation, we will use SLOCOG and SCAG estimated travel results, and the California Statewide travel model results. Preliminary model results from the interregional commuting model (external traffic) will be reviewed by the Peer Review Panel possibly comprised of members from FHWA, Caltrans TSI, D5, CARB, SLOCOG and VCTC. SBCAG is currently in the process of forming the Peer Review Panel, which will be joining the Model TAC beginning from the 3rd Model TAC Meeting in early December.

### **SBCAG RGF**

1. This project provides a significant opportunity to ensure accuracy of the next RGF. As discussed in the item above, this narrative should be mentioned in the introduction.

The datasets developed for the travel and land use model can provide additional forecasting inputs and validation benchmarks as well as opportunities to improve on forecasting methodologies.

### **Appendix I: General Plan Land Use Crosswalk**

1. The appendix table does not consistently provide code and density in the Density (du/ac) column. This information is available in the County's land use data and should be used to fill these columns.

Implemented as requested.

2. There should be an additional column providing the du/ac or commercial density and building heights.

This information is not consistently available in the General Plans. However, please see the answer to Carpinteria, question 1.

3. The table reflects the multiple commercial and residential UPlan categories attributed to the County's land use categories being used to address multiple and mixed uses. However, the methodology used to distribute these across the project area has not been provided.

There are no default allocation rules in UPlan. Rather, UPlan will ask the user to build the relations between UPlan land use categories and land use types in the county General Plan (as per the crosswalk table in the Santa Barbara City section above). If there are General Plan land uses that are mixed use they can be assigned to multiple UPlan types to reflect that use.

4. The table does not reflect areas in multiple community plan areas that have dual land use designations and densities (Commercial/Residential).

If there are additional categories required in the crosswalk table (see the Santa Barbara City section above), then these can be added as required.

## Solvang

1. Commercial – Tourist should be High Density Commercial instead of Low

Change implemented.

2. Mobile Home Park might be more accurately described as High Density Residential since our general plan identifies it as 8 dwelling units per acre?

Change not implemented as density is not high density, per:

Density	Average DUs per Acre
High density residential	20
Medium density residential	4
Low density residential	0.5
Very low density residential	0.05

## SBCAG

### Web Access

1. Add 2010 aerial layer with turn/off capability

The aerial layer has been added. It is an autoscaled layer that automatically turns on if the user zooms in. It then turns off when the user zooms out. We can give the user control over this display, but there are potentially long redraw times if the user turns on this layer at a very small scale zoom.

2. Need keys to go with the data pages, i.e., what all the abbreviations mean.

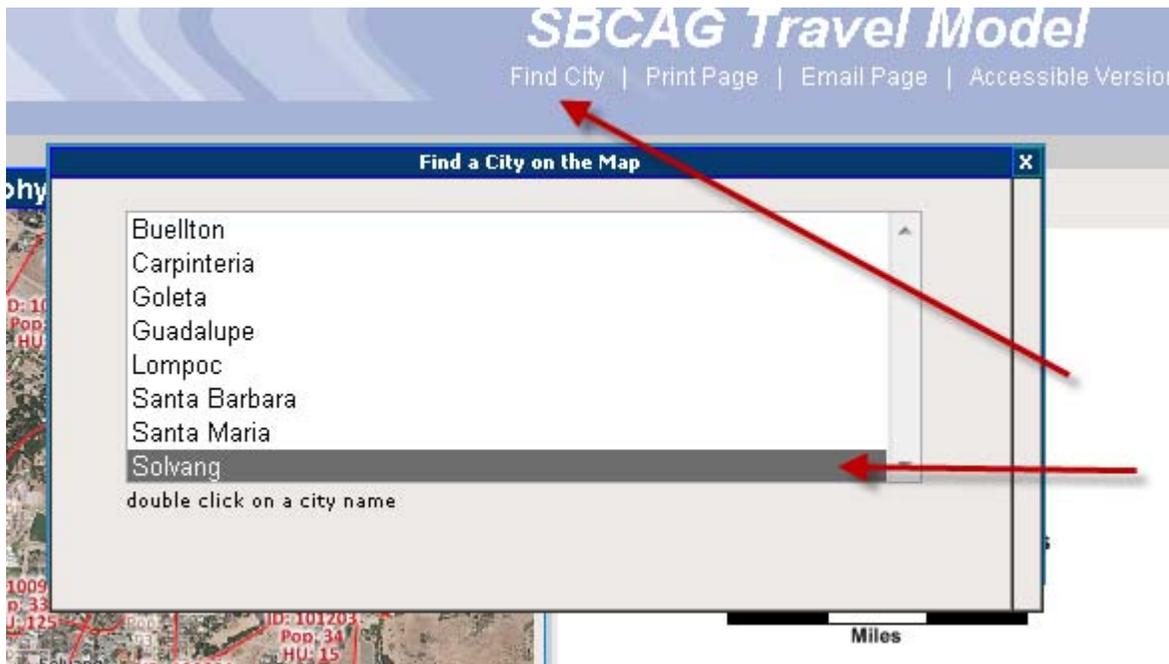
We believe the demographics are from the local TAZ shape files from the local models. We had thought that this was useful extra information to compare local TAZ values with Census. However, it may be better to reduce confusion by showing the local TAZ geography without any attached demographics.

3. Add "2010 Base Year" on the web

Caliper will implement this.

4. Requirement for Find City tool

There is now a Find City link at the top of the application window that lets you zoom into a city:



5. How do you log in?

Location: <http://lexington.caliper.com/sbcag/maps>

Username: sbcaguser

Password: sbcag\_maps24

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# Technical Memo: Land Use/Demographic Data

Prepared by Caliper Corporation (Newton, MA) for SBCAG (Santa Barbara, CA)

## Glossary/Acronyms

- Assessor Parcel Number (APN)
- RH = Residential High Density
- RM = Residential Medium Density
- RL = Residential Low Density
- RVL = Residential, Very Low Density
- CL = Commercial Low Density
- CH = Commercial High Density
- IN = Industrial
- GP = General Plan
- Crosswalk = a table that shows the relationship between two other tables

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## Introduction

The development of generalized land use categories from various local models' (i.e., incorporated cities') General Plan land use designations for use in the SBCAG model are critical.

SBCAG needs to carefully review the land use datasets which Caliper developed to ensure reasonableness.

This technical memo outlines the land use sources, and Caliper's assumptions and methodologies in developing the model land use datasets and generalized categories. After review and comment by SBCAG, this memo formed the basis of the land use dataset element of the presentation to the TAC in September 2011.

This memo also describes model elements, and other data sources that will be used to determine socioeconomic and employment data at the TAZ and grid cell levels.

## UPlan

### Attractions, Discouragements, and Prohibitions

UPlan is a model based on the following general land use rules:

- Each residential type has distinct "things" that attract/discourage growth
- Each employment type has distinct "things" that attract/discourage growth
- Some "things" prohibit all growth
- A "General Plan" describes where each type of growth can go
- Growth will happen starting with the highest available net attraction and work down until it has either allocated all needed space or run out of available space

Parks and watershed management areas, etc., that will not be used for new development can be classified into **public lands and open space**.

There are also **discouragements** to development which typically encompass **public lands and open space**. Some features such as habitats, 100-year floodplains, and farmland might be developable at a high price. Any features which will discourage development can be used as discouragements.

In any scenario, there are areas where development cannot occur, called **exclusions**. Exclusions include features such as lakes and rivers, public open space, existing built-out urban areas, and other such features. The user can also specify the percentage of vacant parcels within urban areas that will not be used for industrial, residential and commercial development. Once the user decides which features are to be excluded, the UPlan model adds the various exclusion grids to generate a "**Mask**."

## Default UPlan Layers

There is a minimum set of layers that are used to run UPlan. These are as follows:

Name	Type	Source
Highways	Attractor	Caliper Network
Arterial Roads Major	Attractor	Caliper Network
Arterial Roads Minor	Attractor	Caliper Network
Ramps	Attractor	Caliper Network
Census Blocks with Growth	Attractor	2000 Blocks with 2000 Census; and ACS 2009 data disaggregated from Block Groups to 2000 Blocks
Spheres of Influence (SOI)	Attractor	<a href="http://www.countyofsb.org/itd/gis/metadata/spheres_of_influence.htm">www.countyofsb.org/itd/gis/metadata/spheres_of_influence.htm</a>
CA Natural Diversity Database (CNDDDB)	Discourager	<a href="http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp">www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp</a>
FEMA (floodplain)	Discourager	<a href="http://www.countyofsb.org/itd/gis/metadata/overlay_flood_hazard.htm">www.countyofsb.org/itd/gis/metadata/overlay_flood_hazard.htm</a>
National Wetland Inventory	Discourager	<a href="http://www.countyofsb.org/itd/gis/metadata/national_wetlands_inventory.htm">www.countyofsb.org/itd/gis/metadata/national_wetlands_inventory.htm</a>
DEM/Slope	Discourager	<a href="http://edcns17.cr.usgs.gov/NewEarthExplorer/">edcns17.cr.usgs.gov/NewEarthExplorer/</a>
Ag. Preserve	Discourager	<a href="http://www.countyofsb.org/itd/gis/metadata/AgPreserv2010.html">www.countyofsb.org/itd/gis/metadata/AgPreserv2010.html</a>
Vernal Pools	Discourager	<a href="ftp://ftp.dfg.ca.gov/BDB/GIS/Wetlands/South_Coast_Ranges_Vernal_Pools/">ftp.dfg.ca.gov/BDB/GIS/Wetlands/South Coast Ranges Vernal Pools/</a> ; Isla Vista, Goleta, Orcutt, North County
Protected Areas Database (CPAD, formerly PCTL)	Mask	<a href="https://projects.atlas.ca.gov/frs/?group_id=115&amp;release_id=1521">https://projects.atlas.ca.gov/frs/?group_id=115&amp;release_id=1521</a> Layer CPAD16_Holdings
County Boundary	Mask	<a href="http://www.countyofsb.org/itd/gis/metadata/bndy_county.html">www.countyofsb.org/itd/gis/metadata/bndy_county.html</a> county_bnd.shp
Existing developed land/Urban Area	Mask	NLCD: <a href="http://www.mrlc.gov/nlcd06_data.php">www.mrlc.gov/nlcd06_data.php</a>
Hydrology	Mask	<a href="ftp://ftp.horizon-systems.com/NHDPlus/California/NHDPlus18V01_02_NHD.zip">ftp.horizon-systems.com/NHDPlus/California/NHDPlus18V01_02_NHD.zip</a> nhdflowline.shp
Hydrology Lakes	Mask	<a href="ftp://ftp.horizon-systems.com/NHDPlus/California/NHDPlus18V01_02_NHD.zip">ftp.horizon-systems.com/NHDPlus/California/NHDPlus18V01_02_NHD.zip</a> NHDWaterbody.shp
General Plans	--	County and incorporated city general plan layers
TAZ	--	Caliper TAZs

## Land Use Types and Densities

The default land use categories in UPlan are:

UPlan Land Use
Industry
High density commercial
High density residential
Low density commercial
Medium density residential
Low density residential
Very low density residential

The default UPlan densities that apply for the entire county are as follows:

Land Use	Acres per DU	Avg. Sq. Footage	Floor Area Ratio
High density residential	0.05		
Medium density residential	0.25		
Low density residential	2		
Very low density residential	20		
Industry		500	0.23
Commercial High		200	0.35
Commercial Low		300	0.15

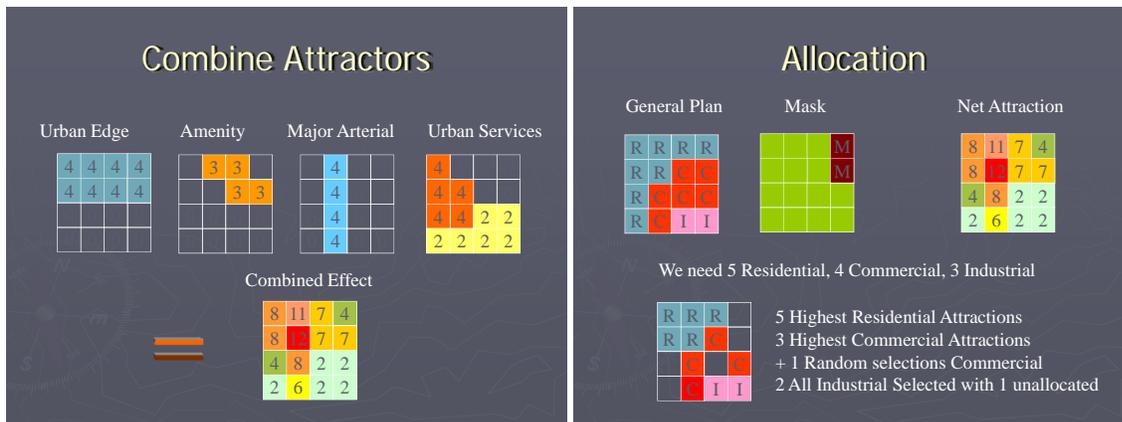
Where:

**Avg. Sq. Footage** – These parameters allow the user to define the average amount of building space per employee for each of the employment categories. These estimates might be found in publications by business, labor, or real estate organizations. The typical square feet per employee is 333 for office, 400 for retail and 667 for warehousing/distribution (<http://www.fhwa.dot.gov/scalds/fullrpt98.pdf>).

**Floor Area Ratio** – This is the Floor Area Ratio for each of the employment categories. FAR is calculated by dividing the total square footage of a building by the square footage of its lot. The figures used here should be estimates of average FAR across the geographic analysis unit. FARs are usually regulated by zoning.

### Land Use Allocation

The UPlan model, according to the attractiveness of 50m raster grid cells across the study area (see figures below), allocates the population growth and employment growth within the county to the land use types that are designated in the county general plan. The areas with higher attractiveness values will have more growth of residential and employment than those with lower attractiveness values, given the same amount of available land. “Urban Edge” is any area available for growth, which tends to be the urban fringe, but can be other developable areas such as infill locations.



Therefore, the cities with higher attractiveness and a big amount of available land will have higher shares of population growth and employment growth.

If the land use model determines different growth patterns by jurisdiction than the SBCAG RGF by jurisdiction, a sub area UPlan model could be considered. The pros and cons of this approach are:

Why <b>NOT</b> to use sub areas	Why Use Sub Areas?
<ul style="list-style-type: none"><li>▶ Lack of flexibility for scenario development</li><li>▶ Data availability</li><li>▶ Run times<ul style="list-style-type: none"><li>▪ Significantly longer</li></ul></li><li>▶ Complexity</li></ul>	<ul style="list-style-type: none"><li>▶ More specific control over locations of development<ul style="list-style-type: none"><li>▪ Differential development</li><li>▪ Fundamentally changes in pattern</li></ul></li><li>▶ To capture the distinct character of regions within the county or region<ul style="list-style-type: none"><li>▪ Urban</li><li>▪ Rural</li></ul></li></ul>

Future model allocations are controlled via “Strict Compliance,” where each land use can only be allocated to its corresponding designations (“two-way zoning”) in the General Plan as shown in the table below.

<b>General Plan Category</b>	<b>UPlan Land Use Type</b>
Industry Urban Reserve Service Commercial Mixed Uses Industry & High Density Residential	Industry Industry Industry Industry
Downtown Commercial Mixed Uses Urban Reserve Service Commercial General Commercial Mixed Uses High Density Commercial & High Density Residential	High Density Commercial High Density Commercial High Density Commercial High Density Commercial High Density Commercial High Density Commercial
High density residential Planned Development Mixed Uses Urban Reserve Mixed Uses Industry & High Density Residential Mixed Uses High Density Commercial & High Density Residential Mixed Uses Low Density Commercial & High Density Residential	High Density Residential High Density Residential High Density Residential High Density Residential High Density Residential High Density Residential High Density Residential
Neighborhood Commercial Planned Development Mixed Uses Urban Reserve Office Visitor Commercial Highway Commercial Mixed Uses Low Density Commercial & Low Density Residential Mixed Uses Low Density Commercial & High Density Residential	Low Density Commercial Low Density Commercial
Medium Density Residential Planned Development Mixed Uses Urban Reserve	Medium Density Residential Medium Density Residential Medium Density Residential Medium Density Residential
Low Density Residential Mixed Uses Low Density Commercial & Low Density Residential	Low Density Residential Low Density Residential
Very Low Density Residential	Very Low Density Residential
Agriculture Utility Services	Discouragement Discouragement
Public Lands & Open Space Transportation Corridor Airport Institutional	Mask Mask Mask Mask
Military School Reservation Casino	Attractor Attractor Attractor

There are no default allocation rules in UPlan. Rather, UPlan will ask the user to build the relations between UPlan land use categories and land use types in the local agency General Plans (as per the previous table). If there are General Plan land uses that are mixed use, they can be assigned to multiple UPlan types to reflect those uses.

UPlan allocates future growth starting with the highest valued (most attractive) cells. As the higher valued cells are consumed, the model looks for incrementally lower valued cells until all acres of projected land consumption are allocated. The model does this for each of the land use categories. Projected land consumption is based on the land area required to satisfy the employment and residential projections.

By default, the model starts with industry, then proceeds to high density commercial, high-density residential, low-density commercial, medium-density residential, low-density residential and very low density residential. This order is chosen to represent the way in which the land market typically operates - higher valued land uses are more competitive in acquiring the most desired properties thereby outbidding the less valuable uses. The allocation sequence matters when Mixed Use and Urban Reserve are designated in the General Plan as they encompass different types of land use.

The allocation routine converts future acres consumed to the number of cells needed. It then determines how many cells are available in the highest valued category and if this is less than what is needed, simply converts all those cells to the designation of the land use it is allocating at that time. It then subtracts the number of cells it just allocated and moves on to the next highest cell value and again determines how many cells are available. As mentioned above, the allocation only occurs in the land use categories that are designated in General Plan crosswalk table.

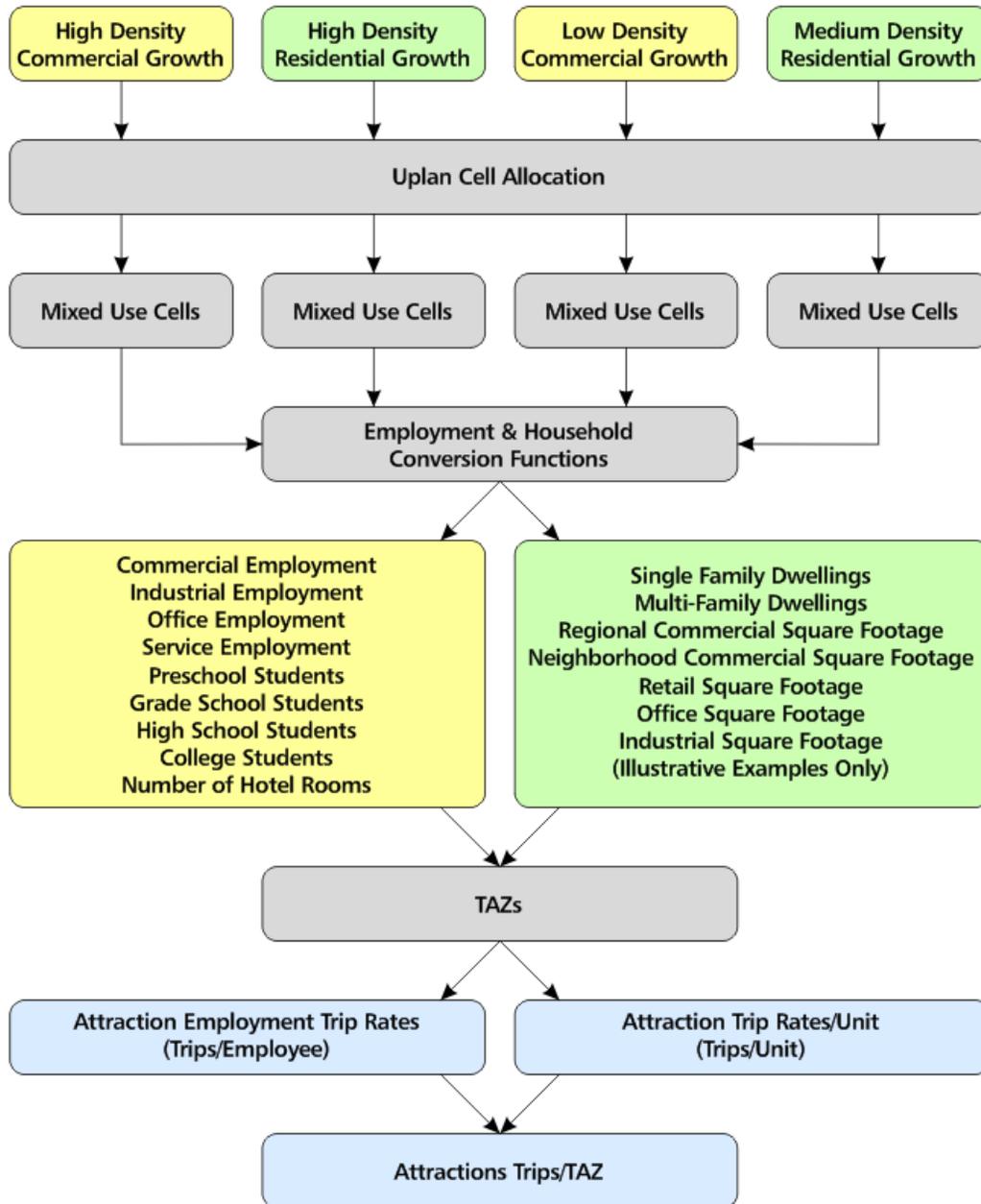
In terms of the general ranges of density allowable in an area, UPlan has settings to specify the average size of a lot (in acres) for each of the density classes. The number of units per acre is typically specified in the General Plan, and assumed/observed averages can be used to assign the land uses by type.

The main outputs from the UPlan model are households and employment distributed by TAZ. UPlan can also estimate land use units like square footage by land use category. The UPlan model does not actually predict any trips. Trip estimation will be performed by the travel demand model. The travel demand model will use the household, employment, and land use unit outputs from UPlan, alongside with other input land use data by TAZ to estimate trips. The trip models will likely be combinations of trips generated by employee and trips generated by land use value (e.g. trips per 1000 square feet of commercial floor space, which are outputs from UPlan). The land use layers used for the trip models will be consistent with the layers generated for UPlan.

UPlan is designed to handle the assignment of the majority of new employment and households. All currently existing developed land is masked. As a consequence, special generators (see below) can be manually handled via a running list of such categories and assignments. Any population and employment manually handled will be subtracted from the total that is automatically assigned by UPlan. Since agricultural employment is also not directly handled it can also be subtracted.

Areas designated for redevelopment can be reassigned at higher densities if required, allowing UPlan to assign employment and households to these cells.

The following flow diagram is an example of the flow between the various models. As an example case, Mixed Use cells are used. This is not an exhaustive description of the model, but is simply illustrative of certain inputs and outputs.



### Special Generators

Within the County there are various locations where trip generation and household and employment allocation are unique. They cannot be generically modeled in UPlan or the travel models. These locations are commonly referred to as special generators and can include land uses such as casinos, prisons, military bases, college campuses, etc. In these cases, both the UPlan allocations and the generated trips are predetermined using observed data and/or specially determined rates. In UPlan,

these land use areas will exist but will not be part of the allocation process, and will have fixed employment, household and population values as output. In the travel model, the trips generated from these special generators will similarly be predetermined.

UCSB, VAFB, the Prison, Chumash, and airports, etc., are "special generators" and will be handled directly and separately in the travel model. Like the current model, the number of jobs (as attractors) in the base case will be subtracted out from the land use databases by TAZs (and other grid layers). Future projections of these special generators will be coming from the original data sources, if available, and if not, from reasonable assumptions based on history and professional judgment. The following excerpt from the SBCAG 2005 Model Final Report explains how special generators were modeled.

*The special generator analysis for the SBCAG region is largely based on guidelines from the previous SBCAG model. Before performing a special generator analysis, occupancy factors to convert vehicle trips to person trips were computed for each of the trip purposes. These are obtained from the survey data:*

*Occupancy Factors*

<b>Trip Purpose</b>	<b>Occupancy Factor</b>
<i>HBW</i>	<i>1.074 persons/vehicle</i>
<i>HB Other</i>	<i>1.750 persons/vehicle</i>
<i>NHB Other</i>	<i>1.717 persons/vehicle</i>
<i>NHBW</i>	<i>1.150 persons/vehicle</i>

*The various special generators are discussed below:*

- **Parks, Beaches and Missions:**

*The special generators for each of the parks, beaches and missions were based on the total number of vehicle trips obtained at these centers on a weekday. Following the procedure similar to the 1996 model, 75% of the vehicle trips are assigned to HBO trips and 25% of the vehicle trips assigned to visitor trips. The vehicle trips are converted to person trips and assigned to HBO attractions and Visitor Attractions based on occupancy factors. The results of the trip calculations by trip purpose are placed into an "SPLGEN" table. These trips are then added to the resulting trips of the trip generation model. Since some of these trips were generated by employment, an appropriate amount of employment was taken out of the demographics tables to ensure that no double-counting took place.*

- **Vandenberg Air Force Base:**

*The special generator productions and attractions for the air force base are based on the total number of employees (8044). A factor of 1.70 vehicle trips/employee was used to*

*compute the total number of trips as 13675. Based on the earlier model, 50% percent of the total vehicle trips were assigned to HBW trips and 50% were assigned to HB Other trips. The vehicle trips were converted to person trips by using occupancy factors and the number of person trips were split equally to yield the respective productions and attractions.*

- **U.S. Penitentiary:**

*The special generators was computed in exactly the same manner as the air force base with the difference being that a factor of 6 vehicle trips/employee (from the ITE Trip Generation Manual) was used to compute the total vehicle trips from the number of employees. This is in accordance with the previous version of the SBCAG model.*

- **Commercial Airports:**

*The total vehicle trips available at the commercial airports were split in the ratio 2:1 to yield HBW and Visitor vehicle trips. The occupancy factors were applied and the person trips were assigned to HBW attractions and Visitor attractions respectively.*

- **General Aviation Airports:**

*The total vehicle trips were equally split among HBO, NHB Work and NHB Other respectively. The occupancy factors were applied and all the person trips were assigned to the respective attractions.*

- **Casino:**

*The procedure used was the same for the number of current and future number of employees.*

*The special generator productions and attractions are added to the productions and attractions obtained earlier for each of the trip purposes for all zones, except for the zones containing the Vandenberg Air Force base.*

*In this Vandenberg case, the values in the special generator file replace the productions and attractions for that zone. This is done due to the fact that trip making patterns in an Air Force base differ widely from city trip patterns and the best method to capture this effect would be to conduct a separate trip analysis for the Air Force Base.*

For this model update, we will revisit each of these special generators and delete and add to this list as necessary. For example, we will probably add UCSB, SB City College, and other institutions to this list. We will also revisit the trip production and attraction methodology assumptions for each special generator and revise as necessary. Finally, we will update each special generator rate with the most up-to-date information available for 2010.

## **Trip Generation**

The estimation of trip generation rates has not been performed yet and will be performed over the next several weeks. Trip rate estimation will use observed trip survey data and will involve the estimation of linear regression models using the observed trips as the dependent variable and the land use units and

employment types as the independent variables. The current trip generation rates, units, and employment types used in the local city travel demand models will be taken into account.

In so far as housing, SBCAG will work with Caliper to develop base case housing data for special generators and how to handle them. For UCSB, we will review their methodology and we will incorporate the methodology if feasible and integrate within the main model stream.

The trip generation models will be similar to the attraction generation models developed for SBCAG and the local cities. These models estimate person trips by employment rates and land use unit rates. An existing list of land use variables is shown below for the City of Santa Barbara model from their travel model final report:

**TABLE 1  
MODEL LAND USE CATEGORIES**

<b>Residential</b>	
<b>Land Use Type</b>	<b>Units</b>
Single-Family (SF)	Dwelling Units
Multi-Family Zero Cars (MF_0)	Dwelling Units
Multi-Family One Car (MF_1)	Dwelling Units
Multi-Family Two Cars (MF_2)	Dwelling Units
Multi-Family Three or More Cars (MF_3P)	Dwelling Units
<b>Non-Residential</b>	
<b>Land Use Type</b>	<b>Units</b>
Commercial Services	Thousand Square-feet
Entertainment	Thousand Square-feet
Auto Related	Thousand Square-feet
Restaurant	Thousand Square-feet
Retail	Thousand Square-feet
Lodging	Thousand Square-feet
Office	Thousand Square-feet
Institutional	Thousand Square-feet
Industrial	Thousand Square-feet
Hospital	Thousand Square-feet
Religious Facilities	Thousand Square-feet
Police and Fire Services	Thousand Square-feet
Elementary and Middle School	Students
High Schools	Students
Colleges	Students
Recreation (Parks and Beaches)	Relative Popularity <sup>2</sup>
Golf	Acres
SBCAG_Agricultural <sup>1</sup>	Employees
SBCAG_Industrial <sup>1</sup>	Employees
SBCAG_Commercial <sup>1</sup>	Employees
SBCAG_Office <sup>1</sup>	Employees
SBCAG_Service <sup>1</sup>	Employees
<sup>1</sup> Data adapted from SBCAG TAZs uses SBCAG units of employment. <sup>2</sup> Recreational trips are generated at the home end (either Residential or Lodging) and distributed to the various Recreational areas of the City based on their relative popularity. Relative popularity was calibrated using count data near the recreational sites. Source: Fehr & Peers, 2008.	

Each local city model and the current SBCAG model contains variations on the land use and/or employment variable used and the trip rate per employee and/or land use unit (e.g., Commercial Services square feet). The upcoming model development process will estimate the land use employment and units to be used for the updated SBCAG model. The model will most likely be an amalgamation and subsequent subset of the current local model variables and rates. Rates will most likely be estimated using available trip survey data. For the base year 2010, the TAZ-based land use units will be derived from the general plan databases. Employment will be aggregated from the InfoUSA employment database. For the future years, employment by TAZ will be an estimated output of the UPlan allocation

model. UPlan also uses conversion factors and other variables that allow it to estimate the various land use units. Thus both the employment-based and land use unit-based inputs by TAZ will be direct outputs of the UPlan model. The exception to the UPlan allocations will be special generators, which are explained in a separate section. It is important to note that the final list of employment and land use unit variables cannot be determined until after the model estimation process is completed.

## General Plans

### Data Sources

The General Plan land use categories, with associated codes and densities, are listed in Appendix I. Each land use is assigned, from the table above, a more generic General Plan Category and the corresponding UPlan Land Use Type. This correspondence establishes the required crosswalk.

When collecting general plans for an entire county, there is the need to collect them from all of the incorporated cities as well as the county because each creates its own General Plan.

The jurisdictions considered are:

- Buellton
- Carpinteria
- Goleta
- Guadalupe
- Lompoc
- Santa Barbara City
- Santa Barbara County
- Santa Maria
- Solvang

### Buellton

The City of Buellton supplied GIS shapefiles for Buellton's General Plan Land Use designations, Zoning, and the Redevelopment Area, as well as a PDF of future housing sites. Their General Plan categories were sourced from:

- <http://cdm266301.cdmhost.com/cgi-bin/showfile.exe?CISOROOT=/p266301ccp2&CISOPTR=534&filename=535.pdf>
- [www.cityofbuellton.com/Projects/General%20Plan/Buellton%20GP%20FEIR%20July%202005.pdf](http://www.cityofbuellton.com/Projects/General%20Plan/Buellton%20GP%20FEIR%20July%202005.pdf)
- [http://www.cityofbuellton.com/Special/GeneralPlan/BGP%20Part%20VI%20&%20VII%20\(Implementation%20&%20Appendices\).pdf](http://www.cityofbuellton.com/Special/GeneralPlan/BGP%20Part%20VI%20&%20VII%20(Implementation%20&%20Appendices).pdf) p.173

### Carpinteria

The City of Carpinteria supplied GIS shapefiles for Carpinteria's General Plan Land Use designations and zoning. The City does not have any adopted Growth Policy Areas, Specific Plans, or GIS maps of Housing Element Available Sites, but did provide a flat table for Sites Inventory and Analysis Lower Income Housing Need.

Their General Plan categories were sourced from:

- [http://64.29.231.61/PDFs/cd\\_General%20Plan.pdf](http://64.29.231.61/PDFs/cd_General%20Plan.pdf)

### Goleta

The City of Goleta supplied GIS shapefiles for Goleta's General Plan Land Use designations, Zoning, and the Redevelopment Area, as well as Sites for Residential Development and Location of Housing Opportunity Sites.

They note that the zoning map isn't current with recent rezones and does not line up with the General Plan land use designations as they are in the process of preparing a new zoning code and land use classification. The General Plan trumps the zoning codes. They note that they rescinded their growth management policy, and that the General Plan guides growth.

Their General Plan categories were sourced from:

- [www.cityofgoleta.org/Modules/ShowDocument.aspx?documentid=5141](http://www.cityofgoleta.org/Modules/ShowDocument.aspx?documentid=5141)
- [www.cityofgoleta.org/Modules/ShowDocument.aspx?documentid=5271](http://www.cityofgoleta.org/Modules/ShowDocument.aspx?documentid=5271)
- [www.cityofgoleta.org/Modules/ShowDocument.aspx?documentid=4834](http://www.cityofgoleta.org/Modules/ShowDocument.aspx?documentid=4834)

### Guadalupe

The City of Guadalupe supplied GIS shapefiles for Guadalupe's Revised Zoning Designations, Development opportunity sites, Central Business District, and vacant parcels (as of the housing element update 2009). Their General Plan categories were sourced from:

- [http://digitalcommons.calpoly.edu/cgi/viewcontent.cgi?article=1053&context=crp\\_fac&sei-redir=1#search=%22city%20Guadalupe%20General%20Plan%20Land%20Use%20Element%22](http://digitalcommons.calpoly.edu/cgi/viewcontent.cgi?article=1053&context=crp_fac&sei-redir=1#search=%22city%20Guadalupe%20General%20Plan%20Land%20Use%20Element%22)
- [http://ci.guadalupe.ca.us/residents-mainmenu-34/document-center/doc\\_download/552-2011-revised-draft-2009-housing-element-update](http://ci.guadalupe.ca.us/residents-mainmenu-34/document-center/doc_download/552-2011-revised-draft-2009-housing-element-update)
- [Guadalupe General Plan 2002.pdf](#)

### Lompoc

The City of Lompoc supplied GIS shapefiles for Lompoc's land use and zoning classifications, and the Redevelopment Area (and Redevelopment Area Amendment 1 and Redevelopment Area Amendment 2), as well as the Burton Ranch Specific Plan. Their General Plan categories were sourced from:

- [http://www1.cityoflompoc.com/departments/comdev/pdf/General\\_Plan.pdf](http://www1.cityoflompoc.com/departments/comdev/pdf/General_Plan.pdf)
- <http://www1.cityoflompoc.com/planningagenda/2005/051212/051212.pdf>

### Santa Barbara City

The City of Santa Barbara supplied GIS shapefiles for Santa Barbara's zoning and the Housing Element Land Inventory. In terms of General Plan categories, "because most of the city is essentially developed, with little additional land being needed for streets, schools, and other public uses, the General Plan residential density classifications relate directly to net land area; that is, the actual privately owned land used or available for residential development. This complements the technique of density control used

in the Zoning Ordinance, which specifies minimum lot area per dwelling unit in the various land use zones. While the General Plan densities do not directly represent existing or proposed residential zone categories, they do compare fairly well with certain zones:

- 1 d/u per acre ... A-1
- 3 d/u per acre ... E-1
- 5 d/u per acre ... E-3
- 12 d/u per acre ... R-2, R-3, R-4"

Their General Plan categories were sourced from:

- <http://www.santabarbaraca.gov/NR/rdonlyres/F819A459-1CB9-4166-95B7-B0972D984E87/0/LandUseElementforwebposting.pdf>, p. 43
- <http://www.santabarbaraca.gov/NR/rdonlyres/17E432E9-452F-44F5-9889-E5E3577A4F85/0/Uses Permitted in Various Zones.pdf>
- <http://www.santabarbaraca.gov/Documents/Municipal Code/03 Individual Titles/SBMC TITLE 28 The Zoning Ordinance.pdf>, p. 476

There were conflicting “No Jurisdiction” areas between the county and city. These were primarily around the “GOLF COURSES” at 601 LAS POSITAS RD, SANTA BARBARA, CA, 93105.

### Santa Barbara County

The County of Santa Barbara GIS shapefiles were sourced from SBCGIS Spatial Data Catalog ([http://www.countyofsb.org/itd/gis/default.aspx?id=2802&ekmense=e2f22c9a\\_486\\_496\\_btnlink](http://www.countyofsb.org/itd/gis/default.aspx?id=2802&ekmense=e2f22c9a_486_496_btnlink)).

They note that their “existing land use and zoning maps should be sufficient for all areas of the County except Isla Vista.” And that:

- For the purposes of the Housing Element, we assume that the area within Isla Vista will build-out to densities commensurate with the Isla Vista Master Plan (IVMP).
- Even though that area hasn’t been officially rezoned (Coastal Commission approval is still pending), we adopted the IVMP locally in 2007 and have been requiring projects to satisfy the intent of the plan since then.
- We utilize State Density Bonus Law to bridge the gap between the lower densities still in effect as part of our Article II Coastal Zoning Ordinance and the higher densities envisioned in the IVMP.
- So functionally, real world build-out is proceeding in line with the IVMP even if Article II zoning is still technically in effect.

The 2 shapefiles identified were: landuse.shp and zoning.shp. Their General Plan categories (based on the LU\_Descrip field in landuse.shp per county staff) were sourced from:

- <http://longrange.sbcountyplanning.org/programs/genplanreformat/PDFdocs/LandUseElement.pdf>, p.135

## Santa Maria

The City of Santa Maria supplied a GIS shapefile for Santa Maria's General Plan Land Use designations, as well as a PDF of future build out numbers. Their General Plan categories were sourced from:

- <http://www.ci.santa-maria.ca.us/54323.shtml>

## Solvang

The City of Solvang supplied CAD (\*.dwg) files for Solvang's Land Use designations and Zoning. Their General Plan categories were sourced from:

<http://worldcat.org/arcviewer/2/CBG/2009/06/01/H1243879757322/viewer/file1.pdf>, pg.6-3

## Socioeconomic Data Sources

Socioeconomic and geographic data was obtained from the following sources. Each of these data sources will be used to generate the TAZ, parcel, and grid socioeconomic inputs for the model. A follow-up memo later in the project will describe the actual attributes used from each dataset and issues encountered during the transfer and conversion.

- Census 2009 Summary File 1 (SF1) Census Blocks
- Census Longitudinal Employer-Household Dynamics (LEHD) 2010 employment estimates
- InfoUSA Employment Data
- Local city, Ventura, and San Luis Obispo travel model demographic data
- SBCAG 2010 current model demographic data
- SBCAG Regional Growth Forecast (RGF) data
- American Communities Survey (ACS) 1 year (2009), 3 year (2007-2009) and 5 year (2005-2009) demographic data at the block group level
- ACS 1 year, 3 year, and 5 year Public Use Micro Sample (PUMS) individual household and population data
- Santa Barbara County Voter Registration Data

### Census 2010 SF1 Census Blocks

Census recently released SF1 socioeconomic data at the census block level. This is 100% sample head count information from the Census short form. The data contains age, sex, race, Hispanic/Latino origin, and household relationship information from all people and housing units. This is the most accurate estimate of population and household information available at the highest level of detail. Model TAZs will be built from Census Blocks, and most model population and housing demographic information will be aggregations of the block information.

### Census LEHD 2009 Job Estimates

This dataset provides census block level estimates of jobs at the workplace. The jobs are broken down by age, earnings, NAICS sector, race, ethnicity, and educational attainment. The 2009 dataset is based on Census 2000 block geography. This dataset also provides place-of-residence to place-of-work origin-

destination data. This data will be used in conjunction with the InfoUSA employment dataset to determine TAZ, parcel, and grid employment information.

The employment estimates are built upon wage records in the unemployment insurance system and information from state ES-202 wage data. Unemployment insurance coverage is broad, covering over 90% of total wage and salary civilian jobs.

When employment numbers are compared with other employment data, exclusions to unemployment insurance coverage should be taken into account. Federal government employment is not generally included. Exempted employment varies slightly from state to state due to variations in state unemployment laws, but generally also excludes many farmers and agricultural employees, domestic workers, self-employed non-agricultural workers, members of the Armed Services, some state and local government employees as well as certain types of nonprofit employers and religious organizations.

The LEHD data was not a major factor in the determination of the geography of the TAZs. Factors such as the geography of the local TAZs, geography of Census blocks, street network geography, aerial imagery, and current household and population by block were used to determine geography. After the TAZ geography was determined, the LEHD data was considered for use as employment inputs by TAZ. The LEHD data was compared with the TAZ-aggregated InfoUSA point data and discrepancies were found. Since the InfoUSA data was considered to be more accurate and since the dataset was verified and updated by SBCAG, we decided to use InfoUSA as the main dataset for employment inputs. The LEHD data will be used for future modeling purposes. It will be used to estimate and verify jobs-to-housing flows for the external models and can be used to refine TAZ geography outside of Santa Barbara County. It can also be used to verify Home-Based Work trips in the model during the validation process.

### **InfoUSA Employment Data**

SBCAG has obtained individual InfoUSA business data for Santa Barbara County. The dataset contains a point record for every business in the county and has information on the number of employees of business and the employment type. In maintaining and adding to its business database, InfoUSA references several sources including directory listings such as Yellow Pages and business white pages; annual reports; Securities and Exchange Commission (SEC) information; federal, state, and municipal government data; business magazines; newsletters and newspapers; and information from the U.S. Postal Service. The InfoUSA database contains information for over 20,000 businesses countywide. InfoUSA conducts annual telephone verifications with each business listed in the database and continually updates and verifies this information. InfoUSA calls every business to make sure that the most reliable information is available and add public record data from county courthouse filings. New businesses are added from sources such as new business registrations and utility hookups. InfoUSA matches and cleans the data with the USPS National Change of Address (NCOA) and Delivery Sequence File (DSF) to standardize and keep the addresses accurate. In the InfoUSA database, businesses in shopping centers are counted as separate entities (records). Individual lessees in shopping centers are separate records, regardless of where the payroll comes from. InfoUSA measures a business based on whether sales are being generated at that location.

Database verification was accomplished using two approaches. One, comparing individual records for the county top employers indicated in the following table from the most recent Real Estate and Economic Forecast Report with the InfoUSA database. Some of the employee counts in the InfoUSA database were updated to reflect the number of employees in the Real Estate and Economic Forecast. For example, the Chumash Casino, VAFB, and some growers and packers in the north county were undercounted by InfoUSA. The Real Estate Forecast estimates combines school districts and government employment but schools and local government facilities are often in different locations. These different locations are reflected in the InfoUSA database and were totaled and compared to the Real Estate Forecast estimates.

The second approach for database verification included the comparison of the year 2000 InfoUSA data with the updated year 2010 data. This is shown in the following table. The databases were parsed out using a GIS by jurisdiction, unincorporated area/community, VAFB, UCSB and the SY tribal gaming facility. The two datasets compare favorably with the exception of the unincorporated Lompoc Valley that in year 2000 did not suggest any employment, however, in year 2010 close to 800 jobs are accounted for. It seems plausible that with the increase in winery's and tasting rooms in this area over the last ten years that the 2010 estimate is within reason. In addition, the table compares the InfoUSA data with LED. This comparison is less favorable. The overall countywide count for LED is 165,000 jobs approximately 22,000 less than the InfoUSA count of 187,000 jobs. A countywide estimate from the California Employment Department counts 179,000 jobs. The LED counts underestimate jobs but it is a worthwhile comparison as it is the only other employment estimate for small areas. The LED data does not generally account for federal jobs many farmers and agricultural employees, domestic workers, self-employed non-agricultural workers, members of the Armed Services, and some state and local government employees.

### Comparison of Employment Estimates

Jurisdiction/Place	2000 Info USA	2010 infoUSA	LED 2009
<b>South Coast</b>	121,624	113,993	94,748
City of Carpinteria	7,368	5,896	3,473
City of Santa Barbara	65,164	60,659	49,427
City of Goleta	24,038	22,148	11,354
Unincorporated	16,420	16,828	25,298
Isla Vista	2,164	1,456	842
Montecito	3,578	3,840	2,918
Summerland	520	449	109
Toro Canyon	610	818	509
Mission Canyon	199	149	55
Other Unincorporated	9,349	10,116	20,865
UCSB	8,634	8,462	5,196
<b>Lompoc Area</b>	18,765	19,474	13,896
City of Lompoc	10,695	10,697	11,415
Unincorporated	735	1,458	277
Vand Village	645	522	232

Mission Hills	90	147	45
Other Unincorporated	-	789	
<b>VAFB</b>	<b>7,335</b>	<b>7,319</b>	<b>2,204</b>
<b>Santa Maria Area</b>	<b>46,288</b>	<b>41,330</b>	<b>46,379</b>
City of Santa Maria	37,278	33,944	33,726
City of Guadalupe	1,940	677	1,081
Unincorporated	7,070	6,709	11,572
Orcutt	3,249	3,243	4,787
Cuyama Valley	381	353	64
Other Unincorporated	3,440	3,113	6,721

**Table Continued**

<b>Jurisdiction/Place</b>	<b>2000 Info USA</b>	<b>2010 infoUSA</b>	<b>LED 2009</b>
<b>Santa Ynez Area</b>	10,677	12,423	10,145
City of Solvang	3,464	3,206	1,635
City of Buellton	2,407	2,210	611
Unincorporated	4,356	5,407	6,133
Santa Ynez	1,869	2,723	2,586
Los Alamos	225	89	27
Los Olivos	369	830	446
Ballard	114	135	27
Other Unincorporated	1,779	1,630	3,047
SY Tribal Gaming	450	1,600	1,766
<b>County Total</b>	<b>197,354</b>	<b>187,220</b>	<b>165,168</b>
<b>Total Unincorporated Places</b>	<b>28,581</b>	<b>30,402</b>	<b>43,280</b>
<b>Total Incorporated</b>	<b>152,354</b>	<b>139,437</b>	<b>112,722</b>
<b>Total Other State, Fed, SYR, Employers</b>	<b>16,419</b>	<b>17,381</b>	<b>9,166</b>

This is the breakdown of 0, 1, 2, and 3+ employees in the InfoUSA database:

- 0 employees: 5,300 / 18,000 records
- 1 employee: 2,700 / 18,000 records
- 2 employees: 2,000 / 18,000 records
- 3+ : the rest of the records

Thus, “0 employees” is significant in the database in terms of share of businesses. Of course, in terms of total share of employment, it would mean 5,300 / 187,000 employees or 3% of the total, which is small but not insignificant. The documentation of the NUMBER\_EMP field in the InfoUSA documentation for 1 employee and zero employees is unclear, so we will make an educated interpretation of the data. In general, 3% is not large and the distribution of zero employee records in this database is fairly even across the county. Also, this is going to be controlled based on the RGF. For trip making purposes, we assume that “0 employees” means 1 employee.

### **SBCAG, Local, Ventura and SLO Travel Model Demographic Data**

The demographics obtained from these models will be compared with the employment, demographic, and land use data obtained from InfoUSA, Census, General Plan, and parcel data. The data will mostly be used as a check to ensure that the model data are reasonable.

The current model includes both San Luis Obispo and Ventura Counties. Typically, in these travel demand models, the main models and input datasets are constrained to the study area, in this case Santa Barbara County. However, in order to model external travel into and out of the County, external models are developed for travel outside of the county that goes into or through the county. These are usually not as detailed as the model inside the county. We will gather household, population, and employment inputs by TAZ for the external counties in order to develop external/internal commuting models for these areas. However, we will not gather the intricate land use data for the external areas nor will we apply any land use models outside of the county.

SBCAG has obtained delineated TAZs and TADs for both San Luis Obispo and Ventura Counties that Caliper has used to create external TAZ zones. SBCAG will obtain base and future year employment, population, and household estimates from the SLOCOG and SCAG travel demand models for use in the external travel model development process. We will also use SLOCOG and SCAG travel networks for the development of the external portion of our highway and transit networks. For calibration and validation, we will use SLOCOG and SCAG estimated travel results, and the California Statewide travel model results. Preliminary model results from the interregional commuting model (external traffic) will be reviewed by the Peer Review Panel possibly comprised of members from FHWA, Caltrans TSI, D5, CARB, SLOCOG and VCTC. SBCAG is currently in the process of forming the Peer Review Panel, which will be joining the Model TAC beginning from the 3rd Model TAC Meeting in early December.

### **SBCAG RGF Data**

The demographic data obtained for the model will be compared with the RGF data to ensure consistency. Any differences will be brought to the attention of SBCAG and will be mutually resolved.

### **ACS Demographic Data**

This dataset contains many elements of the Census Summary File (SF3) long form data previously provided in the Census 2000 and previous datasets. The data is provided at the block group level for the 5 year (2005-2009) dataset and at larger geographic groupings for the 3 year and 1 year datasets. In addition to the SF1 variables, this dataset includes income, educational attainment, mode and time of travel, and occupation information that will be used for the trip model generation. Since these data are estimates, and since they are provided at the block group rather than at the block level, they will be reconciled with the Census 2010 block level data.

### **ACS PUMS Data**

This dataset uses the same source data as the ACS demographics data, but contains the individual population and household responses. Certain records are suppressed and/or disguised in order to protect individual privacy. This dataset is very useful in terms of estimating the various travel models and providing basic inputs to the population synthesis or other activity based models.

### Santa Barbara County Voter Registration Data

This dataset of every county voter and their residence location is useful to tie population to particular parcels and/or grids. This may also be a useful supplement to the PUMS data.

### Greenprint/SCS Natural Resources Data

This data will be used for the Development of an enhanced Sustainable Community Strategy including identification of greenways for agricultural preservation, wildlife/open space corridors, simulation modeling in the evaluation of growth scenarios. This list is not all inclusive with additional data being added over time as necessary. The following tables provide the category and file name a description of the data, update year and the source.

Category			
File Name	Metadata	Last Update	Source
SBCounty_Scenic_Buffer	Taken from various Land Use maps within the County. Aligned to Assessors parcel layers where appropriate; width of buffer based on original adopted maps or aerial orthoimagery.	10.5.2010	<a href="http://www.countyofsb.org/itd/gis/default.aspx?id=2802">SB County GIS Spatial Data Catalog</a> <a href="http://www.countyofsb.org/itd/gis/default.aspx?id=2802">http://www.countyofsb.org/itd/gis/default.aspx?id=2802</a> Originator: County of Santa Barbara Planning & Development, Mapping Section
SBCounty_Coastal_View_Corridor	Polygon shapefile depicting the View Corridor (VC) Article II and Article III Zoning Overlays and the View Corridor Comprehensive Plan and Coastal Plan Land Use Overlays as adopted by the Santa Barbara County Board of Supervisors. Fitting and data quality is considered accurate.	1.04.2005	<a href="http://www.countyofsb.org/itd/gis/default.aspx?id=2802">SB County GIS Spatial Data Catalog</a> <a href="http://www.countyofsb.org/itd/gis/default.aspx?id=2802">http://www.countyofsb.org/itd/gis/default.aspx?id=2802</a> Originator: Santa Barbara County Planning and Development

Category			
File Name	Metadata	Last Update	Source
Central_Valley_Vernal_Pool_Complexes	This coverage is a polygon layer of vernal pool complexes greater than 40 acres in size for 29 counties throughout the greater Central Valley, and some north bay counties. Data depicts vernal pool complexes, not individual vernal pools. The density ratings are subjective but were validated with actual point occurrence data of individual vernal pools. The validation suggested that 1.) dense complexes of vernal pools were being picked up by aerial photo interpretation and 2.) the density ratings should not be the sole basis for identifying high priority preserve areas, especially at the local planning level. At the local level, this layer is probably best used for suggesting new areas for regional preserves, areas which may never have been considered because of a lack of information.	6.22.1998	<a href="http://www.dfg.ca.gov/biogeodata/wetlands/">CA Department of Fish and Game</a> <a href="http://www.dfg.ca.gov/biogeodata/wetlands/">http://www.dfg.ca.gov/biogeodata/wetlands/</a> Originator: U.S. Fish and Wildlife Service, Dr. Robert F. Holland, California Department of Fish and Game

Category		Waterbodies (lakes, rivers with appropriate setbacks)	
File Name	Metadata	Last Update	Source
SBCounty_linearwater_features	Includes single-line drainage water features and artificial path features that run through double-line drainage features such as rivers and streams, and serve as a linear representation of these features. Accurate against Federal Information Processing Standards (FIPS), FIPS Publication 6-4, and FIPS-55 at the 100% level for the codes and base names. The remaining attribute information has been examined but has not been fully tested for accuracy. The Census Bureau performed automated tests to ensure logical consistency and limits of shapefiles.	2010	<a href="http://www.census.gov/cgi-bin/geo/shapefiles2010/main">US Census Bureau TIGER/Line Shapefiles</a> <a href="http://www.census.gov/cgi-bin/geo/shapefiles2010/main">http://www.census.gov/cgi-bin/geo/shapefiles2010/main</a> Originator: U.S. Department of Commerce, U.S. Census Bureau, Geography Division
SBCounty_areawater_features	Contains the geometry and attributes of both perennial and intermittent area hydrography features, including ponds, lakes, oceans, swamps (up to the U.S. nautical three-mile limit), glaciers, and the area covered by large rivers, streams, and/or canals that are represented as double-line drainage. Accurate against Federal Information Processing Standards (FIPS), FIPS Publication 6-4, and FIPS-55 at the 100% level for the codes and base names. The remaining attribute information has been examined but has not been fully tested for accuracy. The Census Bureau performed automated tests to ensure logical consistency and limits of shapefiles.	2010	<a href="http://www.census.gov/cgi-bin/geo/shapefiles2010/main">US Census Bureau TIGER/Line Shapefiles</a> <a href="http://www.census.gov/cgi-bin/geo/shapefiles2010/main">http://www.census.gov/cgi-bin/geo/shapefiles2010/main</a> Originator: U.S. Department of Commerce, U.S. Census Bureau, Geography Division

Category		Species Habitat	
File Name	Metadata	Last Update	Source
SBCounty_Sensitive_Habitats	This is a representation of the Board of Supervisors Officially Adopted Environmentally Sensitive Habitat (ESH) Overlays and Riparian Corridor Overlay. The ESH overlay zone is applied to areas within the Coastal Zone and within several Community Plan Areas on the South Coast with unique natural resources and/or sensitive animal or plant species, where existing and potential development and other activities may despoil or eliminate the resources. Relationships of the Overlay boundaries with parcels were maintained as precisely as reasonably possible and are considered accurate.	10.20.2010	<a href="http://www.countyofsb.org/itd/gis/default.aspx?id=2802">SB County GIS Spatial Data Catalog</a> <a href="http://www.countyofsb.org/itd/gis/default.aspx?id=2802">http://www.countyofsb.org/itd/gis/default.aspx?id=2802</a> Originator: Santa Barbara County Planning and Development
CA_Critical_Habitat	These data identify, in general, the areas where final critical habitat exist for species listed as endangered or threatened. While the Service makes every effort to represent the critical habitat shown with this data as completely and accurately as possible (given existing time and resource constraints), the USFWS gives no warranty, expressed or implied, as to the accuracy, reliability, or completeness of these data.	Not listed (up to date according to source)	<a href="http://criticalhabitat.fws.gov/crithab/">US Fish &amp; Wildlife Service Critical Habitat Portal</a> <a href="http://criticalhabitat.fws.gov/crithab/">http://criticalhabitat.fws.gov/crithab/</a> Originator: US Fish and Wildlife Service
Additional Resources	A list of critical habitat species in Santa Barbara County and respective downloadable GIS data for each species from the US Fish & Wildlife Service Critical Habitat Portal: <a href="http://criticalhabitat.fws.gov/crithab/">http://criticalhabitat.fws.gov/crithab/</a>		

<b>Category</b>			
<b>Geological issues (subsidence, mass wasting, or serpentine outcroppings)</b>			
<b>File Name</b>	<b>Metadata</b>	<b>Last Update</b>	<b>Source</b>
SBCounty_Soils	This data set is a digital soil survey and generally is the most detailed level of soil geographic data developed by the National Cooperative Soil Survey. Attribute accuracy is tested by manual comparison of the source with hard copy plots and/or symbolized display of the map data on an interactive computer graphic system. Selected attributes that cannot be visually verified on plots or on screen are interactively queried and verified on screen. In addition, the attributes are tested against a master set of valid attributes. All attribute data conform to the attribute codes in the signed classification and correlation document and amendment(s).	unknown	<a href="http://www.countyofsb.org/itd/gis/default.aspx?id=2802">SB County GIS Spatial Data Catalog</a> <a href="http://www.countyofsb.org/itd/gis/default.aspx?id=2802">http://www.countyofsb.org/itd/gis/default.aspx?id=2802</a> Originator: U.S. Department of Agriculture, Natural Resources Conservation Service

<b>Category</b>			
<b>High importance farmland</b>			
<b>File Name</b>	<b>Metadata</b>	<b>Last Update</b>	<b>Source</b>
santabarbara2008	Based on the Important Farmland survey area from National Resource Conservation Service (NRCS) modern soil surveys covering most non-governmental lands in California. This data does not reflect general plan or zoning designations, city limit lines, changing economic or market conditions, or other factors which may be taken into consideration when land use policies are determined. This data is not designed to be used for parcel specific planning purposes due to its scale and the size of the minimum mapping unit (10 acres). Assumed accurate.	2008	<a href="http://redirect.conservation.ca.gov/dlrp/fmmp/county_info_results.asp">State of CA Division of Land Resource Protection</a> <a href="http://redirect.conservation.ca.gov/dlrp/fmmp/county_info_results.asp">http://redirect.conservation.ca.gov/dlrp/fmmp/county_info_results.asp</a> Originator: California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program

<b>Category</b>			
<b>Publicly owned or Protected lands</b>			
<b>File Name</b>	<b>Metadata</b>	<b>Last Update</b>	<b>Source</b>
CPAD16_Holdings_	Holdings consist of individual parcels of protected land. The California Protected Areas Database (CPAD) contains data on lands owned in fee by governments or non-profits that are protected for open space purposes. Data includes all such areas in California, from small urban parks to large national parks and forests, mostly aligned to assessor parcel boundaries. Data is collected by Holdings (parcels) which are aggregated to Units (commonly named areas). Data is assumed as accurate as possible according to the source.	1.25.2011	<a href="http://atlas.ca.gov/download.html">Cal-Atlas Geospatial Clearinghouse</a> <a href="http://atlas.ca.gov/download.html">http://atlas.ca.gov/download.html</a> Originator: GreenInfo.org
CPAD16_Units_	Units are aggregations of Holdings under common name, usually owned by a single agency and within a single county. Units are defined as unique combinations of ownership agency, park name, fee/easement, access, and county. Data is assumed as accurate as possible according to the source.	1.25.2011	<a href="http://atlas.ca.gov/download.html">Cal-Atlas Geospatial Clearinghouse</a> <a href="http://atlas.ca.gov/download.html">http://atlas.ca.gov/download.html</a> Originator: GreenInfo.org
CPAD16_Superunits_	Super Units are similar to Units but have federal and state level units aggregated to a common name, regardless of county. Data is assumed as accurate as possible according to the source.	2.01.2011	<a href="http://atlas.ca.gov/download.html">Cal-Atlas Geospatial Clearinghouse</a> <a href="http://atlas.ca.gov/download.html">http://atlas.ca.gov/download.html</a> Originator: GreenInfo.org
CPAD16_2011_01_	Data is assumed as accurate as possible according to the source.	2.7.2011	<a href="http://atlas.ca.gov/download.html">Cal-Atlas Geospatial Clearinghouse</a> <a href="http://atlas.ca.gov/download.html">http://atlas.ca.gov/download.html</a> Originator: GreenInfo.org

<b>Category</b>			
<b>Major riparian areas</b>			
<b>File Name</b>	<b>Metadata</b>	<b>Last Update</b>	<b>Source</b>
Central_Valley_Wetlands_and_Riparian_GIS	Raster data set of wetlands, riparian woody areas, and surrounding landcover in three key regions: 1) the Sacramento Valley, 2) the San Francisco Bay/Delta, and 3) the San Joaquin Valley. Smaller features may not be as accurate as larger features.	1998?	<a href="http://www.dfg.ca.gov/biogeodata/wetlands/">CA Department of Fish and Game</a> <a href="http://www.dfg.ca.gov/biogeodata/wetlands/">http://www.dfg.ca.gov/biogeodata/wetlands/</a> <u>Originator:</u> CA Department of Fish and Game
Additional Resources	<b>SEE CATEGORY: SPECIES HABITAT ...SPECIFICALLY SBCounty_Sensitive_Habitats FILE.</b>		

<b>Category</b>			
<b>Areas subject to flooding</b>			
<b>File Name</b>	<b>Metadata</b>	<b>Last Update</b>	<b>Source</b>
SBCounty_Flood	Flood Hazard Overlay for zoning and land use, essentially representing the 100-year flood area as adopted by the Santa Barbara County Board of Supervisors. Data is assumed as accurate as possible according to the source.	3.04.2010	<a href="http://www.countyofsb.org/itd/gis/default.aspx?id=2802">SB County GIS Spatial Data Catalog</a> <a href="http://www.countyofsb.org/itd/gis/default.aspx?id=2802">http://www.countyofsb.org/itd/gis/default.aspx?id=2802</a> <u>Originator:</u> County of Santa Barbara Planning & Development, Mapping (based mostly on FEMA data)
SBCounty_FEMA_Flood_Zones	Federal flood hazard zones for the location of properties that are in special flood hazard zones. Data is assumed as accurate as possible according to the source.	9.30.2005	<a href="http://www.countyofsb.org/itd/gis/default.aspx?id=2802">SB County GIS Spatial Data Catalog</a> <a href="http://www.countyofsb.org/itd/gis/default.aspx?id=2802">http://www.countyofsb.org/itd/gis/default.aspx?id=2802</a> <u>Originator:</u> FEMA District 9
Additional Resources	Downloadable GIS FEMA Q3 Flood Data for Santa Barbara County from Geo Community. Must pay for the data. <a href="http://data.geocomm.com/catalog/US/61069/2300/group145.html">http://data.geocomm.com/catalog/US/61069/2300/group145.html</a>		

<b>Category</b>			
<b>Areas subject to sea level rise due to long term climate change impacts</b>			
<b>File Name</b>	<b>Metadata</b>	<b>Last Update</b>	<b>Source</b>
Bluff_And_Dune_Erosion_Hazard_Zones	The Erosion hazard zone dataset for the year 2100 represents the areas vulnerable to erosion with a sea level rise along the CA coast of 1.4 meters. Data set has been visually inspected and is topographically correct according to the source.	2009	<a href="http://www.pacinst.org/reports/sea_level_rise/data/index.htm">Pacific Institute GIS Data Downloads</a> <a href="http://www.pacinst.org/reports/sea_level_rise/data/index.htm">http://www.pacinst.org/reports/sea_level_rise/data/index.htm</a> <u>Originator:</u> Philip Williams & Associates, LTD
CA_Coast_FIS_flood_elev	This data layer is a compilation of all of the coastal flood elevation data available from the published Flood Insurance Studies (FIS) for the California coast. The location of the points is described approximate through brief text descriptions in the FIS reports, therefore the locations of the points are approximates only.	2009	<a href="http://www.pacinst.org/reports/sea_level_rise/data/index.htm">Pacific Institute GIS Data Downloads</a> <a href="http://www.pacinst.org/reports/sea_level_rise/data/index.htm">http://www.pacinst.org/reports/sea_level_rise/data/index.htm</a> <u>Originator:</u> Matthew Heberger
CA_Extended_Base_Flood_Elevations	This dataset was developed to estimate extents of flooding given the 100-year flood event for the entire California coast. This layer is used as the base upon which impacts of a 1.4 meter sea-level rise are estimated. Data is in NAVD88, rounded to the nearest half foot. Assumed accurate according to the source.	2009	<a href="http://www.pacinst.org/reports/sea_level_rise/data/index.htm">Pacific Institute GIS Data Downloads</a> <a href="http://www.pacinst.org/reports/sea_level_rise/data/index.htm">http://www.pacinst.org/reports/sea_level_rise/data/index.htm</a> <u>Originator:</u> Matthew Heberger
Additional Resources	Additional downloadable GIS data for impacts of sea level rise on the CA coast: <a href="http://www.pacinst.org/reports/sea_level_rise/data/index.htm">http://www.pacinst.org/reports/sea_level_rise/data/index.htm</a>		

<b>Category</b>			
<b>Groundwater recharge zones, water bodies</b>			
<b>File Name</b>	<b>Metadata</b>	<b>Last Update</b>	<b>Source</b>
CA_BasinBoundaries_NAD83	Shows groundwater basins and subbasins as defined by the California Department of Water Resources. Data is assumed accurate according to the source.	12.09.2010	<u>CA Department of Water Resources</u> <a href="http://www.water.ca.gov/groundwater/bulletin118/gwbasin_maps_descriptions.cfm">http://www.water.ca.gov/groundwater/bulletin118/gwbasin_maps_descriptions.cfm</a> <u>Originator:</u> CA Department of Water Resources
CA_hydrologic_features	Hydrology representing major hydrologic features digitized from 1:24,000-scale USGS topographic maps. This is selected hydrologic features, not all hydrologic features found on the USGS topographic maps. Data meets accuracy and quality standards within USBR MPGIS Service Center. Errors do exist; error in digital capture of boundaries is estimated as 12 meters based on use of the USGS 1:24,000-scale quadrangles.	9.28.2008	<u>Cal-Atlas Geospatial Clearinghouse</u> <a href="http://atlas.ca.gov/download.html">http://atlas.ca.gov/download.html</a> <u>Originator:</u> U.S. Bureau of Reclamation, Mid-Pacific Region, MPGIS Service Center
CA_Watershed_Boundaries	This dataset consists of georeferenced digital data and associated attributes created in accordance with the "USGS National Map Accuracy Standards and the NRCS Federal Standards for Delineation of Hydrologic Unit Boundaries. Data has been verified and is considered accurate according to the source.	12.01.2008	<u>Cal-Atlas Geospatial Clearinghouse</u> <a href="http://atlas.ca.gov/download.html">http://atlas.ca.gov/download.html</a> <u>Originator:</u> Wyoming Geographic Information Science Center
Additional Resources	Additional downloadable GIS data for CA inland waters: <a href="http://atlas.ca.gov/download.html#/casil/inlandWaters">http://atlas.ca.gov/download.html#/casil/inlandWaters</a> ; Additional GIS data on wetlands, hydrography datasets, etc specific to Santa Barbara County:		

<b>Category</b>			
<b>Habitat and community conservation areas</b>			
<b>File Name</b>	<b>Metadata</b>	<b>Last Update</b>	<b>Source</b>
CA_Large_Scale_Conservation_Areas	Large scale conservation planning areas. No indication of accuracy.	11.16.2006	<u>Cal-Atlas Geospatial Clearinghouse</u> <a href="http://atlas.ca.gov/download.html">http://atlas.ca.gov/download.html</a> <u>Originator:</u> California Department of Fish & Game
CA_Public_Conservation_Trust_Land	A 1:100,000 polygon features class representing public, conservation and trust land ownership in the state of California. Developed for the California Resources Agency's Legacy Project, this dataset depicts ownership features as submitted by major public, trust, and non-profit groups in the state. Intended to provide GENERAL ownership information for conservation and other planning purposes; some errors may exist. <b>Requires Microsoft Access to open.</b>	1.2007	<u>Cal-Atlas Geospatial Clearinghouse</u> <a href="http://atlas.ca.gov/download.html">http://atlas.ca.gov/download.html</a> <u>Originator:</u> California Resources Agency Legacy Project, California Department of Parks and Recreation, Bureau of Land Management
CA_Biodiversity_Council_Region	California bioregions developed by the Inter-agency Natural Areas Coordinating Committee (INACC) were digitized from a 1:1,200,000 California Department of Fish and Game paper map. No indication on accuracy has been made.	11.16.2006	<u>Cal-Atlas Geospatial Clearinghouse</u> <a href="http://atlas.ca.gov/download.html">http://atlas.ca.gov/download.html</a> <u>Originator:</u> California Department of Forestry and Fire Protection
CA_FWSApproved	This data layer depicts the external boundaries of lands and waters that are approved for acquisition by the U.S. Fish and Wildlife Service (USFWS) in North America, U.S. Trust Territories and Possessions. Spatial and positional accuracy varies.	6.18.2009	<u>Cal-Atlas Geospatial Clearinghouse</u> <a href="http://atlas.ca.gov/download.html">http://atlas.ca.gov/download.html</a> <u>Originator:</u> United States Fish and Wildlife Service

## Appendix I: General Plan Land Use Crosswalk

The land uses below appear exactly as in the original source. Any errors or apparent errors in the copied material are not from transcription.

Town	Land Use	Code	Density (du/ac)	General Plan Category	UPlan Land Use Type
Buellton	General Commercial			General Commercial	High Density Commercial
Buellton	Industrial			Industry	Industry
Buellton	Low Density Residential		3-6	Medium density residential	Medium Density Residential
Buellton	Medium Density Residential		4-8	Medium density residential	Medium Density Residential
Buellton	Multi-Family Residential		9-16	Medium density residential	Medium Density Residential
Buellton	Neighborhood Commercial		<=5k sq/ft unit	Neighborhood Commercial	Low Density Commercial
Buellton	Open Space, Parks & Recreation			Public lands & open space	Mask
Buellton	Public, Quasi-Public			Public lands & open space	Mask
Buellton	Service Commercial			Service Commercial	Industry
Buellton	Service Commercial			Service Commercial	High Density Commercial
Buellton	Very Low Density Residential		1-2	Low density residential	Low Density Residential
Carpinteria	Agriculture	AG		Agriculture	Discouragement
Carpinteria	Coastal Dependent Industrial	CDI		Industry	Industry
Carpinteria	General Commercial	GC	Variety of intensities	General Commercial	High Density Commercial
Carpinteria	General Industrial	GI		Industry	Industry
Carpinteria	Low Density Residential	LDR	0.3-4.6	Medium density residential	Medium Density Residential
Carpinteria	Medium density residential	MDR	4.7-20	Medium density residential	Medium Density Residential
Carpinteria	Open Space, Parks & Recreation	OSR		Public lands & open space	Mask
Carpinteria	Planned Unit Development Zone	PUD	Specific Plan	Planned Development	High Density Residential
Carpinteria	Planned Unit Development Zone	PUD	Specific Plan	Planned Development	Low Density Commercial
Carpinteria	Planned Unit Development Zone	PUD	Specific Plan	Planned Development	Medium Density Residential
Carpinteria	Public Facilities	PF		Public lands & open space	Mask
Carpinteria	Research & Development Industrial	RDI		Industry	Industry
Carpinteria	Rural Residential	RR	0.3-1	Low density residential	Low Density Residential
Carpinteria	Transportation Corridor	TC		Transportation Corridor	Mask
Carpinteria	Visitor Commercial	VC		Visitor Commercial	Low Density Commercial

Goleta	Agriculture	AG		Agriculture	Discouragement
Goleta	Business Park	I-BP		Office	Low Density Commercial
Goleta	Commercial	C-G		General Commercial	High Density Commercial
Goleta	Community Commercial	C-C	small	Neighborhood Commercial	Low Density Commercial
Goleta	Heavy Commercial			Industry	Industry
Goleta	High Density Multiple Res	R-HD	15-30	High density residential	High Density Residential
Goleta	Hollister Mixed Use			Mixed uses	High Density Commercial
Goleta	Hollister Mixed Use			Mixed uses	High Density Residential
Goleta	Hollister Mixed Use			Mixed uses	Low Density Commercial
Goleta	Hollister Mixed Use			Mixed uses	Medium Density Residential
Goleta	Industry	I-G		Industry	Industry
Goleta	Intersection Commercial	C-I	low-moderate intensity	Neighborhood Commercial	Low Density Commercial
Goleta	Low Density Multiple Resi			Medium density residential	Medium Density Residential
Goleta	Low Density Single Family		<=5	Low density residential	Low Density Residential
Goleta	Medium Density Single Fam	R-MD	15-20	Medium density residential	Medium Density Residential
Goleta	Mobile Home Park	R-MHP	<=15	Medium density residential	Medium Density Residential
Goleta	Moderate Density Resident			Medium density residential	Medium Density Residential
Goleta	Neighborhood Center			Neighborhood Commercial	Low Density Commercial
Goleta	Office & Institutional	I-OI		Office	Low Density Commercial
Goleta	Old Town Commercial	C-OT	<=6k sq/ft unit	Neighborhood Commercial	Low Density Commercial
Goleta	Open	OS-PR		Public lands & open space	Mask
Goleta	Public	P-S		Public lands & open space	Mask
Goleta	Recreation	OS-AR		Public lands & open space	Mask
Goleta	Regional Commercial	C-R	larger scale	General Commercial	High Density Commercial
Goleta	Regional Transportation			Transportation Corridor	Mask
Goleta	Service Industry	I-S		Industry	Industry
Goleta	Visitor Commercial	C-V	low-moderate intensity	Visitor Commercial	Low Density Commercial
Guadalupe	Commercial I- Neighborhood - Specific Plan			Neighborhood Commercial	Low Density Commercial
Guadalupe	Commercial - Recreation - Specific Plan			Visitor Commercial	Low Density Commercial

Guadalupe	Commercial Service - Specific Plan			Service Commercial	Industry
Guadalupe	Commercial Service - Specific Plan			Service Commercial	High Density Commercial
Guadalupe	General Commercial			General Commercial	High Density Commercial
Guadalupe	General Industrial			Industry	Industry
Guadalupe	High Density Residential - Specific Plan		10-20	High density residential	High Density Residential
Guadalupe	Industrial Commercial			Industry	Industry
Guadalupe	Light Industrial - Specific Plan			Industry	Industry
Guadalupe	Medium Density Residential - Specific Plan		6-10	Medium density residential	Medium Density Residential
Guadalupe	Mixed Use - Specific Plan			Mixed uses	High Density Commercial
Guadalupe	Mixed Use - Specific Plan			Mixed uses	High Density Residential
Guadalupe	Mixed Use - Specific Plan			Mixed uses	Low Density Commercial
Guadalupe	Mixed Use - Specific Plan			Mixed uses	Medium Density Residential
Guadalupe	Multiple Dwelling Residential (high density)		10-20	High density residential	High Density Residential
Guadalupe	Multiple Dwelling Residential (medium density)		6-10	Medium density residential	Medium Density Residential
Guadalupe	Neighborhood Residential - Specific Plan - Coastal Zone		1-6	Low density residential	Low Density Residential
Guadalupe	Open Space			Public lands & open space	Mask
Guadalupe	Park - Specific Plan			Public lands & open space	Mask
Guadalupe	Public Facilities - Coastal Zone			Public lands & open space	Mask
Guadalupe	Single Family Residential (low density)		1-6	Low density residential	Low Density Residential
Guadalupe	Single Family Residential (medium density)		6-10	Medium density residential	Medium Density Residential
Guadalupe	Single Family Residential - Specific Plan		1-6	Low density residential	Low Density Residential
Guadalupe	Urban Reserve/Light Industrial - Specific Plan			Urban Reserve	Industry
Guadalupe	Urban Reserve/Light Industrial - Specific Plan			Urban Reserve	High Density Commercial
Guadalupe	Urban Reserve/Light Industrial - Specific Plan			Urban Reserve	High Density Residential
Guadalupe	Urban Reserve/Light Industrial - Specific Plan			Urban Reserve	Low Density Commercial
Guadalupe	Urban Reserve/Light Industrial - Specific Plan			Urban Reserve	Medium Density Residential
Lompoc	Business Park	BP		Office	Low Density Commercial
Lompoc	Community Facility	CF		Institutional	Mask
Lompoc	General Commercial	GC		General Commercial	High Density Commercial
Lompoc	High density residential	HDR	14.5-21.8	High density residential	High Density Residential
Lompoc	Industry	I		Industry	Industry

Lompoc	Low density residential	LDR	4.6-6.2	Medium density residential	Medium Density Residential
Lompoc	Low density residential	LDR2.5	0-2.5	Medium density residential	Medium Density Residential
Lompoc	Low density residential	LDR4.6	2.5-4.6	Medium density residential	Medium Density Residential
Lompoc	Medium density residential	MDR	6.2-14.5	Medium density residential	Medium Density Residential
Lompoc	Mixed Use	MU		Mixed uses	High Density Commercial
Lompoc	Mixed Use	MU		Mixed uses	High Density Residential
Lompoc	Mixed Use	MU		Mixed uses	Low Density Commercial
Lompoc	Mixed Use	MU		Mixed uses	Medium Density Residential
Lompoc	Neighborhood Commercial	NC		Neighborhood Commercial	Low Density Commercial
Lompoc	OFFICE COMMERCIAL	OC		Office	Low Density Commercial
Lompoc	Old Town Commercial	OTC		Neighborhood Commercial	Low Density Commercial
Lompoc	Open Space	OS		Public lands & open space	Mask
Lompoc	Very low density residential	VLDR	0-2.2	Low density residential	Low Density Residential
SB City	Commercial Manufacturing Zone	C-M		Mixed Uses Industry & High Density Residential	Industry
SB City	Commercial Manufacturing Zone	C-M		Mixed Uses Industry & High Density Residential	High Density Residential
SB City	Commercial Zone	C-2		Mixed Uses High Density Commercial & High Density Residential	High Density Commercial
SB City	Commercial Zone	C-2		Mixed Uses High Density Commercial & High Density Residential	High Density Residential
SB City	Harbor Commercial Zone	H-C		General Commercial	High Density Commercial
SB City	Hotel and Related Commerce Zones	HRC		General Commercial	High Density Commercial
SB City	Hotel-Motel Multiple Residence Zone	R-4	20	High density residential	High Density Residential
SB City	Light Manufacturing Zone	M-1		Industry	Industry
SB City	Limited Commercial Zone	C-L	low intensity	Neighborhood Commercial	Low Density Commercial
SB City	General Commerce	C-1		Mixed Uses High Density Commercial & High Density Residential	High Density Commercial

SB City	General Commerce	C-1		Mixed Uses High Density Commercial & High Density Residential	High Density Residential
SB City	Limited Multiple-Family Residence Zone	R-3	20	High Density Residential	High Density Residential
SB City	Medical Office Zone	C-O		Mixed Uses Low Density Commercial & Low Density Residential	Low Density Commercial
SB City	Medical Office Zone	C-O		Mixed Uses Low Density Commercial & Low Density Residential	Low Density Residential
SB City	Ocean-Oriented Light Manufacturing Zone	OM-1		Industry	Industry
SB City	One-Family Residence Zones	A-1	0-1	Low density residential	Low Density Residential
SB City	One-Family Residence Zones	A-2		Low density residential	Low Density Residential
SB City	One-Family Residence Zones	E-1	1-3	Low density residential	Low Density Residential
SB City	One-Family Residence Zones	E-2		Medium density residential	Medium Density Residential
SB City	One-Family Residence Zones	E-3	3-5	Medium density residential	Medium Density Residential
SB City	One-Family Residence Zones	R-1		Medium density residential	Medium Density Residential
SB City	Park and Recreation Zone	P-R		Public lands & open space	Mask
SB City	Planned Unit Development Zone	PUD		Planned Development	High Density Residential
SB City	Planned Unit Development Zone	PUD		Planned Development	Low Density Commercial
SB City	Planned Unit Development Zone	PUD		Planned Development	Medium Density Residential
SB City	Research and Development & Administrative Office Zone	C-X		Office	Low Density Commercial
SB City	Resort-Residential Hotel Zone, Garden Apartment Developments, Planned Residence Developments	R-H	5-40	Medium density residential	Medium Density Residential
SB City	Restricted Commercial Zone	C-P		Mixed Uses Low Density Commercial & High Density Residential	Low Density Commercial
SB City	Restricted Commercial Zone	C-P		Mixed Uses Low Density Commercial & High Density Residential	High Density Residential
SB City	Restricted Office Zone	R-O		Mixed Uses Low Density Commercial & High Density Residential	Low Density Commercial
SB City	Restricted Office Zone	R-O		Mixed Uses Low Density	High Density Residential

				Commercial & High Density Residential	
SB City	Riviera Campus Specific Plan	SP-7	>=2	Office	Low Density Commercial
SB City	Senior Housing Zone	S-H	3.2-22.4	Medium density residential	Medium Density Residential
SB City	Special District Zone	S-D		Mixed uses	High Density Commercial
SB City	Special District Zone	S-D		Mixed uses	High Density Residential
SB City	Special District Zone	S-D		Mixed uses	Low Density Commercial
SB City	Special District Zone	S-D		Mixed uses	Medium Density Residential
SB City	Two-Family Residence Zone	R-2	5-12	Medium density residential	Medium Density Residential
SB City	Westmont Faculty Housing Specific Plan	S-P-5	0-1.4	Low density residential	Low Density Residential
SB County	(C) General Commercial (all types of commercial activities)	1A8E	0	General Commercial	High Density Commercial
SB County	(C) General Commercial/Residential/max. dwelling units 14/acre	18FE	14	Mixed uses	High Density Commercial
SB County	(C) General Commercial/Residential/max. dwelling units 14/acre	18FE	14	Mixed uses	High Density Residential
SB County	(C) General Commercial/Residential/max. dwelling units 14/acre	18FE	14	Mixed uses	Low Density Commercial
SB County	(C) General Commercial/Residential/max. dwelling units 14/acre	18FE	14	Mixed uses	Medium Density Residential
SB County	(H) Highway Commercial (hotels, restaurants, garages, service stations)	1A91	0	Highway Commercial	Low Density Commercial
SB County	(N) Neighborhood Commercial (located within neighborhood, foodstores, drugstores, gas stations)	13A3	0	Neighborhood Commercial	Low Density Commercial
SB County	(RR) 5-20 acres minimum parcel size	1322	0.2	Very low density residential	Very Low Density Residential
SB County	(S) Service Commercial (wholesale business, agriculture, construction, transportation, other service facilities)	1CFE	0	Service Commercial	Industry
SB County	(S) Service Commercial (wholesale business, agriculture, construction, transportation, other service facilities)	1CFE	0	Service Commercial	High Density Commercial
SB County	(V) Resort /Visitor Serving Commercial	1BD8	0	Visitor Commercial	Low Density Commercial
SB County	Agricultural Commercial/Minimum parcel size- 40-320 or more acres	1A61	0.2	Agriculture	Discouragement
SB County	Agriculture (Lands with prime soils, prime agricultural land, grazing land, existing agricultural land, land under Williamson Act)	1FC5	-1	Agriculture	Discouragement
SB County	Agriculture 1/Minimum parcel size- 10 acres/(5-40 acres minimum parcel size in Coastal Zone) Educational Facility	15B6	0.1	School	Attractor
SB County	Agriculture 1/5 or more acres minimum parcel size inland/(5-40 acres minimum parcel size in Coastal Zone)	129B	0.2	Agriculture	Discouragement
SB County	Agriculture 1/Educational Facility (Public or Private)5 or more acres minimum parcel size inland/(5-40 acres minimum parcel size in Coastal Zone)	1B36	0.2	School	Attractor
SB County	Agriculture 1/Minimum parcel size- 10 acres /(5-40 acres minimum parcel size in Coastal Zone)	1F3B	0.1	Agriculture	Discouragement
SB County	Agriculture 1/Minimum parcel size- 20 acres/(5-40 acres minimum parcel size in Coastal Zone)	1F8C	0.05	Agriculture	Discouragement
SB County	Agriculture 1/Minimum parcel size- 40 acres/(5-40 acres minimum parcel size in Coastal Zone)	1A13	0.025	Agriculture	Discouragement

SB County	Agriculture I/Minimum parcel size- 5 acres/(5-40 acres minimum parcel size in Coastal Zone)	1A40	0.2	Agriculture	Discouragement
SB County	Agriculture I/Minimum parcel size- 5 acres/(5-40 acres minimum parcel size in Coastal Zone)/Educational Facility	2049	0.2	School	Attractor
SB County	Agriculture II/Minimum parcel size- 100 acres/(40, 100, 320 acres minimum parcel size in Coastal Zone)	1A49	0.01	Agriculture	Discouragement
SB County	Agriculture II/Minimum parcel size- 320 acres/(40,100, or 320 acres minimum parcel size in Coastal Zone)	1844	0.003125	Agriculture	Discouragement
SB County	Agriculture II/Minimum parcel size- 40 acres/(40,100, or 320 acres minimum parcel size in Coastal Zone)	1.20E+10	0.025	Agriculture	Discouragement
SB County	Agriculture II/Minimum parcel size- 40 or more acres inland/(40, 100 or 320 acres minimum parcel size in Coastal Zone)	1EA5	0.025	Agriculture	Discouragement
SB County	Cemetery (existing and proposed)	1A8B	0	Public lands & open space	Mask
SB County	Civic Center (Libraries, public auditoriums, post offices, fire and emergency services)	11DB	0	Institutional	Mask
SB County	Coastal Dependant Industry	182C	0	Industry	Industry
SB County	Educational Facility (all schools elementary through college level)	1A3A	0	School	Attractor
SB County	Either No Land Use Designation, OR Land Use Approved by County B.O.S. but not certified by C.C.C.	1FA1	0	Public lands & open space	Mask
SB County	General Commercial/Industrial Park	1907	0	Industry	Industry
SB County	General Commercial/Office and Professional/Residential /max. dwelling units 3.3/acre	1925	3.3	Mixed uses	High Density Commercial
SB County	General Commercial/Office and Professional/Residential /max. dwelling units 3.3/acre	1925	3.3	Mixed uses	High Density Residential
SB County	General Commercial/Office and Professional/Residential /max. dwelling units 3.3/acre	1925	3.3	Mixed uses	Low Density Commercial
SB County	General Commercial/Office and Professional/Residential /max. dwelling units 3.3/acre	1925	3.3	Mixed uses	Medium Density Residential
SB County	General Industry (all industrial uses)	17AE	0	Industry	Industry
SB County	Industrial Park (all industrial uses)	1373	0	Industry	Industry
SB County	Institution /Government Facility (military installations, state office buildings, county hospitals)	156E	0	Institutional	Mask
SB County	Light Industry (industrial plants and warehouses)	1B51	0	Industry	Industry
SB County	Mountainous Area/Minimum Parcel Size 100 Acres	1A7C	0.01	Public lands & open space	Mask
SB County	Mountainous Area/Minimum Parcel Size- 40 Acres	1A52	0.025	Public lands & open space	Mask
SB County	Mountainous Area/Minimum Parcel Size- 40 Acres/Educational Facility	10D9	0.025	School	Attractor
SB County	Mountainous Areas/Minimum Parcel Size- 320 Acres	10D6	0.003125	Public lands & open space	Mask
SB County	Multiple/Maximum Dwelling units- 14/acre	18F2	14	Medium density residential	Medium Density Residential
SB County	Multiple/Maximum dwelling units- 30/acre	137C	30	High density residential	High Density Residential
SB County	Multiple/Minimum Land Area Per unit- 10.0/acre	13A9	10	Low density residential	Low Density Residential
SB County	Multiple/Minimum Land Area per unit- 12.3/acre	1571	12.3	Low density residential	Low Density Residential
SB County	Multiple/Minimum Land Area per unit- 12.3/acre/General Commercial	1967	12.3	Mixed uses	High Density Commercial
SB County	Multiple/Minimum Land Area per unit- 12.3/acre/General Commercial	1967	12.3	Mixed uses	High Density Residential
SB County	Multiple/Minimum Land Area per unit- 12.3/acre/General Commercial	1967	12.3	Mixed uses	Low Density Commercial
SB County	Multiple/Minimum Land Area per unit- 12.3/acre/General Commercial	1967	12.3	Mixed uses	Medium Density

	Commercial				Residential
SB County	Multiple/Minimum Parcel Size/Unit 2,180 sq. feet	1580	20	High density residential	High Density Residential
SB County	Multiple/Minimum Parcel Size/Unit 2,420 sq. feet	1574	18	High density residential	High Density Residential
SB County	Multiple/Minimum Parcel size- 5,000 sq. feet or more (max. dwelling units- 9.0/acre)	136A	9	Medium density residential	Medium Density Residential
SB County	Multiple/Minimum Parcel size- 5,450 sq. feet or more (max. dwelling units-8.0/acre)	158C	8	Medium density residential	Medium Density Residential
SB County	Multiple/Minimum Parcel size- 7,000 sq. feet or more (max. dwelling units- 6.0/acre)	18D7	6	Medium density residential	Medium Density Residential
SB County	Multiple/No Minimum Parcel Size	1BF0	-1	Low density residential	Low Density Residential
SB County	Multiple/No Minimum Parcel Size- 15 units	18CB	-1	Low density residential	Low Density Residential
SB County	Multiple/No Minimum Parcel Size- 150 units/Resort/Visitor Serving Commercial	1928	-1	Mixed uses	High Density Commercial
SB County	Multiple/No Minimum Parcel Size- 150 units/Resort/Visitor Serving Commercial	1928	-1	Mixed uses	High Density Residential
SB County	Multiple/No Minimum Parcel Size- 150 units/Resort/Visitor Serving Commercial	1928	-1	Mixed uses	Low Density Commercial
SB County	Multiple/No Minimum Parcel Size- 150 units/Resort/Visitor Serving Commercial	1928	-1	Mixed uses	Medium Density Residential
SB County	Multiple/No Minimum Parcel Size- 200 units	1904	-1	Low density residential	Low Density Residential
SB County	Multiple/No Minimum Parcel Size- 351 units	159E	-1	Low density residential	Low Density Residential
SB County	Multiple/No Minimum Parcel Size- 46 units	1B48	-1	Low density residential	Low Density Residential
SB County	Multiple/No Minimum Parcel Size- 48 units	121D	-1	Low density residential	Low Density Residential
SB County	Multiple/No Minimum Parcel Size- 52 units	1226	-1	Low density residential	Low Density Residential
SB County	Multiple/No Minimum Parcel Size- 58 units	15A1	-1	Low density residential	Low Density Residential
SB County	Multiple/No Minimum Parcel Size- 70 units	1466	-1	Low density residential	Low Density Residential
SB County	Multiple/No Minimum Parcel Size- 75 units	1292	-1	Low density residential	Low Density Residential
SB County	Multiple/No Minimum Parcel Size- 825 units	194F	-1	Low density residential	Low Density Residential
SB County	Multiple/No Minimum Parcel Size/ max. dwelling units- 1.8/acre	1223	1.8	Low density residential	Low Density Residential
SB County	Multiple/No Minimum Parcel Size/max. dwelling units- 1.0/acre	191C	1	Low density residential	Low Density Residential
SB County	Multiple/No Minimum Parcel Size/max. dwelling units- 1.5/acre	1901	1.5	Low density residential	Low Density Residential
SB County	Multiple/No Minimum Parcel Size/max. dwelling units- 3.3/acre	187A	3.3	Low density residential	Low Density Residential
SB County	Multiple/No Minimum Parcel Size/max.dwelling units- 2.7/acre	1220	2.7	Low density residential	Low Density Residential
SB County	Multiple/Parcel size- 1,450 sq. feet or more (max. dwelling units- 30.0/acre)	158F	30	High density residential	High Density Residential
SB County	Naples Townsite	167F	-1	Downtown Commercial	High Density Commercial
SB County	Office and Professional (offices, churches, hospitals, schools)	142D	0	Office	Low Density Commercial
SB County	Open Lands/ Minimum parcel size 100 or 320 acres	1A43	0.01	Public lands & open space	Mask

SB County	Other Open Lands/Minimum Parcel size- 320 acres	1931	0.003125	Public lands & open space	Mask
SB County	Other Open Lands/Minimum parcel size- 100-320 acres (no agricultural potential, outstanding natural resource value)	1A6A	0.01	Public lands & open space	Mask
SB County	Public Utility (area designated for the facilities and service of a public utility or public service entity.)	1346	0	Utility Services	Discouragement
SB County	Recreation/Open Space (public parks, flood control easements providing access to stream channels and golf courses)	1A34	0	Public lands & open space	Mask
SB County	Residential/1 unit/40 acres-1 unit/100 acres	153E	0.025	Very low density residential	Very Low Density Residential
SB County	Rural Residential in Coastal Zone, Residential Ranchette inland portion/Minimum parcel size- 10 acres	1AA6	0.1	Very low density residential	Very Low Density Residential
SB County	Rural Residential in Coastal Zone, Residential Ranchette inland portion/Minimum parcel size- 20 acres	13A6	0.05	Very low density residential	Very Low Density Residential
SB County	Rural Residential in Coastal Zone, Residential Ranchette inland portion/Minimum parcel size- 5 acres	1F83	0.2	Very low density residential	Very Low Density Residential
SB County	Santa Barbara, Carpinteria, Lompoc, Buellton, Solvang, Santa Maria, Guadalupe, Goleta	1AC7	0		
SB County	Single Family- Rural Residential/Minimum Parcel Size- 1 acre	1BEA	1	Low density residential	Low Density Residential
SB County	Single Family- Semi-Rural Residential/Minimum Parcel Size- 5 acres	1AB5	0.2	Very low density residential	Very Low Density Residential
SB County	Single Family- Semi-Rural Residential/Minimum Parcel Size- 10 acres	1C4A	0.1	Very low density residential	Very Low Density Residential
SB County	Single Family- Semi-Rural Residential/Minimum Parcel Size- 10 acres/Educational Facility	1AB2	0.1	School	Attractor
SB County	Single Family- Semi-Rural Residential/Minimum Parcel Size- 2 acres	1BED	0.5	Low density residential	Low Density Residential
SB County	Single Family- Semi-Rural Residential/Minimum Parcel Size- 3 acres	1118	0.33	Very low density residential	Very Low Density Residential
SB County	Single Family-Rural Residential/Minimum Parcel Size- 15,000 sq. feet	1COB	3.3	Low density residential	Low Density Residential
SB County	Single Family-Rural Residential/Minimum Parcel Size- 20,000 sq. feet	1142	1.8	Low density residential	Low Density Residential
SB County	Single Family-Rural Residential/Minimum Parcel Size- 7,000 sq. feet (12.3 units/acre)	1BDE	12.3	Medium density residential	Medium Density Residential
SB County	Single Family-Rural Residential/Minimum Parcel Size- 7,000 sq. feet (4.6 units/acre)	1BDB	4.6	Medium density residential	Medium Density Residential
SB County	Single Family/Maximum Dwelling Units- 1.0/2 acres	145A	0.5	Low density residential	Low Density Residential
SB County	Single Family/Maximum Dwelling Units- 1.0/3 acres (Coastal Zone Minimum Parcel size 3 or more acres)	1A2B	0.33	Low density residential	Low Density Residential
SB County	Single Family/Maximum Dwelling Units- 1.0/3 acres/Educational Facility	1493	0.33	School	Attractor
SB County	Single Family/Maximum Dwelling Units- 1.0/3 acres/Other Open Lands	1BAB	0.33	Low density residential	Low Density Residential
SB County	Single Family/Maximum Dwelling Units- 1.0/acre	1A2E	1	Low density residential	Low Density Residential
SB County	Single Family/Maximum Dwelling Units- 1.0/acre/Educational Facility	1625	1	School	Attractor
SB County	Single Family/Maximum Dwelling Units- 1.8/acre/Educational Facility	1BB4	1.8	School	Attractor
SB County	Single Family/Maximum Dwelling Units- 1.8/acre/Other	1BA8	1.8	Low density	Low Density

	Open Lands			residential	Residential
SB County	Single Family/Maximum Dwelling Units-1.8/acre	1A88	1.8	Low density residential	Low Density Residential
SB County	Single Family/Minimum Parcel size- 10,000 sq. feet or more/ Educational Facility	150E	3.3	School	Attractor
SB County	Single Family/Minimum Parcel size- 10,000 sq.feet (max. dwelling units- 3.3/acre)	1A73	3.3	Low density residential	Low Density Residential
SB County	Single Family/Minimum Parcel size- 7,000 sq. feet or more (max. dwelling units- 4.6/ acre)/ Other Open Lands	1B93	4.6	Medium density residential	Medium Density Residential
SB County	Single Family/Minimum Parcel size- 7,000 sq. feet or more (max. dwelling units- 4.6/acre)	1A28	4.6	Medium density residential	Medium Density Residential
SB County	Single Family/Minimum Parcel size- 7,000 sq. or more (max. dwelling units- 4.6/acre)/ Educational Facility	138B	4.6	School	Attractor
SB County	Transportation Corridor	1A37	0	Transportation Corridor	Mask
SB County	Vandenberg Air Force Base	1ACD	0	Military	Attractor
Santa Maria	AIRPORT - AIRPORT SERVICE	AS		Airport	Mask
Santa Maria	CENTRAL DISTRICT I	CD-1		Downtown Commercial	High Density Commercial
Santa Maria	CENTRAL DISTRICT II	CD-2		Downtown Commercial	High Density Commercial
Santa Maria	COMMERCIAL/PROFESSIONAL OFFICE	CPO		Office	Low Density Commercial
Santa Maria	COMMUNITY COMMERCIAL	CC		Neighborhood Commercial	Low Density Commercial
Santa Maria	COMMUNITY FACILITIES	CF		Institutional	Mask
Santa Maria	Conservation Open Space	COS		Public lands & open space	Mask
Santa Maria	FREEWAY SERVICES	FS		Highway Commercial	Low Density Commercial
Santa Maria	GENERAL INDUSTRIAL	GI		Industry	Industry
Santa Maria	HEAVY COMMERCIAL/MANUFACTURING	HCM		Industry	Industry
Santa Maria	HIGH DENSITY RESIDENTIAL	HDR-22	13-22	High density residential	High Density Residential
Santa Maria	LIGHT INDUSTRIAL	LI		Industry	Industry
Santa Maria	LOW DENSITY RESIDENTIAL	LDR-5	5	Medium density residential	Medium Density Residential
Santa Maria	LOW MEDIUM DENSITY RESIDENTIAL	LMDR-8	6-8	Medium density residential	Medium Density Residential
Santa Maria	LOWER-DENSITY RESIDENTIAL	LWDR-4	0-4	Low density residential	Low Density Residential
Santa Maria	MEDIUM DENSITY RESIDENTIAL	MDR-12	9-12	Medium density residential	Medium Density Residential
Santa Maria	NEIGHBORHOOD COMMERCIAL	NC		Neighborhood Commercial	Low Density Commercial
Santa Maria	Primary Agricultural Open Space	AOS-1		Agriculture	Discouragement
Santa Maria	Recreational Open Space	ROS		Public lands & open space	Mask
Santa Maria	SPECIFIC PLAN	SP		Mixed uses	High Density Commercial
Santa Maria	SPECIFIC PLAN	SP		Mixed uses	High Density Residential
Santa Maria	SPECIFIC PLAN	SP		Mixed uses	Low Density

					Commercial
Santa Maria	SPECIFIC PLAN	SP		Mixed uses	Medium Density Residential
Santa Maria	Secondary Agricultural Open Space	AOS-2		Agriculture	Discouragement
Solvang	AGRICULTURE	AGR		Agriculture	Discouragement
Solvang	AGRICULTURE	AGR_H ATCH		Agriculture	Discouragement
Solvang	COMMERCIAL - GENERAL	CGEN_ HATCH		General Commercial	High Density Commercial
Solvang	COMMERCIAL - RETAIL	CRET_ HATCH		General Commercial	High Density Commercial
Solvang	COMMERCIAL - TOURIST	TRC_H ATCH		Downtown Commercial	High Density Commercial
Solvang	LIGHT INDUSTRY	LIND_H ATCH		Industry	Industry
Solvang	MOBILE HOME PARK	MHP	8	Medium density residential	Medium Density Residential
Solvang	MOBILE HOME PARK	MHP_H ATCH	8	Medium density residential	Medium Density Residential
Solvang	OPEN SPACE - RECREATION	REC_H ATCH		Public lands & open space	Mask
Solvang	PARKING LOT	PARK_ HATCH		Transportation Corridor	Mask
Solvang	PROFFESIONAL - OFFICE	POFF_ HATCH		Office	Low Density Commercial
Solvang	PUBLIC & INSTITUTIONAL	PINS		Public lands & open space	Mask
Solvang	PUBLIC & INSTITUTIONAL	PINS_H ATCH		Public lands & open space	Mask
Solvang	RESIDENTIAL - ESTATE (1 DU/3 AC)	ESTA_H ATCH	0.33-1	Low density residential	Low Density Residential
Solvang	RESIDENTIAL - HIGH (8-20 DU/AC)	RHIG	8-20	High density residential	High Density Residential
Solvang	RESIDENTIAL - HIGH (8-20 DU/AC)	RHIG_ HATCH	8-20	High density residential	High Density Residential
Solvang	RESIDENTIAL - LOW (1 DU/AC)	RLOW_ HATCH	1-2	Low density residential	Low Density Residential
Solvang	RESIDENTIAL - LOW MEDIUM (2 DU/AC)	RLMD	2-3	Low density residential	Low Density Residential
Solvang	RESIDENTIAL - LOW MEDIUM (2 DU/AC)	RLMD_ HATCH	2-3	Low density residential	Low Density Residential
Solvang	RESIDENTIAL - MEDIUM (3-7 DU/AC)	RMED_ HATCH	3-7	Medium density residential	Medium Density Residential
Solvang	ROAD	ROAD		Transportation Corridor	Mask
Solvang	SANTA YNEZ RIVER	RIVER		Water bodies	Mask
Solvang	WASTEWATER TREATMENT PLANT	WWTP_ HATCH		Utility Services	Discouragement