

SLOCOG 2010 RTP-PSCS

Chapter 2

Preliminary Sustainable Communities Strategy



Preliminary Sustainable Communities Strategy Table of Contents

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Land Use-Transportation Connection

SLOCOG has been engaged with the integration of land use and transportation over a number of years in prior regional transportation plans and the Regional Housing Needs Allocation (RHNA) process. SLOCOG also worked closely with San Luis Obispo County and each of the seven incorporated cities; the San Luis Obispo County Air Pollution Control District (APCD); the San Luis Obispo Local Agency Formation Commission (LAFCO), and various community services districts (CSDs) in developing the *Community 2050* Regional Blueprint.

Community 2050, approved by the SLOCOG Board in December 2008, outlines a Regional Growth Strategy that serves as the basis for the development of the *Preliminary Sustainable Communities Strategy* (PSCS) that is integrated in this RTP. The *2010 RTP-PSCS* incorporates concerns regarding the relationship between land use, transportation and related greenhouse gas emissions as a prelude to preparing a fully compliant RTP-SCS in the next few years. Figure 2-1 shows a schematic representation of these relationships.

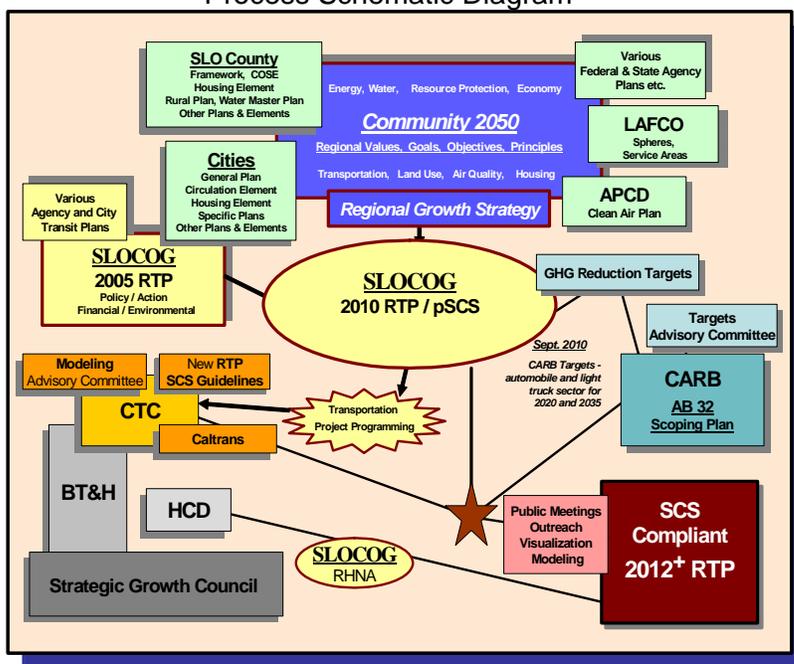
The *2010 RTP-PSCS* was conceived with a focus on developing an efficient and effective transportation system that maximizes choice, reduces traffic congestion and vehicle miles of travel in a policy framework that also strives to address equity and accessibility for all.

The process included outreach to the public; federal, state and member agencies; and communities of interest in a comprehensive planning effort as part of *Community 2050*. The resulting Regional Growth Strategy served as the basis for extensive mapping, development of alternative scenarios, and the modeling of the land use patterns, traffic impacts and estimating the resultant emissions (see Figure 2-2).

As part of defining the *Preliminary Sustainable Communities Strategy* (See Appendix H for a full description of the PSCS development and modeling), SLOCOG worked with: other MPOs: the California Air Resources Board (ARB) and its Regional Targets Advisory Committee: and a local Working Group and Policy Committee comprised of member jurisdictions, APCD, and LAFCO representatives; to outline scenarios, appropriate techniques to measure emissions, and address required elements for the future development of the Sustainable Communities Strategy.

The regional land use model identifies the location of generalized place types (i.e., development types) at the parcel level based upon current general plans and zoning densities. The land use model identified locations in the region sufficient to house anticipated population growth in the region and adequate acreage to accommodate projected commercial and industrial development needs over the course of the 25-year planning period of the RTP.

Figure 2-1
Process Schematic Diagram

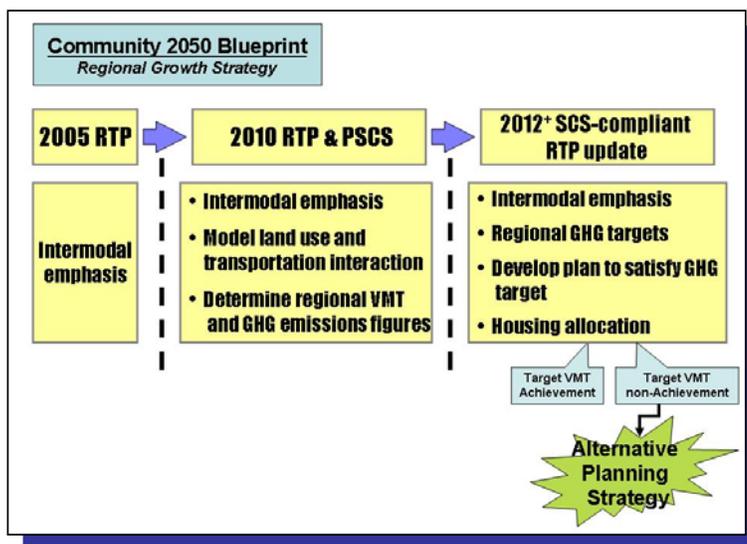


Better integration of land use, transportation and other key issues were considered in shaping the strategy that outlines the core values and objectives of the 2010 RTP-PSCS including: preservation of critical lands, promoting water and resource conservation, clean air, better public health, and providing housing options for all kinds of residents.

The forecasted development pattern was generated using the best practically available technical and scientific information for the region. The scenarios were modeled with land uses consistent with agencies general plans and improvements to the transportation network were based upon anticipated funding levels and timing. Other transportation demand management measures and policies which are not integrated into the basic traffic model were considered in a post processing exercise based upon best modeling practices that adjusted anticipated greenhouse gas emissions.

Figure 2-2

The 2010 RTP-PSCS identifies a transportation network to serve the transportation needs of the region and the Financial and Action Elements of the RTP are internally consistent. The Action Element (Highways, Streets and Roads, Public Transportation, Non-Motorized, and Transportation Demand and System Management) each delineate their specific goals, policies, and strategies along with lists of projects and programs and the anticipated periods when they will be funded. The projects in the plan comply with applicable federal Clean Air Act requirements and have been modeled in the PSCS to maintain internal consistency of the RTP.



The “Preferred Growth Scenario” (Scenario 2) that is the basis of the PSCS would decrease the strain on natural resources, reduce the amount of travel and greenhouse gas generation, improve air quality, and promote public health by supplying more efficient options for transportation and housing as well as decreasing infrastructure costs. The 2010 RTP-PSCS strives to make our communities more livable and would improve multimodal mobility through a combination of strategies and investments as described in the action elements.

The 2010 RTP-PSCS recognizes the need to accommodate growth in a manner that provides safe, reliable and economical transportation choices; decrease transportation costs, reduce dependence on oil, improve air quality, reduce greenhouse gas emissions, promote public health and contribute to a stronger economy.

The 2010 RTP-PSCS strategy is consistent with Caltrans’ *Smart Mobility Framework* and structures the region’s performance measurement around the framework’s six key smart mobility principles – *location efficiency, reliable mobility, health and safety, environmental stewardship, social equity, and robust economy*. The 2010 RTP-PSCS includes performance indicators (see Chapter 7) that can be used to evaluate progress toward achieving these principles and will align with efforts to collect consistent data around the state.

Goals

- Promote the enhancement of regional and community livability, through the integration of land use, mobility and design strategies.
- Enhance the economic vitality, environmental sustainability, one's sense of community, and accessibility to basic human services within and between communities of the region.
- Facilitate the development and economic viability of communities in ways that reduce trips and travel distances, preserves aesthetic resources and promotes environmental enhancement.
- Provide safe and convenient alternative forms of transportation.
- Maximize the efficiency of the existing transportation system.
- Reduce energy consumption and emissions from transportation sources.
- Protect important farmland, valuable habitats, and natural resources.



What can SLOCOG do?

- Prioritize transportation funding to direct development toward existing communities and “Target Development Areas”
- Encourage and promote regional plan consistency and target regional funding for projects consistent with the *Preliminary Sustainable Communities Strategy*
- Allocate “seed” funding to leverage other investment in target development areas
- Restrict funding of improvements inconsistent with adopted goals and policies
- Establish mitigation programs

Key Issues of the *Preliminary Sustainable Communities Strategy*

Local governments are the principal stewards of land and infrastructure resources through implementation of their land use policies. The effort to address transportation and land use coordination at the regional scale rests in the ability to work cooperatively to achieve mutually beneficial results among all segments of the community. State, local, and regional development responsibilities and impacts are intertwined. The implementation of a Sustainable Communities Strategy will require levels of cooperation and coordination at all levels of government that is unprecedented. Our challenge is to undertake these efforts on a long term basis in a manner that responds to federal and state government policy and requirements in a manner that integrates local concerns, context and capacities.

Community resistance to change is common. Higher-density development, infill development, redevelopment, and the adaptive re-use of existing buildings are often controversial and resisted by neighbors and community groups. Educational efforts to demonstrate attractive and compatible examples are needed to show how the resulting more efficient utilization of land resources and more compact urban areas can fit within existing neighborhoods.

Current market conditions have significantly delayed proposed/pending projects that were estimated to account for 40% of all new dwelling units. The degree of change in the inventory of residential and commercial properties will not significantly shift over the upcoming decade and changes in the travel patterns based on improved land use will be limited.

Growth projections indicate slow growth in the region. The projected 26,000 dwelling units added over 25 years would generate 1% growth per year. Recent adjustments to the projections based on current economic realities show even lower average growth rates during the early years of this planning period. It is assumed for modeling purposes that the later years of the planning period will see elevated levels of development to accommodate the projected totals.

Funding constraints have reduced the region's ability to expand transit service to desirable levels and construct and maintain all of the desired improvements on the surface transportation network. Revenues are down and are projected to remain at levels far below what is needed to accommodate desired street and road improvements and expanding transit levels to frequencies that facilitate high levels of service and use. In addition, existing fund types have limited flexibility. Programs to address maintenance, park-and-ride facilities, ridesharing services, as well as pedestrian and bike facilities are limited. Reauthorization of the federal transportation funding program promises to realign these fund categories, provide greater flexibility and place more emphasis on these alternatives. However, that legislation has been delayed and the final form has yet to be determined.

Modeling capabilities and limitations are being partially addressed by new funding that will allow SLOCOG to improve its traffic model. The current traffic model is a street and road capacity model focused on average daily traffic and does not address mode choice or pricing and does not have a socio-economic component (age, income). The traffic model is not a weekend model and recreational travel to the area is significant. In addition the land use model is not developed based on economic factors (affordability, land-cost) and the ability to determine results based on mixed use types of land use is unconfirmed - however evidence is emerging that these plan elements are effective. Travel time to work is currently based on Census 2000 information, data that is nine years old. A new detailed survey for better employment data and area per employee will be integrated into the upgraded model.

The 2010 RTP-PSCS identifies commercial and housing target areas for potential “smart growth” development with an emphasis on community centers and along major corridors (see Target Development Areas maps, Figure 2-7 through 2-11).

The 2010 RTP-PSCS proposes achieving a reduced dependency on auto trips by fostering more efficient local and regional land use development that will enable more walking, bicycling and transit use to meet congestion reduction goals – which in turn will support health and obesity prevention objectives. Key elements include:

- a. Expanding transit service, rideshare options, and transportation choices;
- b. Discouraging future rural development projects in agricultural and natural resource lands;
- c. Encouraging development in existing urbanized areas with access to existing businesses and services;
- d. Supporting incentive programs to develop measures that encourage smart growth development projects;
- e. Reporting on transportation performance and new residential and commercial building activity; and,
- f. Supporting potential infill and redevelopment of properties within target development areas.



Policies

PRELIMINARY SUSTAINABLE COMMUNITIES STRATEGY

- PSCS 1. Improve mobility through a combination of strategies and investments to accommodate anticipated growth in transportation demand and reduce current and projected levels of congestion.
- PSCS 2. Facilitate the development and economic viability of communities in ways that reduce trips and travel distances
- PSCS 3. Maintain and improve the regional transportation system in a manner which assists development and implementation of local general plans that support livable community concepts and efforts.
- PSCS 4. Reduce vehicle miles of travel related emissions by encouraging the use of public transit and other alternative forms of transportation by supporting and encouraging the adoption of general plans and zoning that promote more compact communities.
- PSCS 5. Support compact, mixed use and infill development in target development areas and within 1/3 mile of major transit stops and centers; and, encourage incentives such as funding, flexible standards and streamlined permit processing for mixed use and affordable housing.
- PSCS 6. Provide more transportation choices. Develop safe, reliable and economical transportation choices to decrease household transportation costs, reduce our nation's dependence on foreign oil, improve air quality, reduce greenhouse gas emissions and promote public health.
- PSCS 7. Promote equitable, affordable housing. Expand location- and energy-efficient housing choices for people of all ages, incomes, races and ethnicities to increase mobility and lower the combined cost of housing and transportation.
- PSCS 8. Enhance economic competitiveness. Improve economic competitiveness through reliable and timely access to employment centers, tourist destinations, educational opportunities, services and other basic needs by workers as well as expanded business access to markets.
- PSCS 9. Support existing communities. Target funding toward existing communities to improve the efficiency of public works investments and increase community revitalization through such strategies as providing for transit oriented, mixed-use development, land recycling, and safeguarding rural landscapes.
- PSCS 10. Coordinate and leverage policies and investments. Align policies and funding to remove barriers to collaboration, leverage funding and increase the accountability and effectiveness of all levels of government to plan for future growth.
- PSCS 11. Determine the best use of funds by equitably considering cost-effectiveness, economic, environmental, and livability factors.
- PSCS 12. Advocate "context sensitive solutions" in all aspects of project development to ensure community concerns are integrated in project design and construction.
- PSCS 13. Maintain and enhance quality aesthetic experiences along transportation corridors and surrounding landscapes through mitigation planting, urban streetscape improvements, removal of billboards, and other visual enhancements.
- PSCS 14. Protect important farmland, valuable habitats, and natural resources through acquisitions, setbacks, easements and environmental mitigation programs.

The 2010 RTP-PSCS endeavors to maintain and improve the region's transportation infrastructure to serve residents and visitors needs and promote the economic competitiveness and quality of life within the region. The plan supports an increase in transportation choices. It also supports: assisting jurisdictions in developing and adopting plans which increase housing affordability and choice – including providing for a variety of types and densities; focusing on development in urbanized areas along transit corridors and in commercial centers consistent with the Regional Growth Strategy; and striving to assure development includes all modes of transportation.

The 2010 RTP-PSCS anticipates the availability of an adequate supply of land for housing over the next 25 years. The scenarios used in the development of the PSCS assumed the distribution of “shares” of housing units commensurate with the Regional Housing Needs Allocation (RHNA) by income categories consistent with their general plans. Member agencies are currently adopting Housing Elements to address their current housing allocations. The PSCS places a significant emphasis on locating new residential opportunities proximate to transit and other transportation facilities, jobs, health facilities, convenience retail uses, and support services through the reuse, infill and seeking development of more mixed use development. A share of the new growth would go to various greenfield locations either within existing Spheres of Influence or proximate to existing urban areas.

Affordability remains a major concern and adequately addressing the perennial need for work-force housing will be a major challenge. The land use analysis identified and targeted “location-efficient” opportunities for more well-situated housing, more vibrant activity and employment centers, transportation options and alternatives to serve them, and trip reduction strategies and measures that can also effectively reduce demand.

Preliminary Land Use, Transportation and Emissions Modeling Results

- ✓ Land use changes in the 2020 “Preferred Growth Scenario” could result in a 7.9% reduction in per-capita VMT from the 2008 base year (19.1 to 17.6 VMT per capita).
- ✓ Land use changes in the 2035 “Preferred Growth Scenario” could result in a 10.5% reduction in per-capita VMT from the 2008 base year (19.1 to 17.1 VMT per capita).
 - ✦ Slow growth rates and the scale of the SLOCOG region challenges implementation.
 - ✦ No single variable can generate a significant shift in VMT alone.
- ✓ The 2020 “Preferred Growth Scenario” could result in 8.1 to 10.1% reduction in per-capita CO₂ emissions.
- ✓ The 2035 “Preferred Growth Scenario” could result in 10.6 to 13.4% reduction in per-capita CO₂ emissions.
- ✓ Federal corporate average fuel economy (CAFE) standards and low carbon fuel standards are not included in the emissions model.
- ✓ Additional investments in transit and TDM will produce further reduction in VMT per capita.
- ✓ Pricing adjustments have noticeable impacts on VMT; SLOCOG has limited authority to adjust pricing.
- ✓ Affordable “location-efficient” housing will be the greatest challenge.
- ✓ Process requires consistency for inter-regional travel, application of post-processor results, and the metrics used.

Preservation of Natural and Sensitive Resources, and Important Farmland

The *Community 2050* regional blueprint planning effort involved convening representatives of resource agencies, member jurisdictions and others to map sensitive lands in the region and identify areas with the greatest potential to maintain or restore environmental functions. These maps formed the basis for the analysis of the more sensitive land areas and potential development expansion areas.

The *2010 RTP-PSCS* supports avoidance and minimization of impacts to natural resources, valuable habitats (including wildlife, riparian and wetlands), farmland and water and air quality by proposing to:

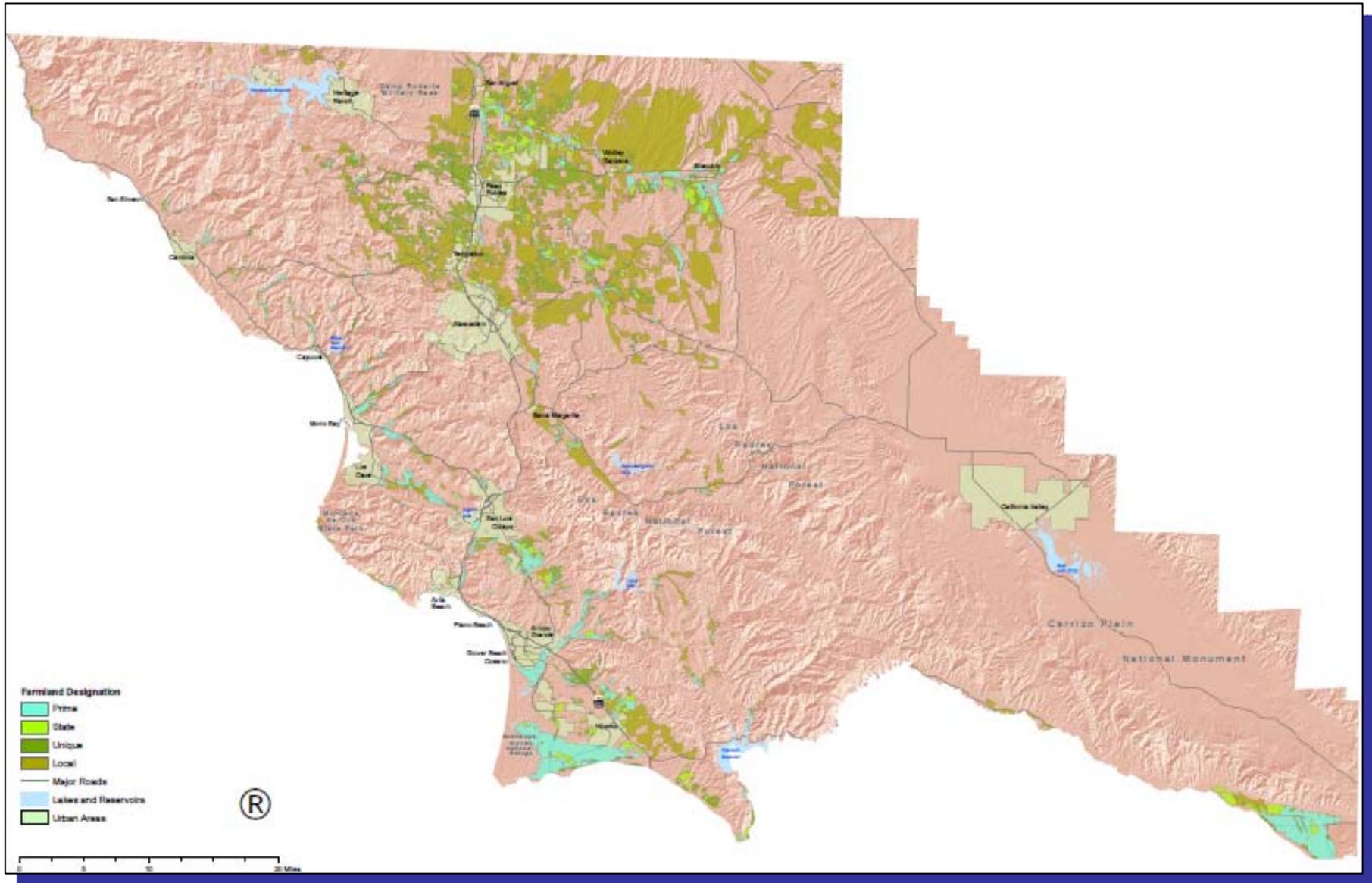
- a. Focus growth in urbanized target development areas and activity centers.
- b. Discourage development in rural and natural areas.
- c. Protect important farmland and natural resources to promote a functional connectivity that allows the seasonal migration and movement of species between areas.
- d. Evaluate projects to avoid creating unnecessary barriers that impede animal movement or interrupt linkages between species and resources.
- e. Continue to allocate funds to help leverage state and federal funding for important habitat, open space and park land acquisitions, and conservation easements.
- f. Coordinate with member agencies, state agencies, community organizations, foundations and trusts to protect and enhance critical lands by working together to provide funding and support for habitat protection efforts, potential establishment of mitigation banks and/or enhancements to existing protected areas.
- g. Use resource data to inform transportation decision-making process.
- h. Use watershed, conservation, and recovery plans to identify important environmental considerations for the region, such as critical wildlife corridors, the most important areas to protect for sensitive species, and areas with a high concentration of resources.
- i. Give conservation plans as much weight as General Plans when planning transportation investments.
- j. Incorporate concepts such as 100 to 200 foot buffers for stream corridors, and identification and improvement of priority culverts that currently restrict wildlife corridors and natural processes of stream and river systems.
- k. Use parcel maps to identify larger, undivided parcels for ease of acquisition and preservation, and designate areas as potential future mitigation sites.

The following maps reflect the areas with important farmland in the region (Figure 2-3), areas of sensitive resources in the region (Figure 2-4), areas in the region where rare plants and animals have been inventoried in the California Natural Diversity Database (Figure 2-5), and an identification of important habitat connections and linkages throughout the region as identified in the California Essential Habitat Connectivity Project (Figure 2-6).

The regional spatial data developed in *Community 2050* will be integrated into the next regional transportation plan update to be compliant with SB 375. A series of maps developed as part of the regional blueprint planning process are included at the end of this chapter.

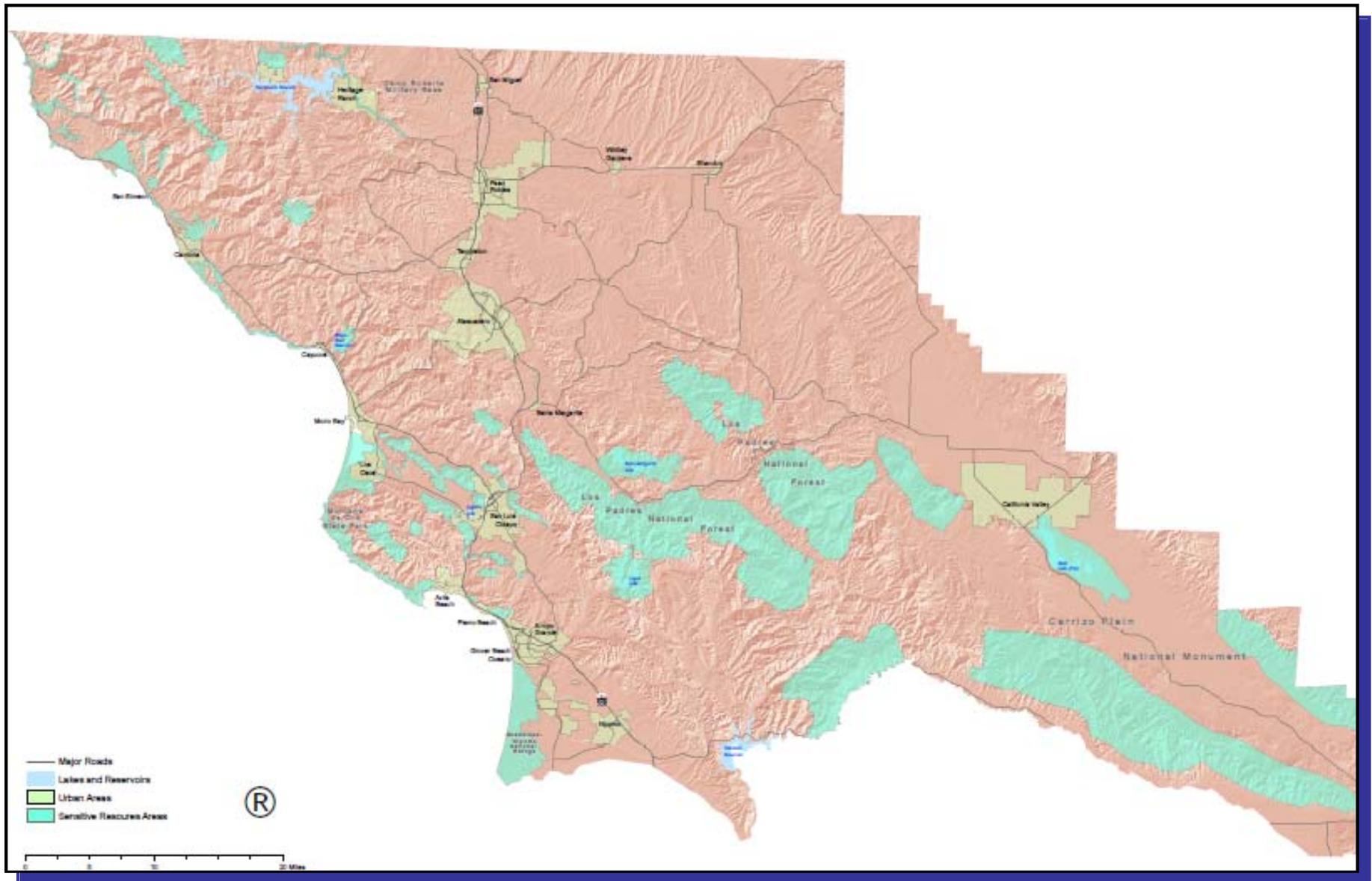
Spatial data identifying important farmlands, sensitive and natural resource areas, and habitat connectivity have been developed by state-level agencies using geographic information systems (GIS). These spatial layers will be considered alongside the general plan and land use information considered in the development of the PSCS in the development of the SCS-compliant RTP.

**Figure 2-3:
Important Farmland**



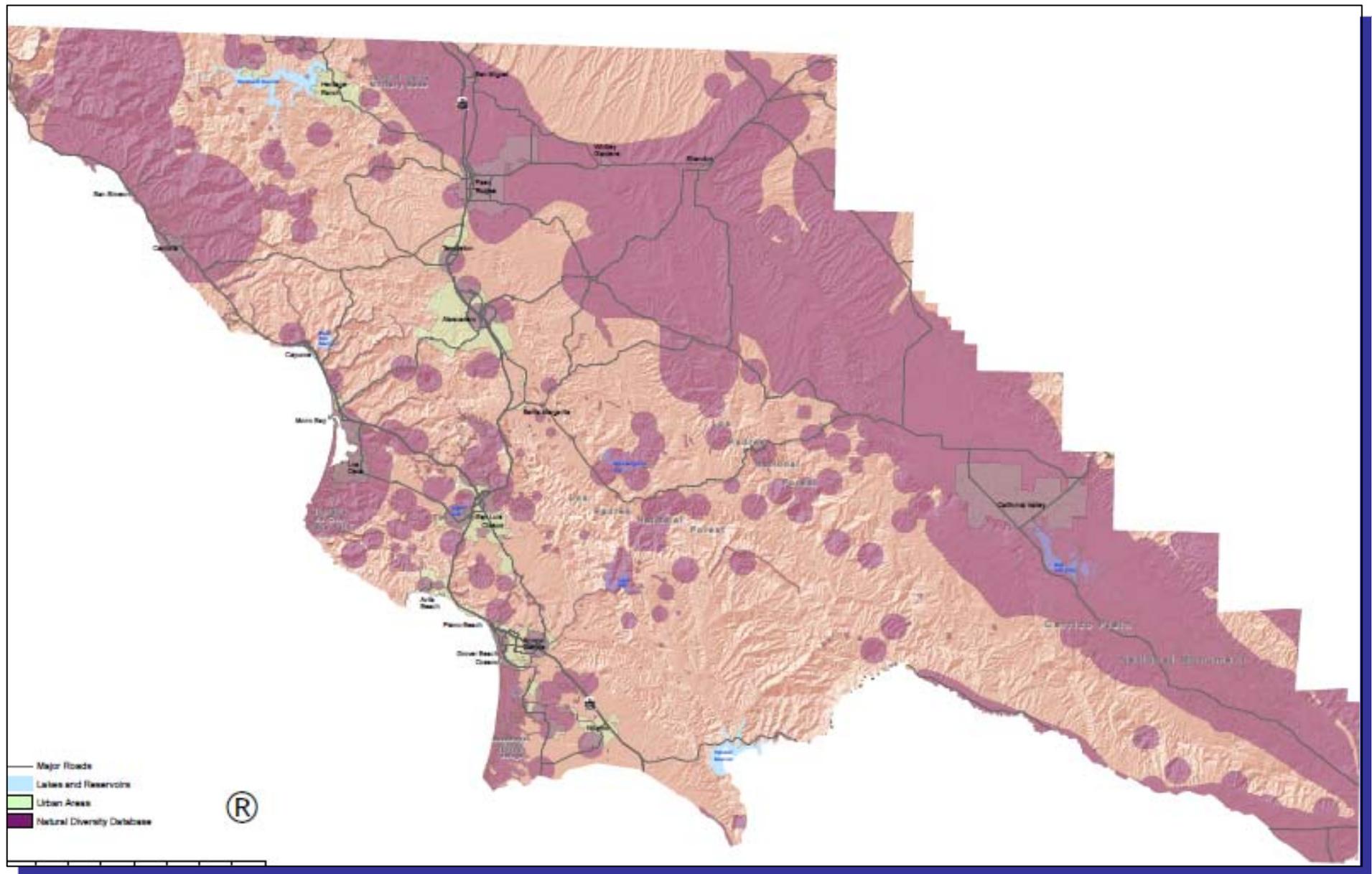
Source: California Department of Conservation, Farmland Mapping and Monitoring Program

Figure 2-4:
Sensitive Resources



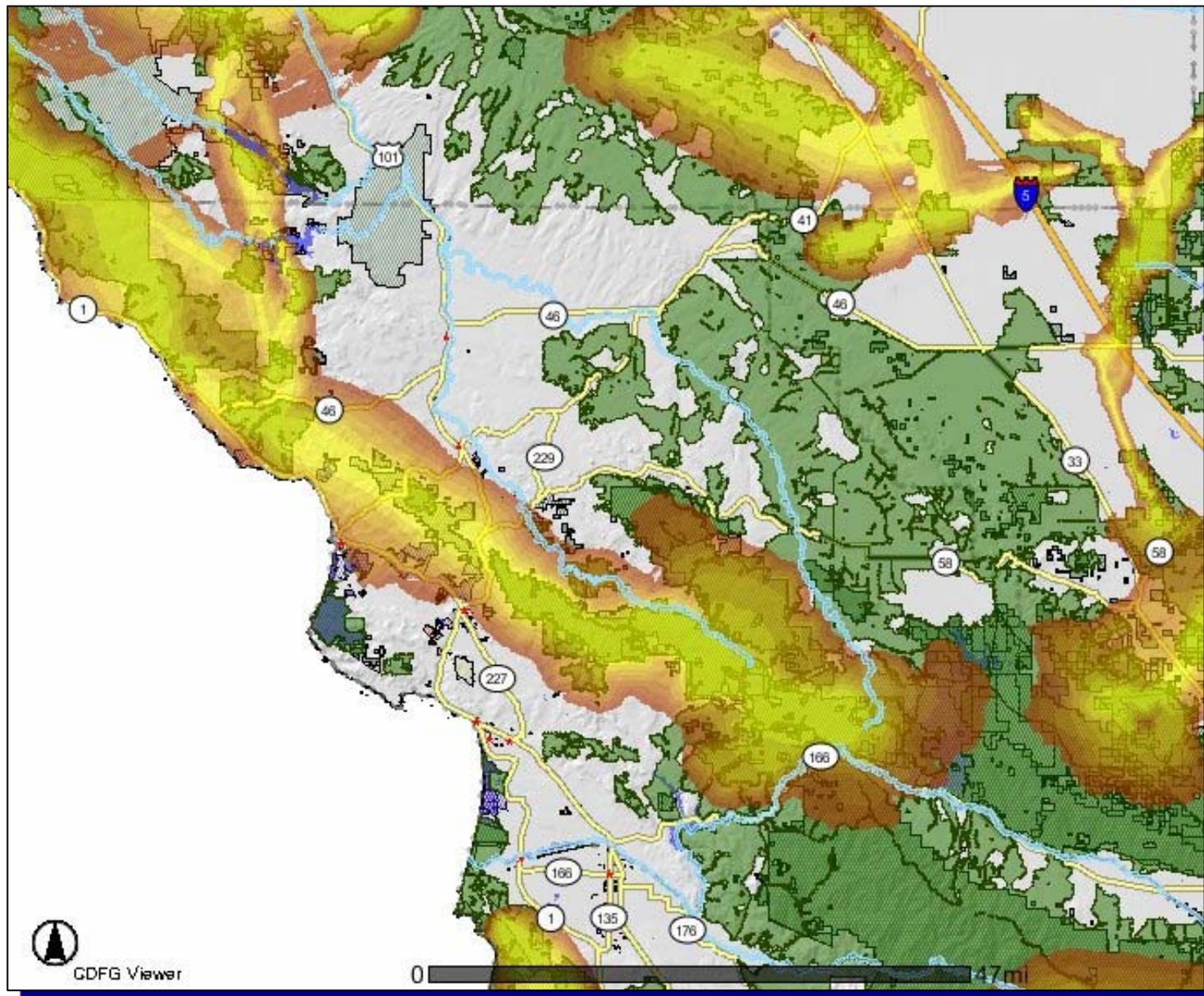
Source: California Department of Conservation, Farmland Mapping and Monitoring Program

Figure 2-5:
California Natural Diversity Database



Source: California Department of Fish and Game

Figure 2-6:
California Essential Habitat Connectivity Project



California Department of Fish and Game

Implementation of the 2010 RTP-PSCS will result in reduced costs and time needed to deliver transportation and other infrastructure projects through informed early public and resource agency involvement. Improved coordination and collaboration among all local and regional agencies is a SLOCOG priority. The groundwork already conducted regarding coordinated resource and sensitive habitat area mapping and critical issue identification provides the framework for early consultation regarding project development.

Strategies

Preliminary Sustainable Communities Strategy

1. Reduce travel times and trips by encouraging local jurisdictions to provide a wide range of housing types and sizes while providing employment opportunities within each planning subregion.
2. Support the incorporation of design features and infrastructure in new projects that enable access by transit, bicycling, and walking.
3. Support the implementation of programs and projects that enhance multimodal transportation choices, limit automobile oriented development and promote pedestrian scale communities.
4. Advocate establishing concentrated development and minimum densities along transit corridors.
5. Support the establishment of minimum residential densities on appropriate sites in urban areas where resources are available.
6. Seek change in the fiscal relationships and tax distribution mechanisms between the State and local agencies to provide adequate funding that will support good land use and development practices.
7. Give a high priority to funding improvements addressing existing deficiencies to the roadway system in or near target development areas and central business districts.
8. Advocate projects include features that minimize the need for additional vehicle travel.
9. Encourage jurisdictions to provide streamlined installation and permitting procedures for vehicle charging facilities.
10. Continue funding project scoping studies and improvements that benefit the existing transportation system; maintain and encourage a sense of community, and enhance the streetscape.
11. Review and comment on major plans and local land development proposals, encouraging livable community design concepts, and enhanced multi- and intermodal components, including pedestrian, bicycle, and public transit.
12. Advocate local and regional agencies use analytical tools and models to assess and compare standard land use practices with smart growth principles prior to major plan updates.
13. Promote the direction of most new residential development away from rural areas and concentrate it in higher density residential locations near major transportation corridors and transit routes, where resources and services are available.

Strategies

Preliminary Sustainable Communities Strategy

14. Promote the development of new multi-family projects that include transportation demand management (TDM) strategies, such as reduced parking for affordable, workforce, or senior housing projects, subsidized public transportation passes, car sharing, vanpools, shuttles, or ride-matching programs, based on site.
15. Encourage new development to construct paths that connect land uses and other non-motorized routes, safe road crossings at major intersections and secure, weatherproof bicycle parking and storage facilities, and long-term maintenance of such facilities.
16. Encourage local jurisdictions to establish and maintain a mix of transit, bicycle, and pedestrian access choices.
17. Work with communities and developers to fund additional parking where needed, for example, through in-lieu parking fee programs.
18. Explore decoupling of parking and housing and commercial development in order to allocate the true cost of parking directly to users.
19. Support the location of new mixed use projects, community and neighborhood commercial centers near major activity nodes and transportation corridors. Community commercial centers should provide goods and services that residents have historically had to travel outside of the community to obtain.
20. Encourage new office development and concentrations of residential uses near major transportation facilities and corridors.
21. Support new development in the mixed-use and medium- and high-density land use categories located within ¼-mile of a transit node, existing bus route, or park and ride facility with regularly scheduled, daily service at a minimum density of 20 dwelling units per acre.
22. Work with local jurisdictions and Caltrans to implement a Scenic Byway and Scenic Highway designation for state routes where applicable.
23. Coordinate with Caltrans and local jurisdictions and other entities to encourage the development of measures that provide a "sense of place" along transportation corridors through the use of distinctive signage, landscaping, building form and setbacks, walkways, and an appropriate mixture of land uses.
24. Work with Caltrans, local jurisdictions, and transportation providers to develop transportation facilities and amenities that fit within the unique character of the community, providing landscaped medians and walkways along major multi-lane arterial highways, streets, and roadways.
25. Coordinate with Caltrans and local jurisdictions to implement measures to protect and enhance the distinctiveness of the county's character with appropriate landscape and screening measures along major transportation rights-of-way with native vegetation in rural areas and theme vegetation in urban areas.

The 2010 RTP-PSCS supports the AB 32 goal to reduce the state's greenhouse gas emissions. SLOCOG anticipates working with state agencies and local jurisdictions to develop an integrated multi-modal transportation system that provides multiple alternatives to the single occupant vehicle and reduces the number of total trips and vehicle miles traveled (VMT) thereby reducing greenhouse gas emissions and minimizing congestion. Many of the goals, policies, and strategies of the 2010 RTP-PSCS are consistent with the measures in the San Luis Obispo County Air Pollution Control District's *Clean Air Plan*.

Strategies

Preliminary Sustainable Communities Strategy

26. Promote the rezoning of existing urban areas where resources and services are available to accommodate residential densities at least 15 units per acre or more to provide for low- and very-low income housing.
27. Work with the County, cities and transit providers to identify transit nodes and target development areas for mixed-use development and promote transit oriented development through the following where appropriate:
 - a. Rezoning of commercial properties to multi-family residential and/or mixed-use,
 - b. Flexible zoning and standards for multi-family housing and mixed-use development,
 - c. Flexible minimum parking and building height limitations,
 - d. Density bonus programs,
 - e. Design guidelines for private and public spaces, and
 - f. Incentives for redevelopment of underutilized areas.
28. Support new or expanded commercial, industrial, public, or mixed use projects with 25 employees or more that provide TDM programs such as parking cash-out, subsidized transit passes, ridesharing incentives, vanpools, employee showers, and bicycle parking and storage facilities.
29. Support the reduction of parking requirements in areas such as central business districts where a variety of uses and services are planned in close proximity to each other and to transit.
30. Identify planning and design standards that local agencies can implement to offer flexible travel alternatives within and between the communities in the region.
31. Encourage new construction to provide preferential parking and/or no-cost parking for vanpool, carpool and alternative fuel vehicles.
32. Assess how transportation nodes and corridors may be impacted by climate change; identify areas most vulnerable to these impacts, and develop reasonable and rational risk reduction strategies. Special attention should be paid to the most vulnerable communities impacted by climate change in all studies.
33. Maintain and expand open space acquisition and mitigation program to protect environmentally sensitive areas and enhance community separators.
34. Investigate regional applicability of alternative technologies, such as cool pavement materials, green concrete additives, solar energy in rights-of-way, recycled pavement, pervious pavement, provisions for qualified low-emissions vehicles, and other measures.

Target Development Areas

A key strategy in the PSCS is to focus new growth within existing urbanized areas and to develop investment strategies designed to support new development in target development areas.

The *Community 2050* Regional Growth Strategy identified target development areas (TDAs) delineated along existing commercial corridors and adjacent medium- and high-density residential zones throughout the region. In most cases, existing transit service is aligned along these corridors. A total of fifty Target Development Areas have been identified.

Most of the region's existing employment centers are contained within the TDAs. Additionally, zoning in about two-thirds of the TDAs allow for some mixed-use development. The remaining areas do not currently allow mixed-use development. Existing development on commercially-zoned land (that also allow mixed-use development) within the TDAs can generally be characterized as single-use commercial properties.

During development of the *Preliminary Sustainable Communities Strategy*, planning staff at local jurisdictions provided feedback on the locations in their respective communities and changes were incorporated into the modeling process. The following describes how other areas were addressed in the land use model.

Focus areas within these corridors would be enhanced and supported by strategies including:

- a. Providing transportation funding for projects that encourage strategic investments and location efficient development within target development areas.
- b. Supporting planning activities for target development areas where investment has the most beneficial impact.
- c. Encouraging compact development in urban areas.
- d. Supporting land use policy changes and revisions to general plans and zoning codes where appropriate.
- e. Identifying and support density that reinforces transit service efficiency and vibrant neighborhoods.
- f. Encouraging energy efficient and green building practices.
- g. Discouraging growth in rural areas.
- h. Conducting periodic implementation assessments.
- i. Further assessing residential/commercial density along existing and planned transit corridors and identify opportunities for more intensive activity centers that support community needs.
- j. Expanding transit services and transportation system improvements.
- k. Developing and improving models, visual simulations, and other meeting participation techniques to foster understanding and participation.

The following series of maps show the target development areas that were developed based upon each community's general plan and used as the basis for land use modeling in the PSCS.

Figure 2-7
Target Development Areas: Paso Robles, Templeton, San Miguel and Shandon

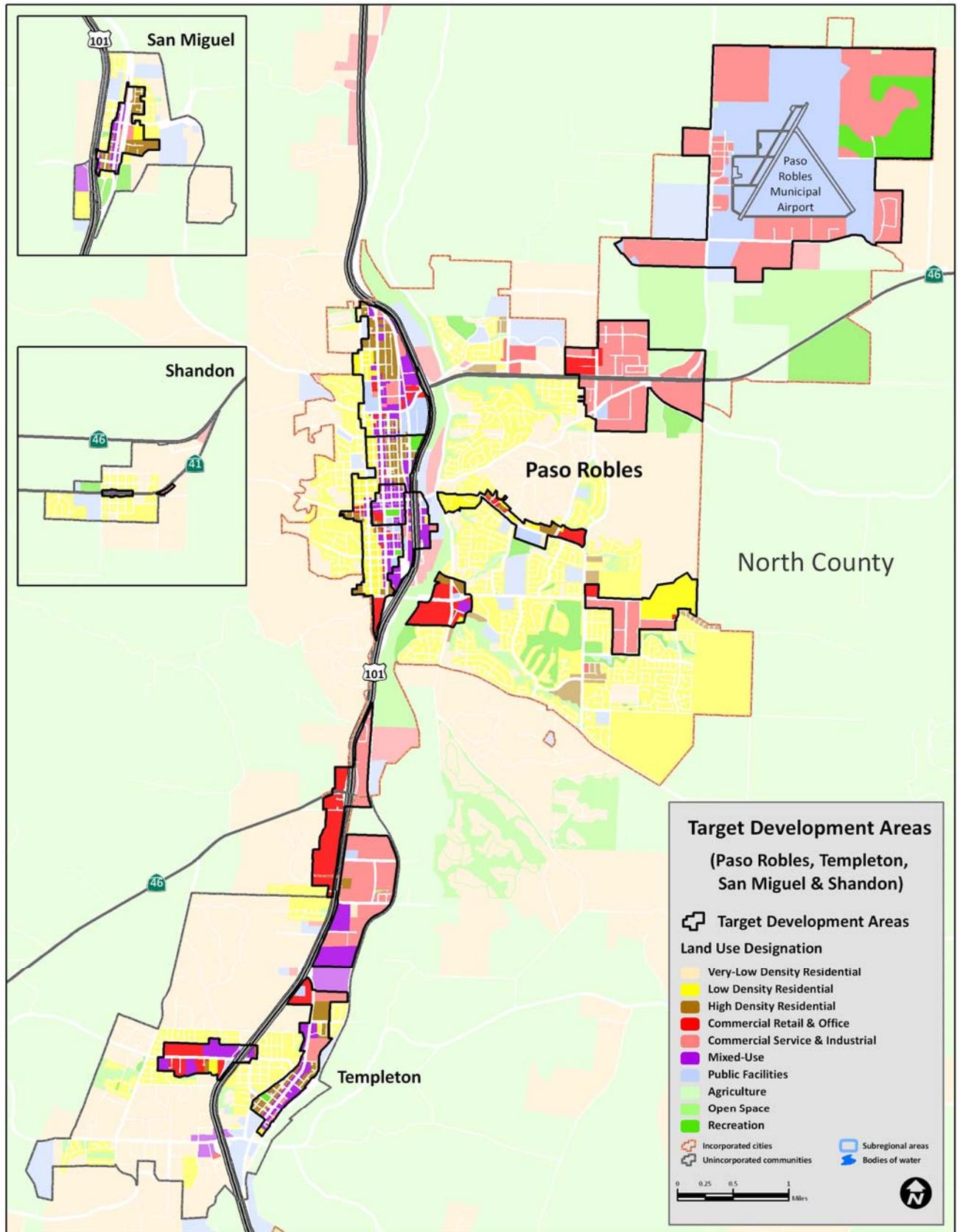


Figure 2-8
Target Development Areas: Atascadero

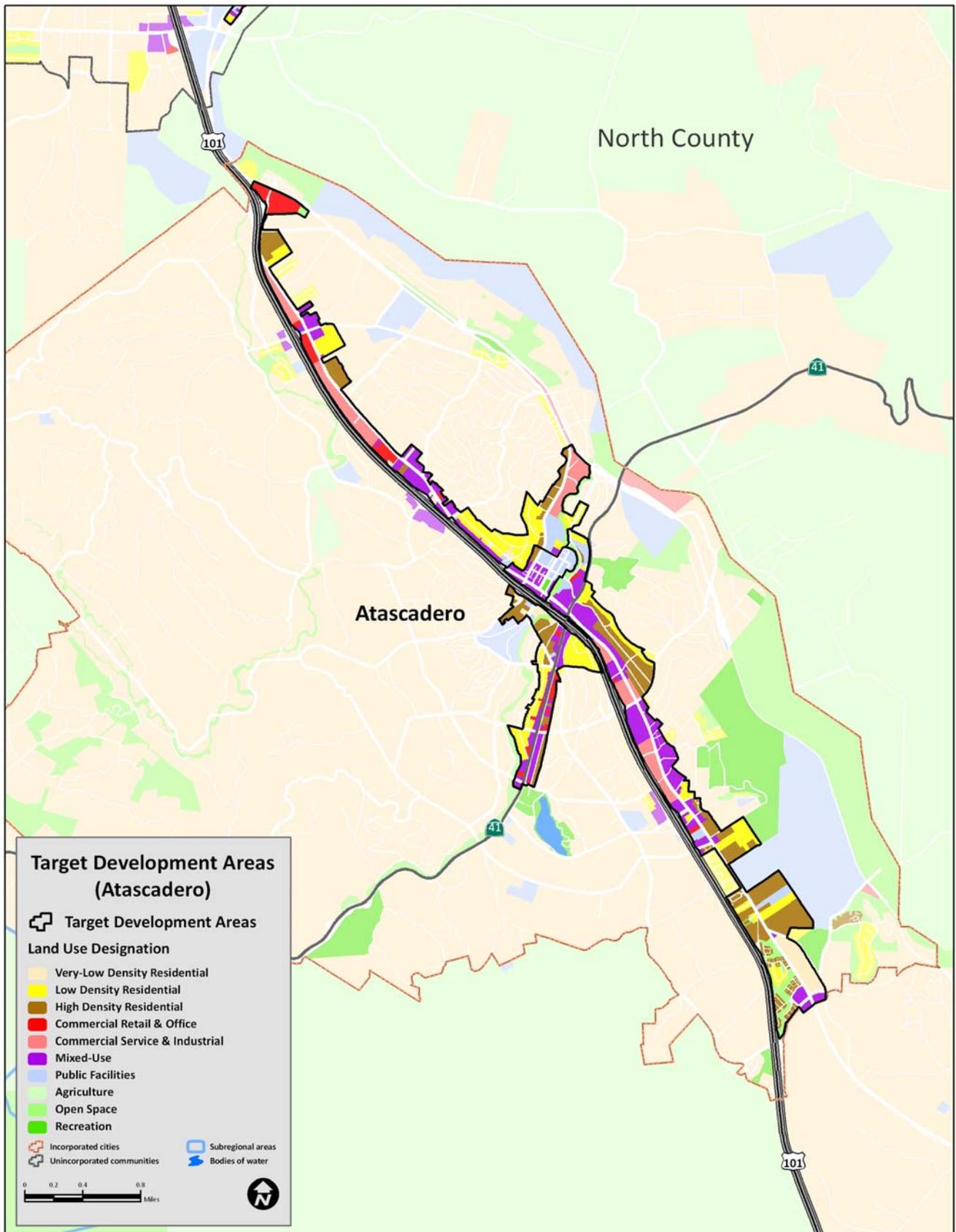


Figure 2-9
Target Development Areas: San Luis Obispo

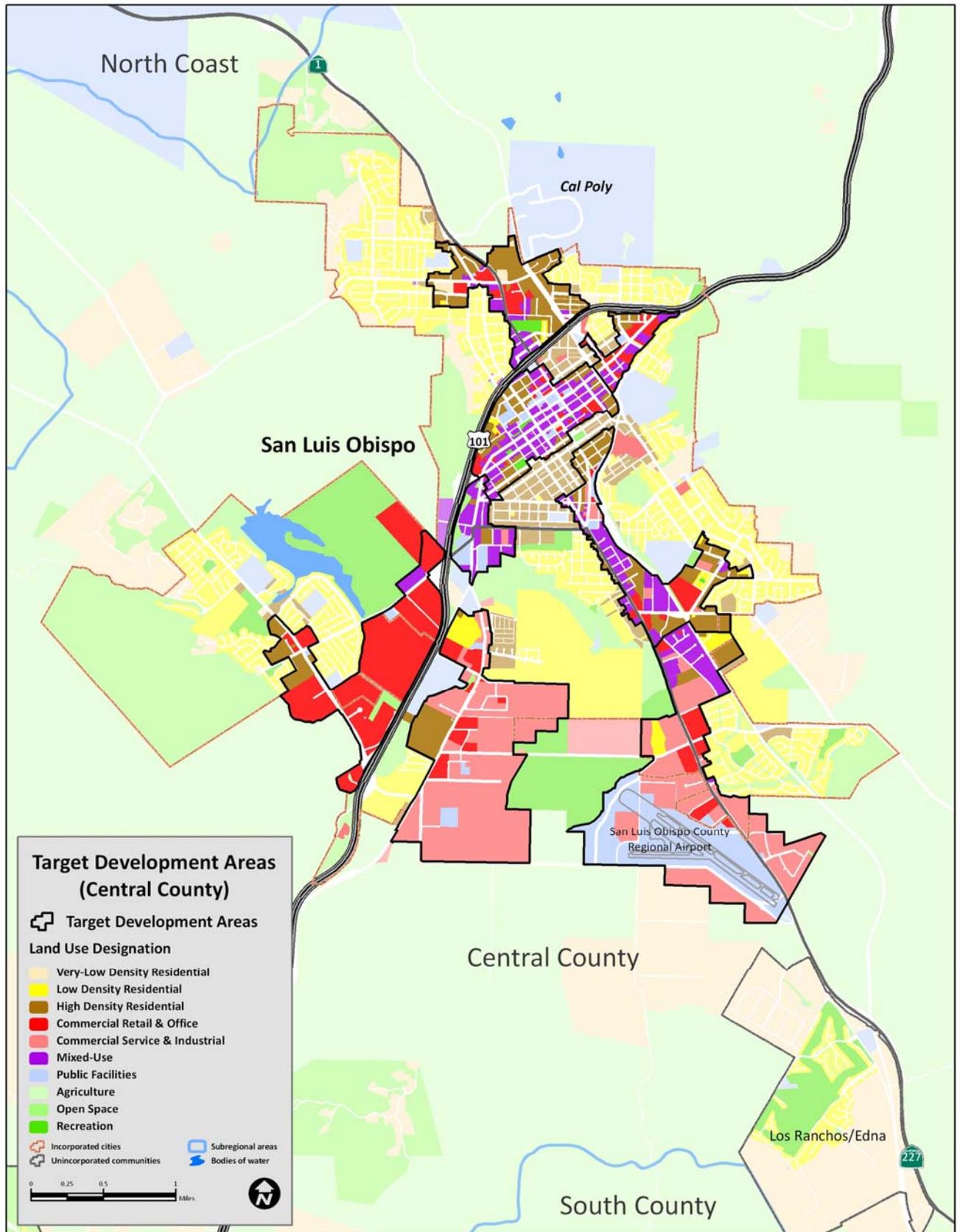


Figure 2-10
Target Development Areas: Morro Bay, Los Osos, Cayucos, and Cambria

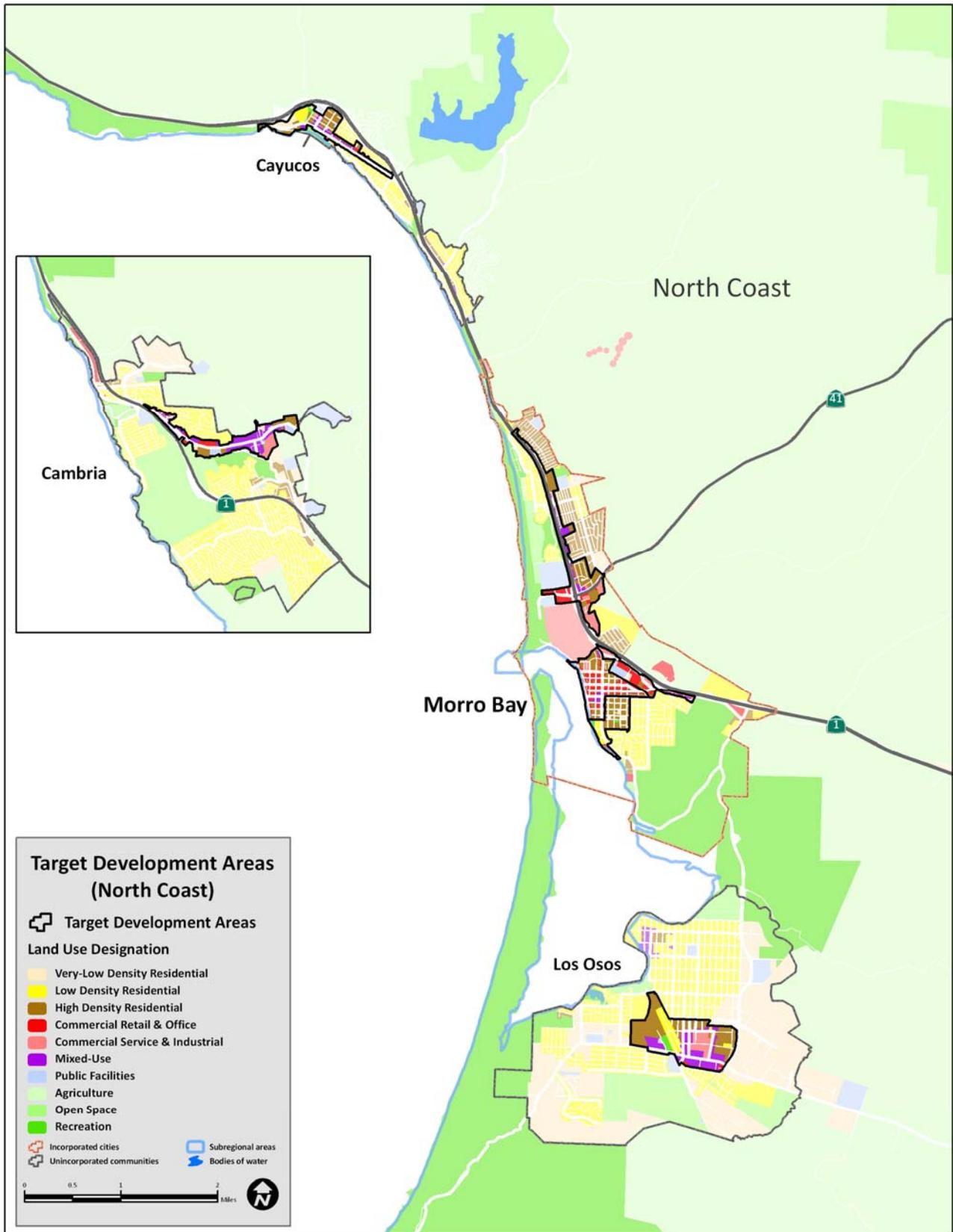
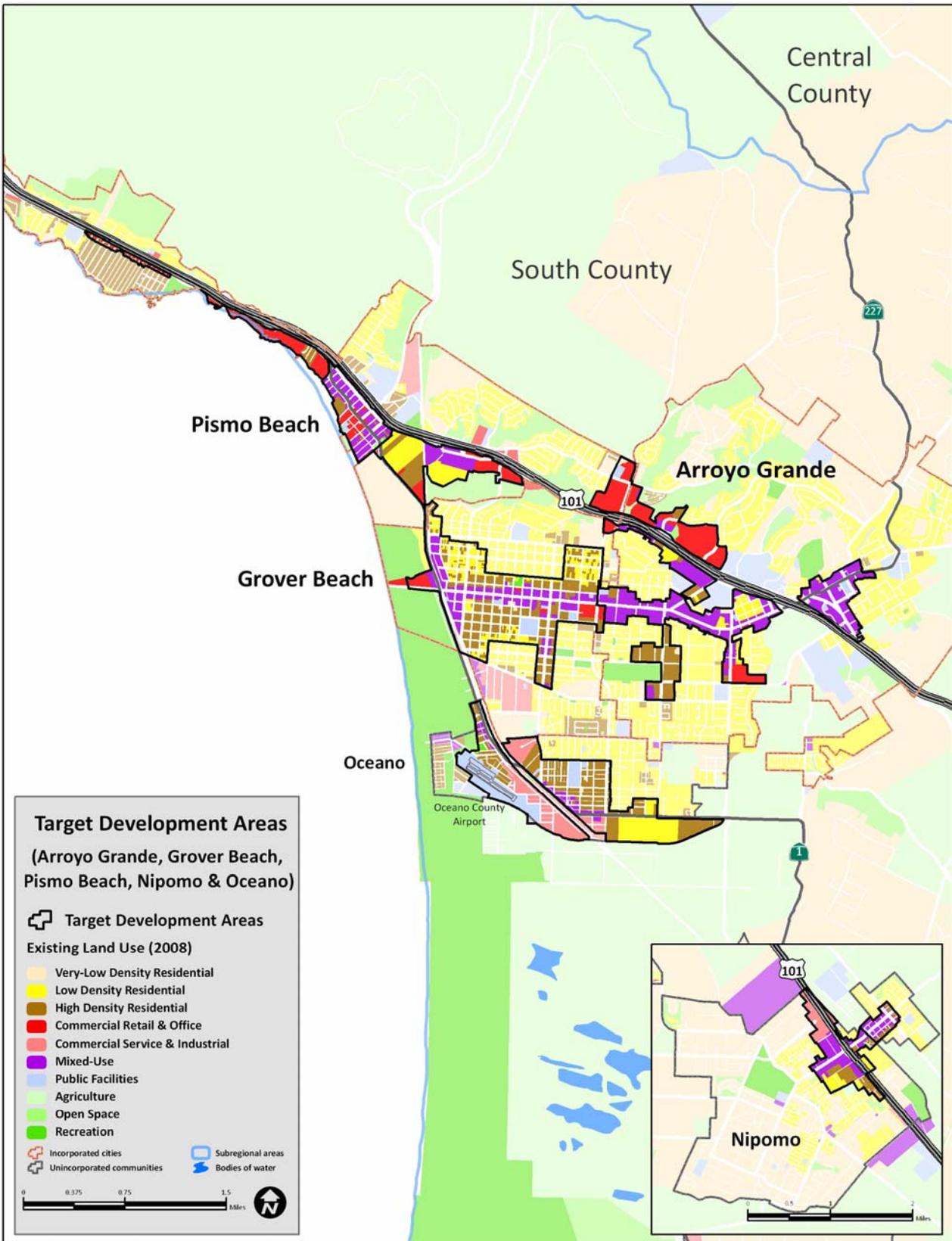


Figure 2-11

Target Development Areas: Arroyo Grande, Grover Beach, Pismo Beach, Oceano and Nipomo



Development of Regional Land Use Model and Regional Traffic Model

In December 2008, the SLOCOG Board provided direction regarding the implementation of the Community 2050 regional blueprint planning document. The Board instructed that the 2010 RTP update:

- Integrate *Community 2050* into the 2010 RTP and the Sustainable Communities Strategy.
- Refine the targeted development areas, commercial corridors and downtown and village centers.
- Work with jurisdictions and LAFCO to refine urban expansion areas and areas not to grow.
- Refine policies and identify incentives and/or programs to implement these efforts.

SB 375 explicitly assigns responsibilities to SLOCOG to implement the bill’s provisions for our region. The bill mandates the development of the SCS using an integrated regional land use and transportation planning approach to reduce greenhouse gas emissions from passenger vehicles and light trucks, and coordinate the regional housing needs allocation process with the regional transportation planning process.

Modeling Tools

Three modeling tools were used to compare regional land use alternatives:

- I-PLACE³S: - A regional land use model
- TransCAD: - A regional traffic model
- EMFAC 2007: - A regional air quality model

Regional Land Use Model

The I-PLACE³S land use model that allows the operator to allocate future anticipated growth at the parcel level and produces a set of land use performance measures such as dwelling units per acre and total developed acres for each land use scenario created. The output file from I-PLACE³S for each regional land use scenario is inputted into and tested with the Regional Traffic Model.

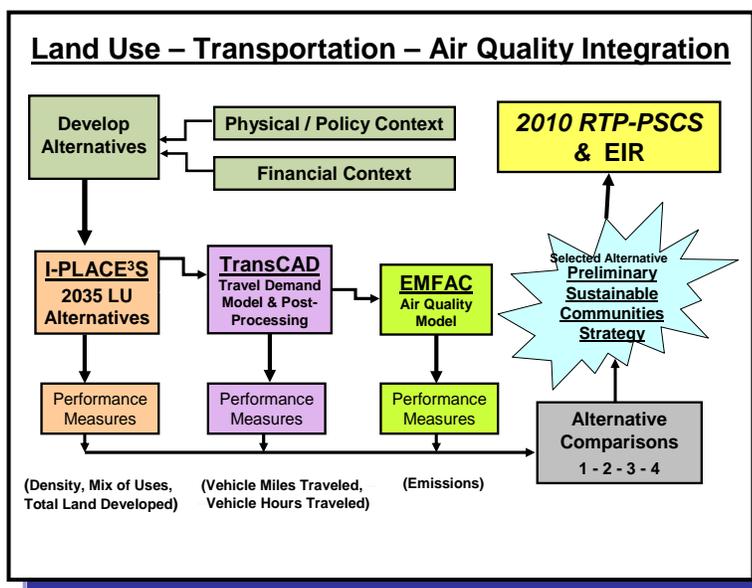
Regional Traffic Model

TransCAD is a regional traffic model that uses land use alternatives as an input and, using the road network, estimates transportation performance measures such as vehicle miles of travel, vehicle speeds, congestion, and delay through trip assignments to meet the demands of those land uses. The output file from TransCAD for each land use scenario is inputted into and tested with the Regional Air Quality Model.

Regional Air Quality Model

EMFAC 2007 is a regional air quality model that produces performance measures for greenhouse gas emissions and criteria air pollutants for all vehicle types based on vehicle miles traveled, vehicle type, fuel type and vehicle speed. The primary output from EMFAC2007 is metric tons of carbon dioxide emissions.

Figure 2-12



Proposed Land Use Projects

There are over 25 proposed land use projects of varying size and character throughout the region that were included in the development of land use scenarios for 2020 and 2035. The projects can be characterized as (a) predominantly residential with a limited commercial component, (b) predominantly residential with a traditional neighborhood design that allows for commercial or mixed-use development near residential uses; (c) commercial-only developments, or (d) infill or redevelopment projects developed in existing commercial corridors, downtowns or villages. In total, approximately 13,000 housing units could be built in these proposed land use projects, accounting for half of the projected housing need from 2008 to 2035.

Vacant Land in Cities and County Communities

Vacant properties exist throughout all of the cities and county communities in the region. Some of these are vacant lots that are part of an unfinished neighborhood that already have streets, sidewalks and other infrastructure already in place. Some of these properties are larger vacant parcels that are adjacent to existing development that are zoned for either residential or commercial development.

Rural Unincorporated Areas

These areas include properties zoned for Rural Residential (which generally allow for the development of 1 dwelling unit for 5-, 10-, or 20-acre minimum parcel size), properties zoned for agriculture (which require 20-acre to 320-acre minimum parcel size), and properties within antiquated subdivisions (where each parcel could potentially allow the development of 1 dwelling unit).

Medium- and High-Density Residentially-Zoned Land with Additional Capacity

These areas include properties zoned for medium- or high- density residential development that are not built to the allowable capacity under the general plan.



Population and Employment Projections

The regional land use model is developed in a manner that is consistent with the *Long-Range Socio-Economic Projections* report developed for the San Luis Obispo region to project countywide population and employment growth through 2035 (2009 update, Economics Research Associates/AECOM). In June 2009, the SLOCOG Board adopted revised 2035 population and employment projections for San Luis Obispo region that are used as the basis for the modeling effort. The SLOCOG Board supported the “Medium Scenario” for population and employment projections. Table 2-1 summarizes the adopted “Medium Scenario” projection.

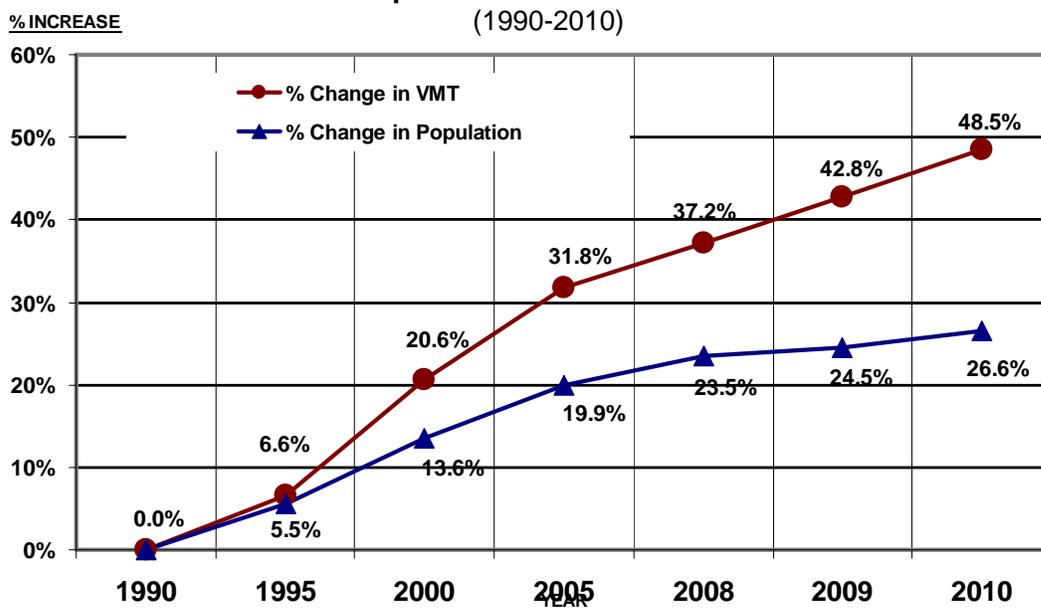
Table 2-1
Population and Employment Growth Estimates (“Medium Scenario”)

Year	Population	Employment
2008	269,300	103,000
2010	273,500	100,600
2015	284,900	106,100
2020	295,400	113,400
2025	305,500	121,100
2030	318,100	129,100
2035	330,800	138,100
Compound Annual Growth Rate	0.76%	1.09%
Numeric Growth	61,500	35,100
Annual Average Growth	2,300	1,300

Source: ERA | AECOM (May 2009)

Vehicle miles of travel (VMT) have grown faster than overall population over the past two decades as shown in Figure 2-9.

Figure 2-13
Growth in Population and Vehicle Miles of Travel



2020 and 2035 Land Use Scenario Development

To provide estimates of future traffic and emissions and compare outcomes of each set of policies and improvements different scenarios are created. The inputs are analyzed by the various models which generate projected results by scenario for comparison. SLOCOG evaluated four scenarios for year 2035 as part of the planning process of the *Preliminary Sustainable Communities Strategy*.

Scenario 1, the “*Business-As-Usual Scenario*”, represents the outcome if no action is taken to change current trends in land use development patterns and regional transportation policy. Scenario 2, the “*Preferred Growth Scenario*”, represents the goals and policies outlined in the *Community 2050 Regional Growth Strategy*. New growth is encouraged to be located in existing urbanized areas and discouraged in rural areas.

Scenarios 3 and 4 were considered as part of the analysis but were not included in the RTP. They were not found to be “*reasonably anticipated*” scenarios due to the high degree of concentrated development that would exceed local practices and resource capacities. In addition the restricted degree of rural development that accompanied these scenarios was also unrealistic as thousands of vacant parcels already exist and are entitled to allow an application for a building permit.

Scenario Descriptions: This section briefly describes the 2035 and 2020 land use scenarios that were analyzed over the past year as part of the Preliminary Sustainable Communities Strategy. Interim-year analysis for 2020 was not developed for Scenarios 3 and 4.

“Business-As-Usual Scenario” Assumptions

Assumptions used for the “*Business-As-Usual Scenario*” (Scenario 1) include the following:

- Half of the projected housing need is allocated to proposed land use projects, many of which are adjacent to the seven incorporated cities
- About twenty percent of the projected housing need is allocated to the rural unincorporated areas of the County, including to antiquated subdivisions
- The remaining thirty percent of the projected housing need is allocated to vacant residential land and vacant developable lots in the seven cities and county communities
- Most of the new employment growth will be allocated to vacant land designated as Commercial Retail, Commercial Service, Office or Industrial.
- Limited growth (both residential and employment) will be achieved through re-investment in existing commercial corridors.

“Business-As-Usual Scenario” (Scenario 1)

2020 Scenario 1 (“*Business-As-Usual Scenario*”)

This scenario is meant to reflect the interim year of 2020 for 2035 Scenario 1. The 2020 “*Business-As-Usual Scenario*” assumes the same basis as listed below for the 2035 Scenario and has recently been adjusted downward with the delay of anticipated projects to reflect the slower pace expected due to the current financial situation.

2035 Scenario 1 (“*Business-As-Usual Scenario*”)

The 2035 “*Business-As-Usual Scenario*” assumes a future development pattern that follows development trends of the past, - low density development pattern throughout the region. Generally, new development occurs in an outward growth pattern, with limited reinvestment in existing commercial corridors. This scenario also assumes development in the rural unincorporated area continues at its current ratio relative to development in urbanized areas.

“Preferred Growth Scenario” Assumptions

Assumptions used for the “Preferred Growth Scenario” (Scenario 2) include the following:

- The “Preferred Growth Scenario” assumes a future development pattern that accommodates many of the proposed land use projects as they are currently proposed, but reduces the number of units in some of the projects based on:
 - a. The type of project (greenfield or infill/redevelopment); and,
 - b. The project’s status as it relates to the land use planning frameworks (i.e., relation to general plan, cities’ spheres of influence, county urban and village reserve areas).

“Preferred Growth Scenario” (Scenario 2)

2020 Scenario 2 (*“Preferred Growth Scenario”*)

This scenario is meant to reflect the interim year of 2020 for 2035 Scenario 2. The 2020 Scenario 2 assumes intensification as described below for 2035. The models were calibrated to account for delayed implementation of many of the larger projects until after 2020.

2035 Scenario 2 (*“Preferred Growth Scenario”*)

The 2035 *Preferred Growth Scenario* assumes intensification in the Target Development Areas, which follow the existing commercial and multi-family corridors throughout the SLOCOG region. Twenty percent (20%) of new residential units are accommodated in mixed-use development along these commercial corridors. The scenario also assumes some reduction in the scale of proposed land use projects that are outside county communities and city spheres of influence. This scenario assumes development continues to occur in the rural unincorporated area to a lesser degree than in Scenario 1.

Analyzed and Rejected Scenarios (Scenarios 3 and 4)

2035 Scenario 3 (more aggressive than 2035 Scenario 2)

The 2035 Scenario 3 assumed greater intensification in the Target Development Areas with twenty-five percent (25%) of new residential units in mixed-use development along commercial corridors and assumed further reduction in the scale of proposed land use projects in the unincorporated areas outside county communities and spheres of influence. This scenario also assumed limited development occurs in the rural unincorporated area. A scenario for 2020 was not developed for 2035 Scenario 3 as it was deemed not to represent a reasonably anticipated future

2035 Scenario 4 (more aggressive than 2035 Scenarios 2 and 3)

The 2035 Scenario 4 assumed greater intensification than Scenario 3. Thirty-three percent (33%) of new residential units in mixed-use and no growth would be allocated to land use projects outside county communities and spheres of influence. No new development would occur on land zoned for agriculture in the rural unincorporated area. This scenario also assumed greater intensification occurred in medium and high- density residential areas. An interim year scenario for 2020 was not developed for Scenario 4.

Table 2-3 provides a summary of how the 2020 and 2035 land use scenarios were developed and how they differ in the way future residential and non-residential development was allocated throughout the region.

Table 2-3
2020 and 2035 Scenario Descriptions Matrix

Planning Theme	2008 Existing Conditions	Scenario 1 "Business-As-Usual Scenario"	Scenario 2 "Preferred Growth Scenario"
	Reflects existing conditions in 2008.	Future development same as recent past (fairly low density). Outward growth pattern, limited reinvestment in existing commercial corridors	Some intensification through reinvestment in existing commercial corridors. Some new development follows historical development pattern.
Land use modeling component Characterization of each component of land use modeling process for each scenario			
Proposed land use projects	A number of land use projects are proposed throughout the county.	All projects assumed to be built as proposed.	Reduction in scale of projects for those outside of cities' spheres of influence (SOI) and outside county communities.
Target development areas	Very limited residential development exists in commercial corridors where zoning allows for mixed-use development.	Limited residential growth in target development areas; assumes some intensification as a result of specific plans for infill.	About 20% of projected residential units.
Vacant residential and commercial land in cities and county communities	Vacant land and vacant developable lots exist throughout county.	Developed to capacity of general plan. Commercial development assigned to vacant non-residential land.	Developed to capacity of general plan. Commercial development assigned to vacant non-residential land.
Rural unincorporated land	Extensive rural residential growth in unincorporated area.	Continued growth on land zoned for agriculture. Land zoned for rural residential assumed to build out.	Limited residential growth on land zoned for agriculture. Land zoned for rural residential assumed for build out.
Medium- and high-density residential with additional capacity under general plan.	Additional capacity exists in land zoned for medium- and high-density residential throughout the county.	No intensification.	Limited intensification of medium- and high-density residential with additional capacity under the existing general plan.



Regional Traffic Model Development

The SLOCOG Regional Traffic Model is based on a master network of roadways as well as demographic data as generated from the I-PLACE³S land use model. The master roadway network contains data on existing facility features for existing roadways, including sidewalks. For scenario testing, both 2020 and 2035 scenarios assumed the following capacity or connection improvements identified (no guarantees of funding is made for projects).

Sidewalk Improvements

Within the target development areas (TDAs) of the 2008 model network, 71 miles of streets were classified as having 'partial sidewalks' (meaning the presence of a sidewalk on one side of the street), 90 miles of streets were classified with 'full sidewalks' (180 linear miles), and 28 miles of streets were not reviewed.

- 2035 Scenario 1 and 2020 Scenario 2 add nearly 60 miles of new sidewalks by improving any street within a TDA with 'no sidewalks' in 2008 to a 'partial sidewalk'.
- 2035 Scenario 2 adds over 120 linear miles (over 2008) of sidewalk by improving any street, within all TDAs, with 'no sidewalks' in 2008 to a 'partial sidewalk' AND any street within a TDA with 'partial sidewalk' in 2008 to a 'full sidewalk'.

Integration of 4-D Variables

Prior to running the traffic model or even converting the I-PLACE³S export, the following 'D' variable inputs were generated. "D" variables are generated and use by the model as inputs that provide adjustments based on established factors to the model's results. The TAZs in the Regional Traffic Model that have higher 'D' variables will adjust VMT for street and roads located in those TAZs generating results that account for the presence of "D" factors.

- Design:** The 2035 street network (with RTP capacity-increasing improvements), node network, and Traffic Analysis Zone (TAZ) structure are processed to generate such information as route directness, length of streets and sidewalks, intersection densities, TAZ size, and a pedestrian design score.
- Density:** The model calculates employees per acre and dwelling units per acre based on each land use scenario.
- Diversity:** The model calculates employment per population based on each land use scenario.
- Destinations:** The distribution of trips to and from home, work, school or other.



Regional Traffic Model Results

All land use scenarios, including 2008 Existing Conditions, were processed similarly through conversion tools to create the traffic model inputs and calculate 4D adjustments. The 2008 base year was calibrated to existing counts, no 4-D adjustment is used, and future scenario adjustments are compared with the 2008 base year. The Regional Traffic Model does not inherently address mode choice, but relies upon a post-processor to quantify results from increased transit, bike, and ridesharing improvements. The 2008, 2020, and 2035 scenarios were run in the traffic model and similarly adjusted for transit and TDM measures using the VMT Quick Response Tool. The following results were based on a methodology identified by the California Air Resources Board's Regional Targets Advisory Committee and detailed coordination and discussions with ARB and SLOAPCD staff. At this time the preferred method of VMT calculation eliminated the VMT of trips that originated and terminated outside the region. The VMT of trips that either ended or started in the SLOCOG region (but had one end outside) was halved.

2020 Scenario 1 and 2020 Scenario 2

In 2020 Scenario 1, daily VMT increases by 0.7% over the 2008 base year. Since the region's population increases by 6.9% by 2020, VMT per capita decreases by 6.4% (from 19.1 to 17.9 VMT per capita) when compared to the 2008 base year, when accounting for the potential reduction in daily VMT realized from transit and TDM improvements through the *VMT Quick Response Tool*. By contrast, daily VMT per capita may decrease by up to 7.9% (from 19.1 to 17.6 VMT per capita) in 2020 Scenario 2 when compared to the 2008 base year.

2035 Scenario 1 and 2035 Scenario 2

In 2035 Scenario 1, daily VMT increases by 15.9% over the 2008 base year. Since the region's population increases by 22.8% by 2035, VMT per capita decreases by 8.1% (from 19.1 to 17.1 VMT per capita) when compared to the 2008 base year, when accounting for the potential reduction in daily VMT realized from transit and TDM improvements through the *VMT Quick Response Tool*. By contrast, daily VMT per capita may decrease by up to 10.5% (from 19.1 to 17.1 VMT per capita) in 2035 Scenario 2 when compared to the 2008 base year.



For additional analysis of land use and travel model results, please see the *Preliminary Sustainable Communities Strategy: Land Use and Traffic Model Report* (Appendix H).

Emissions Model Results

This section provides summary results of the emissions modeling, comparing the 2008 Existing Conditions (base year) to the “*Business-As-Usual Scenario*” and the “*Preferred Growth Scenario*” (for both 2020 and 2035). Emissions modeling and summary results were prepared by staff at the San Luis Obispo County Air Pollution Control District (APCD). Traffic model results for each scenario were used as inputs into EMFAC2007, the emissions modeling software. SB 375 exclusively targets greenhouse gas (GHG) reductions from automobiles and light trucks (the first 4 of 13 vehicle classes in the EMFAC model). It should be noted that not including the other vehicle classes underestimates the total GHG emissions from vehicles in SLO County by about 17%. Results are summarized below as daily VMT per capita and daily CO₂ emissions per capita. Full results include total daily VMT and total daily CO₂ emissions.

Comparison of 2020 Scenarios to 2008 Base Year

Table 2-4 provides a comparison of VMT per capita and greenhouse gas emissions per capita for 2020 Scenario 1 and 2020 Scenario 2 as compared to 2008 base year.

Table 2-4
Comparison of VMT and GHG figures for 2008 Base Year and 2020 Scenarios.

Key Metrics (2008 base year vs. 2020)^{2,3,4}	2008 Base Year	2020 Scenario 1 "Business-As-Usual Scenario"	2020 Scenario 2 "Preferred Growth Scenario"	%change (2008 BY vs 2020 S1)	%change (2008 BY vs 2020 S2)
Population	269,300	288,000	288,000	6.9%	6.9%
Daily VMT ^{5,6}	5,140,635	5,144,435	5,062,732	0.1%	-1.5%
Daily VMT per capita	19.1	17.9	17.6	-6.4%	-7.9%
Daily CO₂ emissions per capita (lbs)	16.5	15.2	14.8	-8.1%	-10.1%

Note 1: San Luis Obispo County APCD staff prepared this table for baseline and SLOCOG identified future land use development scenarios.

Note 2: These results account for land use changes, 4-D improvements, transit improvements and TDM improvements.

Note 3: The Pavley II and Low Carbon Fuel Standard adjustments are not applied in this planning scenario process.

Note 4: SLOCOG TransCAD regional traffic model was used to provide vehicle miles of travel (VMT) and vehicular speed information (speed bins) inputs for the EMFAC2007 vehicular emissions model. The TransCAD model is a single mode vehicular model that accounts for VMT impacts of actual and proposed land use development. 4-D refers to design, density, diversity and destination; i.e., compact urban design in the allocation of new development.

Note 5: SLOCOG TransCAD regional traffic model, a single-mode model, provides VMT values that include 100% of the VMT from trips starting and ending in San Luis Obispo County (“internal-internal” trips), 50% of the VMT from trips that start in San Luis Obispo County and end in another (“internal-external” trips), 50% of the VMT from trips that start in another county and end in San Luis Obispo County (“external-internal” trips), 0% of the VMT of trips that pass through the county but start and end in other counties. The VMT not accounted for in the EMFAC emissions simulations is roughly 26 percent of total VMT in the county.

Note 6: SB 375 addresses greenhouse gas emissions from passenger vehicles and light-duty trucks (the first 4 of the 13 vehicle classes in the EMFAC model). It should be noted that not including the other vehicle classes underestimates the total greenhouse gas emissions from vehicles in San Luis Obispo County by about 17 percent (based on the 2008 Existing Conditions EMFAC simulation).

Daily CO₂ emissions per capita are reduced by 8.1 percent (16.5 to 15.2 lbs. of CO₂ per capita) in 2020 Scenario 1 compared to the 2008 base year, and by 10.1 percent (16.5 to 14.8 lbs. of CO₂ per capita) in 2020 Scenario 2 when compared to the 2008 base year.

Comparison of 2035 Scenarios to 2008 Base Year

Table 2-5 provides a comparison of VMT per capita and greenhouse gas emissions per capita for 2035 Scenario 1 and 2035 Scenario 2 as compared to 2008 Base Year.

Table 2-5
Comparison of VMT and GHG figures for 2008 Base Year and 2035 Scenarios.

Key Metrics (2008 base year vs. 2035) ^{1,2,3,4}	2008 Base Year	2035 Scenario 1 "Business-As-Usual Scenario"	2035 Scenario 2 "Preferred Growth Scenario"	% change (2008 BY vs. 2035 S1)	% change (2008 BY vs. 2035 S2)
Population	269,300	330,800	330,800	22.8%	22.8%
Daily VMT ^{5,6}	5,140,635	5,803,759	5,649,854	12.9%	9.9%
Daily VMT per capita	19.1	17.5	17.1	-8.1%	-10.5%
Daily CO ₂ emissions per capita (lbs)	16.5	14.8	14.3	-10.6%	-13.4%

Note 1: San Luis Obispo County APCD staff prepared this table for baseline and SLOCOG identified future land use development scenarios.

Note 2: These results account for land use changes, 4-D improvements, transit improvements and TDM improvements.

Note 3: The Pavley II and Low Carbon Fuel Standard adjustments are not applied in this planning scenario process.

Note 4: SLOCOG TransCAD regional traffic model was used to provide vehicle miles of travel (VMT) and vehicular speed information (speed bins) inputs for the EMFAC2007 vehicular emissions model. The TransCAD model is a single mode vehicular model that accounts for VMT impacts of actual and proposed land use development. 4-D refers to design, density, diversity and destination; i.e., compact urban design in the allocation of new development.

Note 5: SLOCOG TransCAD regional traffic model, a single-mode model, provides VMT values that include 100% of the VMT from trips starting and ending in San Luis Obispo County ("internal-internal" trips), 50% of the VMT from trips that start in San Luis Obispo County and end in another ("internal-external" trips), 50% of the VMT from trips that start in another county and end in San Luis Obispo County ("external-internal" trips), 0% of the VMT of trips that pass through the county but start and end in other counties. The VMT not accounted for in the EMFAC emissions simulations is roughly 26 percent of total VMT in the county.

Note 6: SB 375 addresses greenhouse gas emissions from passenger vehicles and light-duty trucks (the first 4 of the 13 vehicle classes in the EMFAC model). It should be noted that not including the other vehicle classes underestimates the total greenhouse gas emissions from vehicles in San Luis Obispo County by about 17 percent (based on the 2008 Existing Conditions EMFAC simulation).

Daily CO₂ emissions per capita are reduced by 10.6 percent (16.5 to 14.8 lbs. of CO₂ per capita) in 2020 Scenario 1 compared to the 2008 Base Year, and by 13.4 percent (16.5 to 14.3 lbs. of CO₂ per capita) in 2020 Scenario 2 when compared to the 2008 Base Year.

Land Use Model Results

This section describes model results from the *2008 Existing Conditions*, *2020 Scenario 1* and *2020 Scenario 2*, and *2035 Scenario 1* and *2035 Scenario 2*. Housing units on agriculture-zoned properties of more than 20 acres are not included in residential density calculations. This was done to more accurately reflect the residential density in more developed areas of the county. Additionally, only non-farm employment figures are considered in employment figures. This was done to more accurately reflect the current and future "footprint" of employment centers in existing urbanized areas.

Table 2-6 provide a comparison of the 2008 existing conditions, the two 2020 scenarios, and the two 2035 land use scenarios based on key performance measures, including *total dwelling units*, *total employees*, *acres with dwelling units*, *acres with employment*, *total developed acres*, *dwelling units per acre*, *non-farm employees per acre*, and *non-farm employment per dwelling unit*.

Table 2-6
Regional Land Use Performance Measures

Scenario	2008 Existing Conditions	2020 Scenario 1 "Business-As-Usual"	2020 Scenario 2 "Preferred Growth Scenario"	2035 Scenario 1 "Business-As-Usual"	2035 Scenario 2 "Preferred Growth Scenario"
Total residents ^(a)	258,213	278,135	278,157	320,121	320,267
Total dwelling units ^(b)	106,605	114,871	114,997	130,139	131,917
Total employees (non-farm)	101,543	110,876	110,872	141,769	141,625
Acres with dwelling units ^(b)	43,433	46,737	45,813	56,389	49,961
percent change from 2008 EC		7.6%	5.5%	29.8%	15.0%
percent change from 2020 BAU		--	-2.0%	--	--
percent change from 2035 BAU		--	--	--	-11.4%
Acres with employees (non-farm)	11,370	11,884	11,817	13,046	13,038
percent change from 2008 EC		4.5%	3.9%	14.7%	14.7%
percent change from 2020 BAU		--	-0.6%	--	--
percent change from 2035 BAU		--	--	--	-0.1%
Total developed acres (non-farm)	54,803	58,621	57,630	69,435	62,999
percent change from 2008 EC		7.0%	5.2%	26.7%	15.0%
percent change from 2020 BAU		--	-1.7%	--	--
percent change from 2035 BAU		--	--	--	-9.3%
Dwelling units per acre ^(b)	2.45	2.46	2.51	2.31	2.64
percent change from 2008 EC		0.1%	2.3%	-6.0%	7.6%
percent change from 2020 BAU		--	2.1%	--	--
percent change from 2035 BAU		--	--	--	14.4%
Employees per acre (non-farm)	8.93	9.33	9.38	10.87	10.86
percent change from 2008 EC		4.5%	5.1%	21.7%	21.6%
percent change from 2020 BAU		--	0.6%	--	--
percent change from 2035 BAU		--	--	--	0.0%
Non-farm employment per d.u.	0.95	0.97	0.96	1.09	1.07

Notes:

(a) Total residents does not account for the estimated group quarters population of 16,064.

(b) Place Types "Agriculture - Residential", "Agriculture" and "Grazing and Ranch Lands" not included in this calculation.

Number of New Housing Units by Type

Table 2-7 provides a comparison of housing types for *new* housing units for the 2020 and 2035 scenarios as compared to the 2008 Existing Conditions.

Table 2-7
Number of New Housing Units by Type

Scenario	2008 Existing Conditions	2020 Scenario 1 "Business-As-Usual"	2020 Scenario 2 "Preferred Growth Scenario"	2035 Scenario 1 "Business-As-Usual"	2035 Scenario 2 "Preferred Growth Scenario"
Housing Type	Existing Dwelling Units	New Dwelling Units			
Rural Residential	10,958	11,830	11,429	16,248	12,922
Single Family, Large-Lot	21,431	23,023	22,882	30,872	28,023
Single Family, Medium-Lot	28,281	30,359	30,209	32,249	33,036
Single Family, Small-Lot	13,142	13,731	13,684	13,891	14,350
Attached Single Family	8,616	10,291	10,229	11,285	12,321
Apartment / Rental Housing	20,035	20,910	20,724	22,241	22,684
Mobile Home Park	7,325	7,325	7,325	7,295	7,325
Mixed-Use	175	1,087	2,031	2,218	6,533
Total	109,963	118,556	118,513	136,299	137,194

Number of Employees by Sector

Table 2-8 is a comparison table of employees by general employment types for the 2008 Existing Conditions and 2035 "Business-As-Usual" scenarios. The differences between the land use scenarios is dependent upon what employment land use types (i.e., place types such as commercial, light industrial or office) that were allocated to land zoned for non-residential development in each scenario.

Table 2-8
Number of Employees by Sector

Scenario	2008 Existing Conditions	2020 Scenario 1 "Business-As-Usual"	2020 Scenario 2 "Preferred Growth Scenario"	2035 Scenario 1 "Business-As-Usual"	2035 Scenario 2 "Preferred Growth Scenario"
Employment Sector	Number of Employees				
Retail	38,569	42,864	42,820	56,132	52,996
Office	31,032	34,438	34,825	47,663	49,148
Industrial	9,289	10,508	10,128	14,560	16,044
Public	21,121	21,524	21,558	21,918	21,939
Other	2,888	2,888	2,885	2,838	2,841
Total	102,899	112,222	112,216	143,111	142,968

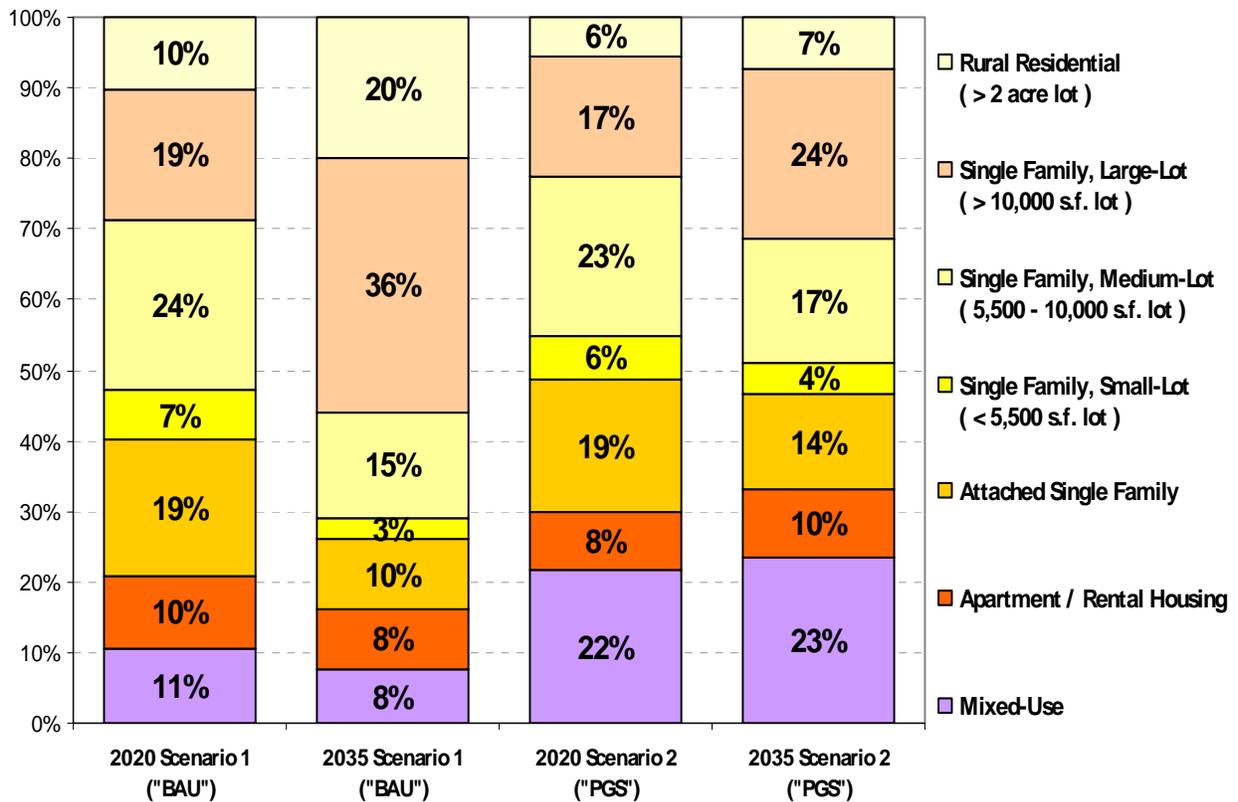
Housing Mix of New Housing Units

Figure 2-9 shows the housing type distribution of the 2020 “Business-As-Usual Scenario” compared to the 2020 “Preferred Growth Scenario” and the 2035 “Business-As-Usual Scenario” compared to the 2035 “Preferred Growth Scenario”. This set of bar charts only shows new housing units allocated in the land use modeling process in the two different time periods: 2008 to 2020 (left side) and 2008 to 2035 (right side).

The first and second bar charts demonstrate that more new growth in Scenario 1 is allocated as Large-Lot Single Family homes (19% and 36% in 2020 and 2035, respectively) or Rural Residential (10% and 20% in 2020 and 2035, respectively). By contrast, the third and fourth bar charts demonstrate that more new growth in Scenario 2 is allocated as mixed-use development (22% and 23% in 2020 and 2035, respectively).

Figure 2-14

Housing Mix of New Housing Units
(Comparison of 2020 and 2035 scenarios)



Note: This set of stacked bar charts represents the difference in allocation of housing units by type. The projected housing need between 2008 and 2020 is estimated to be 8,500 dwelling units; the projected housing need between 2008 and 2035 is estimated to be 26,000 dwelling units.

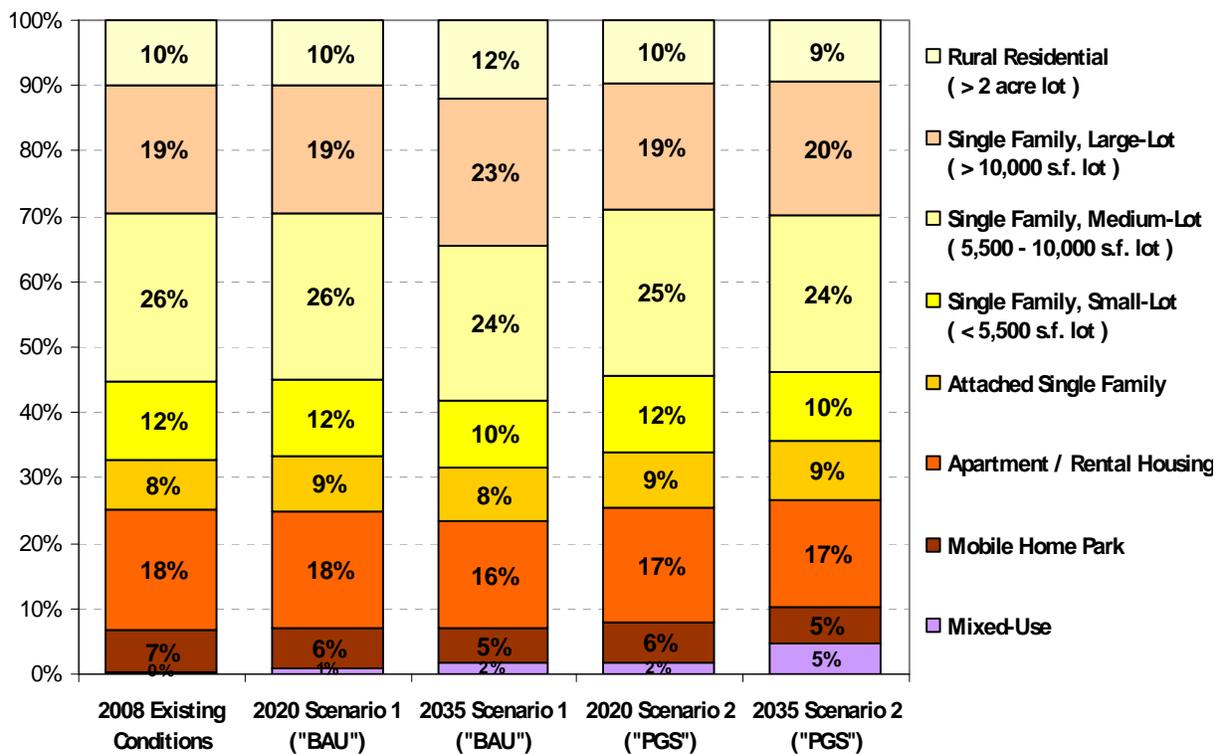
Total Housing Type Distribution

Figure 2-10 shows the housing type distribution of the total housing stock of the 2020 scenarios and the 2035 scenarios as compared to the housing type distribution of the total housing stock of the 2008 Existing Conditions scenario. Very little change in the total housing stock results from the allocation of new units from 2008 to 2020, as evidenced by the limited change in percentages of the seven different housing types in the second and third stacked bars when compared to the first stacked bar. Some change in the total housing stock occurs in the longer time horizon of 2008 to 2035. Rural Residential becomes a slightly larger percentage of the housing stock in 2035 Scenario 1, at 12 percent of the total housing stock compared to 10 percent of the total housing stock in 2008 or in the two 2020 scenarios. The respective shares of the total housing stock that are Medium-Lot Single Family, Small-Lot Single Family, Attached Single Family, or Apartment/Rental Housing are all reduced in 2035 Scenario 1 when compared to the housing stock of 2008 or the two 2020 scenarios. The share of the overall housing stock that is Rural Residential is reduced from 10 to 9 percent in 2035 Scenario 2 when compared to 2008 or the two 2020 scenarios.

Figure 2-15

Total Housing Type Distribution

(Comparison of 2008 Existing Conditions with 2020 and 2035 Scenarios)



For additional analysis of land use and travel model results, please see the *Preliminary Sustainable Communities Strategy: Land Use and Traffic Model Report* (Appendix H).

Modeling Conclusions

The land use and travel model results demonstrate that the implementation of the “Preferred Growth Scenario” (Scenario 2) can result in a reduction in per-capita vehicle miles of travel (VMT) and per-capita greenhouse gas emissions for year 2020 and year 2035. Implementation of the 2020 “Preferred Growth Scenario” could result in up to a 7.9 percent reduction in daily VMT per capita when compared to the 2008 base year and up to a 10.1 percent reduction in daily CO₂ per capita when compared to the 2008 base year.

Implementation of the 2020 “Preferred Growth Scenario” could result in a 1.5 percent reduction in absolute vehicle miles of travel when compared to the 2008 base year. Implementation of the 2035 “Preferred Growth Scenario” could result in up to a 10.5 percent reduction in daily VMT per capita when compared to the 2008 base year and up to a 13.4 percent reduction in daily CO₂ per capita when compared to the 2008 base year. However, the 2035 “Preferred Growth Scenario” would result in a 9.9 percent increase in absolute vehicle miles of travel when compared to the 2008 base year.

The “Preferred Growth Scenario” is consistent with policy PSCS 4 (“Reduce vehicle miles of travel related emissions”), as it will result in a per-capita reduction in daily VMT and daily CO₂ in 2020 and 2035 when compared to the 2008 base year. The 2010 RTP-PSCS would result in a 13 percent per capita reduction in greenhouse gas emissions in 2035 even though the population is expected to increase by 23 percent.

New growth identified in the implementation of the “Preferred Growth Scenario” is more compact than the existing housing stock. The housing distribution of the existing housing stock includes only nominal housing units in mixed-use developments, while 23 percent of new housing units in the “Preferred Growth Scenario” are in mixed-use development. As noted in Figure 2-9 above, 51 percent of new growth identified in 2035 “Preferred Growth Scenario” is either “Mixed-Use”, “Apartment/Rental Housing”, “Attached Single Family” (Condominiums), or “Single Family, Small-Lot” (under 5,500 square feet or greater than 8 units per acre). By contrast, only 29 percent of new growth identified in 2035 “Business-As-Usual Scenario” is one of the above housing types.

Although no data is available to support the following claim at this time, these above housing types would generally be considered to be less expensive due to lot size or tenure of the housing type (i.e., these four housing types are more likely to be rental housing). Additionally, these four housing types consume much less land than “Rural Residential” (2-acre lots or larger), “Single Family, Large-Lot” (2-acre lots to 4 units per acre), or “Single Family, Medium-Lot” (4 to 8 units per acre).

The implementation of the 2035 “Preferred Growth Scenario” would consume less than half as many acres (18,486 acres of newly developed land) as the 2035 “Business-As-Usual Scenario” (40,319 acres of newly developed land). In this way, the “Preferred Growth Scenario” is consistent with policy PSCS 14 (“Preserve important farmland, valuable habitats, and natural resources”).

Although nearly a quarter of new growth (23 percent) in the 2035 “Preferred Growth Scenario” would be housing units in mixed-use developments (see Figure 2-9), the share of the total housing stock that is “mixed-use” would increase from under 1 percent in the 2008 base year to 5 percent in 2035. In the 2020 “Preferred Growth Scenario”, the share of the total housing stock that is “mixed-use” would only increase to 2 percent. This underscores the reality that overall changes in the housing market take a long time to produce significant results in a slow-growth region such as San Luis Obispo County.

California Climate Adaptation Strategy

As identified in the *2009 California Climate Adaptation Strategy* (www.climatechange.ca.gov), the basic purpose and overarching goal is to begin a statewide, ongoing, and committed process of adapting to a changing climate in the context of other changes in the environment, the economy, and society. AB 32 and SB 375 are key pieces of the framework that connect these state initiatives to the transportation planning process. Issues identified in the *Community 2050* Regional Blueprint and the *2010 RTP-PSCS* regarding better integrating transportation and reducing emissions are the primary focus of SLOCOG's effort to begin addressing climate adaptation strategies.

Generally, research indicates that California should expect overall hotter and drier conditions with a continued reduction in winter snow (with concurrent increases in winter rains), as well as increased average temperatures, and accelerating sea-level rise. In addition to changes in average temperatures, sea level, and precipitation patterns, the intensity of extreme weather events is also changing.

The *2009 California Climate Adaptation Strategy* notes that addressing adaptation in policy and practice is a new concept in state and local government policy. The issue generally refers to efforts that respond to the *impacts* of climate change – adjustments in natural or human systems to actual or expected climate changes to minimize harm or take advantage of beneficial opportunities. The RTP and the PSCS strive to reduce impacts associated with travel and realign land use policy to support more efficient connectivity and minimize climate impacts especially from transportation sources.

The *California Climate Adaptation Strategy* recommends taking the following seven steps and the development of a fully compliant SCS will require greater attention to these concerns:

- + Analyze risks;
- + Identify strategies that help reduce vulnerabilities and build climate resilience;
- + Explore cross-cutting supportive strategies;
- + Prioritize strategies;
- + Specify future direction;
- + Recommend immediate and near-term priorities for implementing strategies;
- + Inform and engage the public about risks and strategies.

In coordination with the Governor's Climate Action Team the Climate Adaptation Advisory Panel (CAAP) is scheduled to complete a report by December 2010. Key preliminary recommendations include:

1. California must change its water management and uses and implement strategies to achieve a statewide 20 percent reduction in per capita water use by 2020, expand surface and groundwater storage, implement efforts to fix water supply, quality, and ecosystem conditions, support agricultural water use efficiency, improve state-wide water quality, and improve Delta ecosystem conditions and stabilize water supplies.
2. Agencies should consider project alternatives that avoid significant new development in areas that cannot be adequately protected from flooding, wildfire and erosion due to climate change; and, minimize the adverse effects of sea level rise and storm activities by carefully considering new development within vulnerable areas. Agencies should generally not plan, develop, or build any new significant structure in a place where that structure will require significant protection during the expected life of the structure.

3. All state agencies responsible for the management and regulation of public health, infrastructure or habitat subject to significant climate change should prepare agency-specific adaptation plans, guidance, or criteria.
4. To the extent required by CEQA all significant state projects, including infrastructure projects, must consider the potential impacts of locating such projects in areas susceptible to hazards resulting from climate change.
5. The California Emergency Management Agency (Cal EMA) will collaborate with others to assess California's vulnerability to climate change, identify impacts to state assets, and promote climate adaptation/mitigation awareness. The transportation sector will specifically assess how transportation nodes are vulnerable and the type of information that will be necessary to assist response to district emergencies. Special attention will be paid to the most vulnerable communities impacted by climate change in all studies.
6. The state should identify key California land and aquatic habitats that could change significantly during this century due to climate change and the state should develop a plan for expanding existing protected areas or altering land and water management practices to minimize adverse effects from climate change induced phenomena.
7. The California Department of Public Health will develop guidance by September 2010 for use by local health departments and other agencies to assess mitigation and adaptation strategies and assist communities in building resilience to increased spread of disease and temperature increases, which include impacts on vulnerable populations and communities and assessment of cumulative health impacts. This includes assessments of land use, housing and transportation proposals that could impact health, greenhouse gas emissions, and community resilience for climate change, such as what is addressed in SB 375 regarding sustainable communities.
8. The most effective adaptation strategies relate to short and long-term decisions. Most of these decisions are the responsibility of local community planning entities. As a result, communities with General Plans and Local Coastal Plans should begin, when possible, to amend their plans to assess climate change impacts, identify areas most vulnerable to these impacts, and develop reasonable and rational risk reduction strategies using the CAS as guidance. Every effort will be made to provide tools, such as interactive climate impact maps, to assist in these efforts.
9. State fire fighting agencies should begin immediately to include climate change impact information into fire program planning to inform future planning efforts. Enhanced wildfire risk from climate change will likely increase public health and safety risks, property damage, fire suppression and emergency response costs to government, watershed and water quality impacts, and vegetation conversions and habitat fragmentation.
10. State agencies should meet projected population growth and increased energy demand with greater energy conservation and an increased use of renewable energy. Renewable energy supplies should be enhanced'
11. Existing and planned climate change research can and should be used for state planning and public outreach purposes; new climate change impact research should be broadened and funded. Every effort will be made to increase funding for climate change research, focusing on three areas: linkages with federal funding resources, developing Energy Commission-led vulnerability studies, and synthesizing the latest climate information into useable information for local needs through the CalAdapt tool.

This series of maps was developed as part of SLOCOG’s *Community 2050* Regional Blueprint. Similar maps were created for each of the other subregions to assist in evaluating background conditions for existing and future development and clearly communicating with stakeholders and the public regarding sensitive areas. SLOCOG coordinated with federal state and local agencies responsible for land use, natural resources, environmental protection, conservation and historic preservation in compiling the latest available data for this effort.

These maps can be viewed at a larger scale on the SLOCOG website www.slocog.org

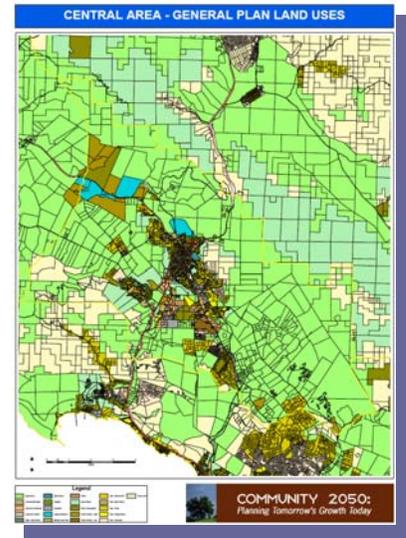


Figure 2-16

Land Use, Resources and Hazards Maps

[To view larger scale maps visit the SLOCOG 2010 RTP-PSCS website]

