U.S. Route 101
Corridor System Management Plan

Santa Maria to Arroyo Grande
June 2012

Caltrans

THIS CORRIDOR SYSTEM MANAGEMENT PLAN (CSMP) HAS BEEN DEVELOPED TO SUPPORT THE REGIONAL TRANSPORTATION PLANNING PROCESS

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Executive Summary

Caltrans in collaboration with its partners is taking a new direction in transportation planning with the creation of Corridor System Management Plans (CSMPs) for corridors associated with Corridor Mobility Improvement Account (CMIA) funds. CSMP development recognizes the importance of multi-jurisdictional collaboration, to best support and manage multi-modal transportation services and facilities for the traveling public. This CSMP directly supports the implementation of the Santa Maria River Bridge Widening project which will expand a four lane bridge to six lanes and include a Class I separated bicycle path. The contract for this $31 million project was awarded June 2011. Construction begin late 2011 and work is anticipated to be completed in 2015.

The objectives of the CSMP are to reduce travel time or delay on all modes, reduce traffic congestion, improve connectivity between modes and facilities, and expand mobility options along the corridor. The CSMP identifies key stakeholders, the managed network, current management strategies, existing travel conditions, major challenges to maintaining and improving mobility, and potential future management strategies and capital improvements. The managed transportation network for this US 101 CSMP extends from Clark Avenue in Santa Barbara County to Grand Avenue in the city of Arroyo Grande. However, the study limits extend 10 miles east and west into the communities surrounding US 101.

The 22 mile corridor extends through multiple jurisdictions including Santa Barbara County, city of Santa Maria, San Luis Obispo County, city of Arroyo Grande and the city of Guadalupe. It was determined by the project study team that Clark Avenue would be the southern terminus for the study area and Grand Avenue would be the northern terminus. The project study team was composed of representatives from Santa Barbara Association of Governments (SBCAG), San Luis Obispo Council of Governments (SLOCOG), Santa Barbara County, San Luis Obispo County, City of Santa Maria, City of Guadalupe, City of Arroyo Grande, and San Luis Obispo Regional Transit Agency. This CSMP is intended to provide information that would inform the prioritization of projects for future updates of the regional transportation plans (RTP) produced by San Luis Obispo Council of Governments (SLOCOG) and Santa Barbara Association of Governments (SBCAG).

Corridor Characteristics

The US 101 CSMP corridor has a mixed urban and rural character. It serves as the main connection between the communities of Santa Barbara and San Luis Obispo counties. The location of the corridor within the Santa Maria Region and South San Luis Obispo County together reflect a large percentage of the total population growth within the two counties. The city of Santa Maria, city of Guadalupe and community of Nipomo have grown by one quarter to one third just within the last ten years.

As a result of this, daily trips along the corridor are expected to increase by more than half by 2030. Because of the scenic beauty in the corridor and the attraction to tourist destinations along the central coast, the traffic on the weekends, during the summer, or for special events can be much more congested. In Santa Barbara County from Clark Avenue to the Santa Maria River Bridge, the majority of commute traffic in the morning travels southbound and in the evening travels northbound. Conversely, in San Luis Obispo County from the Santa Maria River Bridge to Grand Avenue the majority of morning traffic travels northbound and in the evening travels southbound.

There have been significant efforts on behalf of the State, regional, and local agencies to provide alternative modes of travel for commute and non-commute travel in the two counties. These include local and express bus service, demand-responsive paratransit services, bicycle routes, ridesharing services, employer-based flexible work schedules, and other trip reduction programs. Amtrak's Pacific Surfliner and Coast Starlight trains provide passenger rail service to stations in San Luis Obispo, Grover Beach and Guadalupe along the US 101 corridor.

Corridor Performance

This study focused on mobility and traffic safety conditions as measures to analyze corridor performance. PM peak hour or evening traffic volumes from the 2000 Santa Barbara County Association of Governments (SBCAG) Regional Model and 2008 Caltrans historical trend data were analyzed to better understand current and future traffic conditions along the US 101 CSMP corridor. It was forecasted that the points where traffic flows on the corridor would become unstable and breakdowns of the system were likely to occur varied by location along the corridor.

From Clark Avenue in Santa Barbara County north to the US 101/SR 166 interchange in San Luis Obispo County, forecasts projected that US 101 will maintain stable mobility for another two to four decades. From the US 101/SR 166 interchange to the northern limit of the corridor at Grand Avenue (segments 3 and 4), the outlook for sustained mobility along the route is less distant. Traffic flows on this portion of US 101 are expected to become unstable within the next five to ten years. The completion of the Willow Road interchange project located north of the Tefft Street interchange will improve local circulation and complete the frontage road system to reduce local demand on US 101. Segment 4, from Los Berros Road to Grand Avenue will be the first segment to become unstable and would benefit from further analysis to convert this expressway portion to freeway in the near future.

The State of California has a process to identify locations of high collision concentrations on state highway facilities. Once a location is identified for significantly high collision concentrations, the location is analyzed for potential improvement. Identifying specific safety improvements is not within the scope of a planning level Corridor System Management Plan. However, identifying collision rates by location influence the overall recommendations of this study.

When actual collision rates were compared to statewide average collision rates for different segments along the corridor, it was found that only one segment of the corridor had actual collision rates higher than the statewide average for a similar facility. This segment is located between the Santa Barbara County/San Luis Obispo County line and the US 101/SR 166 interchange. The completion of the Santa Maria River Bridges Widening project is expected to improve collision rates within this segment in the future with the addition of through lanes, increased capacity, wider shoulders, a bicycle and pedestrian separated path and additional safety features.

Recommendations

The primary purpose of US 101 CSMP is to develop strategies to manage the corridor and sustain existing transportation investments. Within the 20 year planning horizon, the following management strategies should be pursued to manage US 101[1]:

[1] SLOCOG *Regional Transportation Plan and Preliminary Sustainable Communities Strategy* (2010) policies and strategies that coincide with the US 101 CSMP Recommended Corridor Management Strategies are included in Appendix E.

Maintenance and Preservation: Continue cost-effective maintenance of the roadway to ensure safe and comfortable use of the corridor. This would include maintenance and preservation designed to get full return on system investments, as well as reduce traveler costs and delay. Work in this area would include continued identification of pavement needs through the pavement condition survey and addressing those needs through the State Highway Operation and Protection Program (SHOPP).

Rail & Transit: Caltrans in partnership with SBCAG and SLOCOG will work together to support the improvement of rail and transit service. This includes supporting studies that would investigate origin and destination trends to improve transit and rail services across county lines. This also includes support of convenient and reliable commuter transit service, such as enhanced express bus service with bus rapid transit elements. Transit service that provides a link between the Santa Maria urban area and the Five Cities is vital. Regional agencies in coordination with Caltrans should continue to support the operation and expansion of this service when warranted by demand and projections. Continued coordination of compatible fare collection technology systems that allow customers to more seamlessly transfer from one transit provider to another, as well as other communication systems between transit providers in the corridor is encouraged.

Land Use & Transportation Connection: The way communities are planned and designed impacts travel behavior. Land use and transportation must be more closely linked to reduce the impact of sprawl and consumption of land, address the imbalance between jobs and housing, limit the increase in travel demand, and minimize the need for major highway capacity improvements. Transportation planning and projects should support concepts outlined in Caltrans' *Smart Mobility 2010: A Call to Action for the New Decade* including: convenient and safe multi-modal travel, speed suitability, accessibility, management of the circulation network, and efficient use of land. Sustainable communities and intermodal transportation including multimodal, frontage road, and mixed use improvements, are encouraged. To achieve these strategies, local agencies partner with Caltrans and actively seek the Department's participation in their development review process.

An additional opportunity to partner and facilitate a connection between land use and transportation is through the Regional Blueprint Program. The program was designed to integrate long-range planning for transportation, land use, housing, environmental resources, and infrastructure. The ultimate goal of blueprint planning is to facilitate consensus around a regional vision and preferred land use scenario that will enable the region to accommodate future growth and maintain quality of life for the local community and region. The emphasis of the land use and transportation planning connection is becoming a priority for the State, especially through implementation of new legislation such as SB 375 in the Metropolitan Planning Organization (MPO) area jurisdictions. Each MPO in California is responsible, pursuant to statute (SB 375), for developing a Sustainable Communities Strategy (SCS) for its regional transportation plan. The SCS is intended to demonstrate how, through more efficient coordination of land use decisions and transportation investments, each region can reduce per capita greenhouse gas emissions from cars and light trucks.

Modal Options: The focus is to support Caltrans Deputy Directive 64 (2008) Complete Streets to provide viable transportation options for all users. Greater opportunity to use other transportation modes will reduce demand on US 101. Caltrans in partnership with SLOCOG and SBCAG support the integration of transit, bicycle, and pedestrian transportation on frontage roads, parallel routes, and adjacent paths into a coordinated multimodal transportation system. The Santa Maria River Bridges widening project includes a multimodal path which will improve pedestrian and bicycle travel between Santa Barbara County and San Luis Obispo County. Improving the carrying capacity for bicycles on trains and buses is

also recommended to encourage the integration of modes. Multimodal stations should be strategically placed in locations accessible to all modes of transportation. Caltrans looks to its local partners to coordinate multimodal strategies.

Transportation Demand Management: The focus is to reduce congestion by promoting transportation options such as telecommuting, vanpools, carpools, ridesharing, park and ride lots, alternate work schedules, and route selection. More transportation choices will aid in reducing congestion and can result in long-term travel behavior change through the awareness of travel alternatives. Additionally, Transportation Demand Management Programs are implemented during highway construction projects. Caltrans supports local agency efforts to expand and establish new park-and-ride lots that are strategically placed at locations that are easily accessible and serve as transit hubs. Public transit providers should also be encouraged to serve existing park-and-ride lots.

Incident Management: Collisions and incidents can be a major source of delay along a corridor. Reducing the time required to clear these collisions and incidents and restore free flow conditions within the corridor lessens delay and diversion of traffic onto the local arterials. The need for Freeway Service Patrol (FSP) is determined by congestion in an area. As congestion increases, there will be opportunities for SLOCOG and SBCAG in partnership with Caltrans to investigate FSP along the corridor.

Intelligent Transportation Systems (ITS)/Traveler Information/Traffic Management: It is recommended to upgrade communication and enable deployment of advanced transportation systems, to improve safety, incident response, and traveler information. Real time traveler information allows travelers to make more informed decisions regarding trip planning, route choices, time choices, and mode selection. Traffic management reduces congestion through the use of technologies such as collision warning systems and advanced traffic management systems.

To aid traffic management and improve traveler information, detection has been installed throughout the US 101 CSMP corridor at various locations including Santa Maria Way, Betteravia Road, on the Santa Maria River Bridge, Stowell Road, Main Street, Donovan Road, SR 135/Broadway, SR 166 east and Tefft Street. Additionally, closed circuit cameras are currently proposed for six locations along the corridor including the future Union Valley Parkway Interchange, Betteravia Road, Main Street, Donovan Road, SR 135/Broadway and Tefft Street. The data collected will be useful for traffic management purposes and for improving traveler information to highway users.

Operational Improvements: The focus is to pursue operational improvements that maximize efficiency of the system, reduce delay, and preserve and enhance existing services. These include but are not limited to improving interchanges, upgrading intersections, and converting expressways to freeways. Other improvements could include: intersection improvements, auxiliary lanes, bikeways, and sidewalks. Determining specific operational improvements for the US 101 CSMP corridor would be under the scope of a future project specific study.

Ramp Metering: Ramp metering is another viable traffic management strategy and has the potential to maximize the productivity of the freeway. When combined with other recommended strategies, ramp metering accommodates more efficient vehicle movement on the freeway and local arterials. Currently Caltrans Division of Traffic Operations is finalizing the statewide Ramp Metering Development Plan that will explain general statewide and District 5 strategies for implementation ramp meters. In the future a more detailed District 5 specific ramp metering plan should be developed to identify the capacity of on-ramps, evaluate locations where ramp metering would be appropriate, examine the potential impact of

new ramp metering systems on local roads, and consider funding opportunities and challenges. A successful ramp metering plan will require a partnership with local and regional agencies. As congestion builds Caltrans would look to its local partners to collaborate.

New Interchanges: Two new interchanges within the corridor include the Willow Road Interchange and the Union Valley Parkway Interchange. The Willow Road Interchange currently under construction and the Union Valley Parkway Interchange project expected to break ground in 2012 will benefit mobility on US 101 as well as local circulation. Future land use decisions and traffic analysis will determine the need for new access within the corridor.

One objective of a coinciding corridor study in southern San Luis Obispo County, the *US 101 South County Traffic Study,* is to determine if a new interchange would be appropriate on US 101 between the US 101/SR 166 Interchange and the US 101/Tefft Street Interchange. The draft findings of this planning level study suggest that an overcrossing or interchange on US 101 within this area could benefit the corridor in the future. A detailed traffic study would be required to determine the purpose and need for a new overcrossing or interchange at this location. The traffic study would need to demonstrate that the existing interchanges and/or local roads and streets in the corridor cannot provide the necessary traffic service or be improved to satisfy future year traffic demands.

Parallel Road Network Development: The focus is to increase the capacity and connection of the parallel road network to reduce local traffic demand on US 101. As part of the *National Highway System* (NHS) the primary purpose of US 101 is to serve regional and interregional travel. Improving local circulation is encouraged. As communities surrounding the corridor continue to grow and develop, parallel north-south local transportation systems will need to be improved and expanded to accommodate local travel demand to minimize dependency on US 101 for local trips. The completion of the Willow Road Interchange in fall 2013 will facilitate enhanced east-west connectivity in Nipomo. Phase II of the Willow Road Interchange project will complete the frontage road system for local circulation. Additional supported local road improvements that could alleviate demand on US 101 for local trips are identified in section 2.4.

Freeway Conversion: Segment 4, from Los Berros Road to Grand Avenue, is the last portion of the corridor that serves as expressway. Freeway Agreements and the State's Interregional Transportation Strategic Plan (ITSP) support freeway conversion of this segment. Closing median and at-grade intersections and eliminating left turn movements across mainline traffic would improve mobility and achieve the facility standard concept.

System Expansion: Travel forecast analysis shows that in the 20+ year planning horizon, congested conditions on US 101 in San Luis Obispo county will increase. Priority for investments should be given to Segment 4, Los Berros to Grand Avenue, which is already experiencing congested conditions. Prior to a capacity increasing project at this location, operational, parallel route, and frontage road improvements should be considered. Future congestion along the corridor does indicate that expansion of US 101 to a six lane facility should be considered subsequently.

1 Introduction to US Route 101

1.1 What is a Corridor System Management Plan?

A Corridor System Management Plan (CSMP) is a planning tool that identifies strategies to achieve the greatest efficiency and sustainability of the transportation system. This is developed through integration of data and input from a partnership-based process to support transportation planning goals and efforts of the State, regional and local agencies. It integrates management of various travel modes (transit, cars, trucks, bicycles) and infrastructure (roads, highways, information systems, bike routes). The CSMP establishes a process to manage a set of transportation components within a corridor as a system rather than independent units. As California shifts towards more performance-based planning documents, CSMPs will become an essential tool for protecting current and future infrastructure investments as well as coordinating a multi-modal approach to corridor improvements. The CSMP will evolve with changing development patterns, travel demands, and technological innovations.

The CSMP focuses on strengthening partnerships, gathering and analyzing data, monitoring the transportation system performance, implementing operational strategies, and identifying strategic capital investment. The objectives of the CSMP are to reduce travel time or delay on all modes, reduce traffic congestion, improve connectivity, facilitate safety, and expand mobility options along the corridor in a cost effective manner. The CSMP identifies key stakeholders, the transportation network, current management strategies, existing travel conditions, major challenges to maintaining and improving mobility, and potential future management strategies and capital improvements.

The US 101 CSMP is consistent with the goals of the Regional Transportation Plans (RTPs) for San Luis Obispo Council of Governments (SLOCOG) and Santa Barbara County Association of Governments (SBCAG). CSMPs will assist in fulfilling the goals recently enacted by legislation such as Assembly Bill 32 that addressed air quality and green house gas emissions and Senate Bill 375 that land use. The CSMP also supports Caltrans policy such as Deputy Directive (DD) 64, *Complete Streets*.

CSMPs have been prepared for corridors associated with the Corridor Mobility Improvement Account (CMIA) funded by the *Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Ac*t of 2006, Proposition 1B. The locations of each of the CSMP corridors within the Caltrans District 5 area are depicted in (*Figure 1.1*). The US 101 CSMP in Santa Barbara and San Luis Obispo counties extends from the southern limits of the Santa Maria urbanized area at the US 101/Clark Avenue junction to the US 101/Grand Avenue interchange in the city of Arroyo Grande (*Figure 1.2*). The Proposition 1B funds that have been allocated to the Santa Maria River Bridge project will widen the bridge from four lanes to six lanes and add a Class I bicycle and pedestrian path along the southbound side of the bridge. Maximizing the throughput on the mainline and expanding multimodal connectivity will prolong the need for capital investments along the corridor. The total bond funding for the CMIA project is $31.6 million.

This CSMP is based on technical information that is divided into four chapters:

- Chapter 1-Introduction to US Route 101: Provides an overview of the corridor system management planning process, a definition of the CSMP transportation network, and a rationale for the selection of the specific corridor limits and modes to be included in the corridor planning process.

- Chapter 2-Corridor & Transportation System Characteristics: Describes existing corridor conditions and management activities, including all facilities and services currently in use to maximize mobility within and through the corridor, such as traffic operations system elements, traveler information services, and transportation demand management programs.

- Chapter 3-Comprehensive Corridor Performance: Provides an assessment of current corridor performance by examining mobility and traffic safety conditions of the CSMP transportation network.

- Chapter_4-Recommended Corridor Management Strategies: Highlights current programmed project information and provides recommendations for improving the transportation system along the corridor.

Figure 1.1: District 5 CSMP Corridors

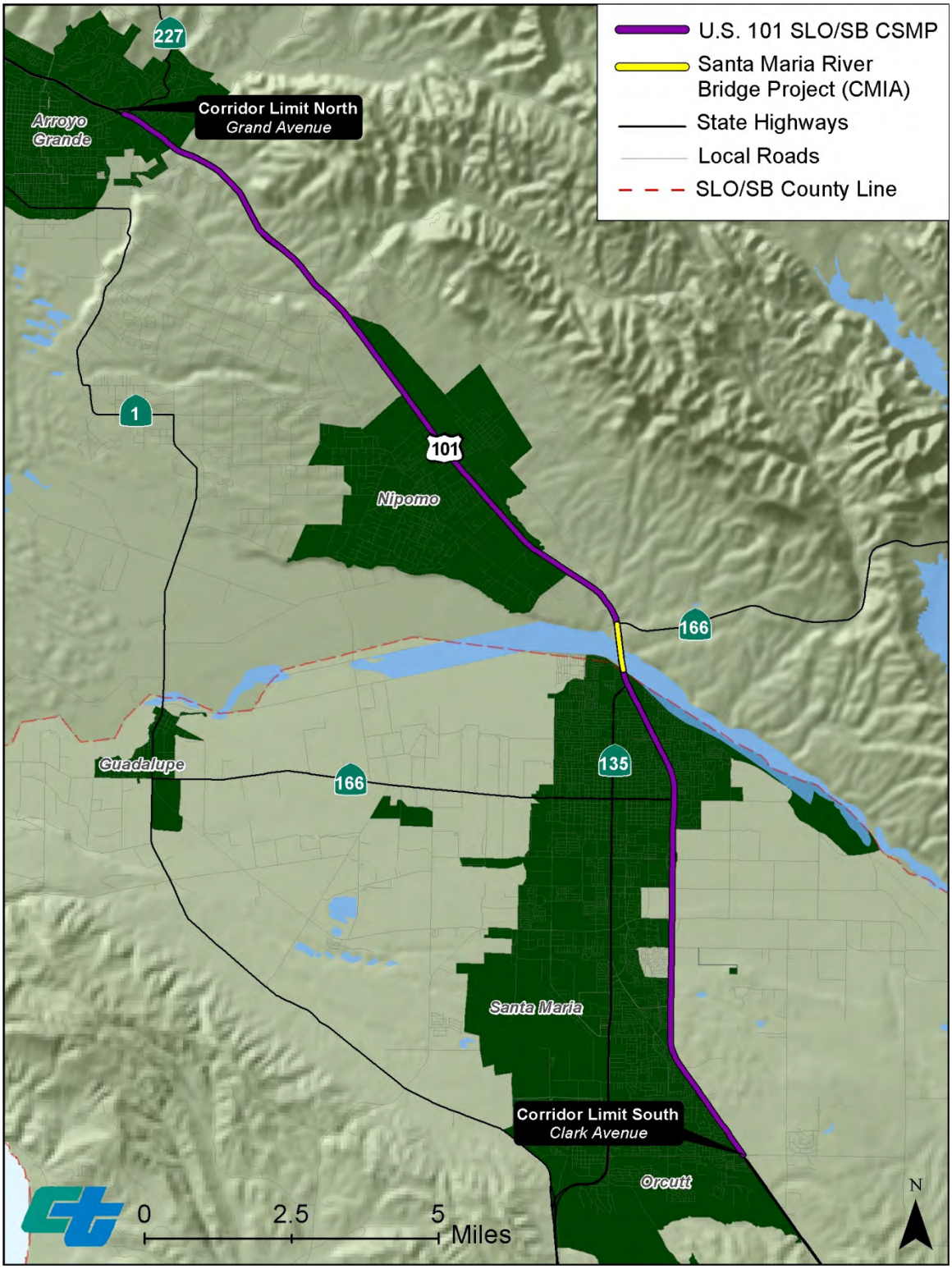


Figure 1.2: US 101 CSMP Corridor

1.2 Need, Purpose, Goal and Objectives

There is a **need** for a planning approach that coordinates transportation facility operations and service with capital projects to produce a seamless transportation system focusing on high-demand corridors, such as US 101. The **purpose** of the CSMP is to create a guidance document that focuses on strategies to manage the corridor and sustain existing transportation investments. This document will coordinate all the individual transportation modes and includes performance measures to track the effectiveness of the strategies and projects. The **goal** of the CSMP is to improve mobility along the US 101 corridor by the integrated management of the transportation network including the selected highway, parallel/connector roadways, transit, bicycle, and travel demand management components of the corridor. Managing the facilities using a multi-modal approach will ensure that investments made in the corridor can be prolonged over time. The **objectives** of the CSMP are to improve safety, reduce travel time delay, improve connectivity, and expand mobility options along the corridor in a cost effective manner. Implementation of the CSMP will improve safety on the transportation system and improve connectivity to jobs, housing, and commerce.

1.3 Relationship to Other Plans

1.3.1 State Planning

The CSMP approach is consistent with the goals and objectives of the Governor's Strategic Growth Plan (2006), which among other things commits to minimizing increases in traffic congestion. Key elements of the strategy are illustrated in *Figure 1.3*.

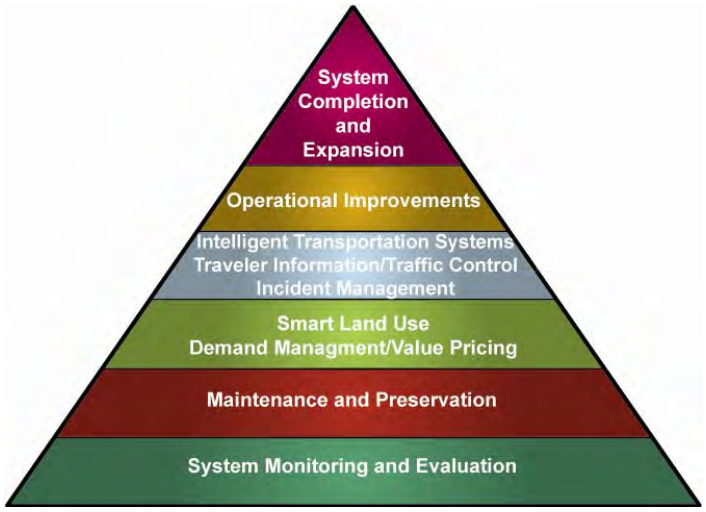


Figure 1.3: Strategic Growth Plan

At the base of the pyramid, and the foundation of transportation system management, is system monitoring and evaluation. It is essential to understand what is happening on the transportation system so that the best decisions can be made based on reliable data. The next few layers up the pyramid are focused on making the best use of existing resources and reducing the demand for new transportation facilities, particularly for peak hour travel. The top layer of the pyramid is system expansion. This layer assumes that all the underlying components are being addressed and that system capacity expansion investments are necessary. In addition to the Governor's Strategic Growth Plan, other state planning documents have been used as the foundation for the preparation of this CSMP including the *2006 California Transportation Plan* (CTP), and the District 5 2*001 Transportation Concept Report* (TCR) for *U.S. Route 101*.

1.3.2 Regional Planning

At the regional level, the Santa Barbara County Association of Governments (SBCAG) and San Luis Obispo Council of Governments (SLOCOG) developed Regional Transportation Plans (RTP's), SBCAG *Vision 2030* (2008) and *SLOCOG 2010 Regional Transportation Plan and Preliminary Sustainable Communities Strategy* (2010). These plans are required by federal and state law and are required to be updated every five years. The foundation for these long-range transportation plans lies in managing demand and in better connecting highways, rail, transit, bicycle/pedestrian, and local road networks to housing, jobs and commerce. RTP's build upon the existing transportation system and the major projects and programs in progress, and identify future needs and priorities. The 2010 SLOCOG *RTP-PSCS* includes corridor analysis of US 101 in San Luis Obispo County as a priority in order to identify deficiencies. The 2008 SBCAG RTP, *Vision 2030,* was completed in 2008 with plans to update the document by the summer of 2013. The CSMP is consistent with the existing SLOCOG and SBCAG RTP's and Caltrans will continue to work collaboratively with both agencies to ensure that subsequent updates are incorporated and consistent in this document. A list of future projects from SBCAG's 2008 RTP and SLOCOG's 2010 RTP within the US 101 CSMP corridor limits can be found in Appendix A.

Additionally, SLOCOG's *San Luis Obispo South County Bus Rapid Transit Assessment* has reviewed several proposed sites for express bus stops in San Luis Obispo County. This includes potential locations at US 101 Spyglass Drive, US 101/Los Berros Road/Thompson Road, and US 101/Willow Road. Caltrans provided comments on the assessment and plans to continue to participate in reviewing these proposed sites and, possibly, others more in-depth in SLOCOG's current *Regional Bus Rapid Transit Applications along 101 Corridor (*Appendix B*).* This study, which is just getting under way, is scheduled for completion in June 2013.

1.3.3 Local Planning

The US 101 CSMP corridor extends across county lines through the counties of Santa Barbara and San Luis Obispo. The route extends from the community of Orcutt in Santa Barbara County north just past the city limits of Arroyo Grande in San Luis Obispo County. Both the cities and counties in the corridor have general plans which guide the future growth and development of their community through goals and policies. In addition, Specific, Area, and Design plans by local agencies focus on individual areas within their respective jurisdictions and guide future development through more detailed recommendations. Specific, Area and Design plans within the corridor include:

Specific Plans:

- Woodlands Specific Plan (1998)
- Black Lake Specific Plan (1998)
- Hidden Pines Specific Plan (1999)
- West Main Specific Plan (2008)
- Entrada Este Specific Plan (2008)
- West Stowell Specific Plan (1994)
- Enos-Ranchos Specific Plan (2008)
- Downtown Specific Plan (2008)
- Mahoney Ranch North Specific Plan (2008)
- Mahoney Ranch South Specific Plan (2008)
- Santa Maria Airport Business Park Specific Plan (2008)
- Area 9 Specific Plan (2011)
- Rivergate Roemer Specific Plan (1994)

Area Plans:

- South County Inland Area Plan (2006)
- San Luis Bay Inland Area Plan (2003)

Design Plans:

- West Tefft Design Plan (2007)
- Olde Town Nipomo Design and Circulation Plan (1999)
- City of Arroyo Grande, Design Guidelines and Standards for the Historic Overlay District (2009)

Other Plans:

- Orcutt Community Plan (2010)

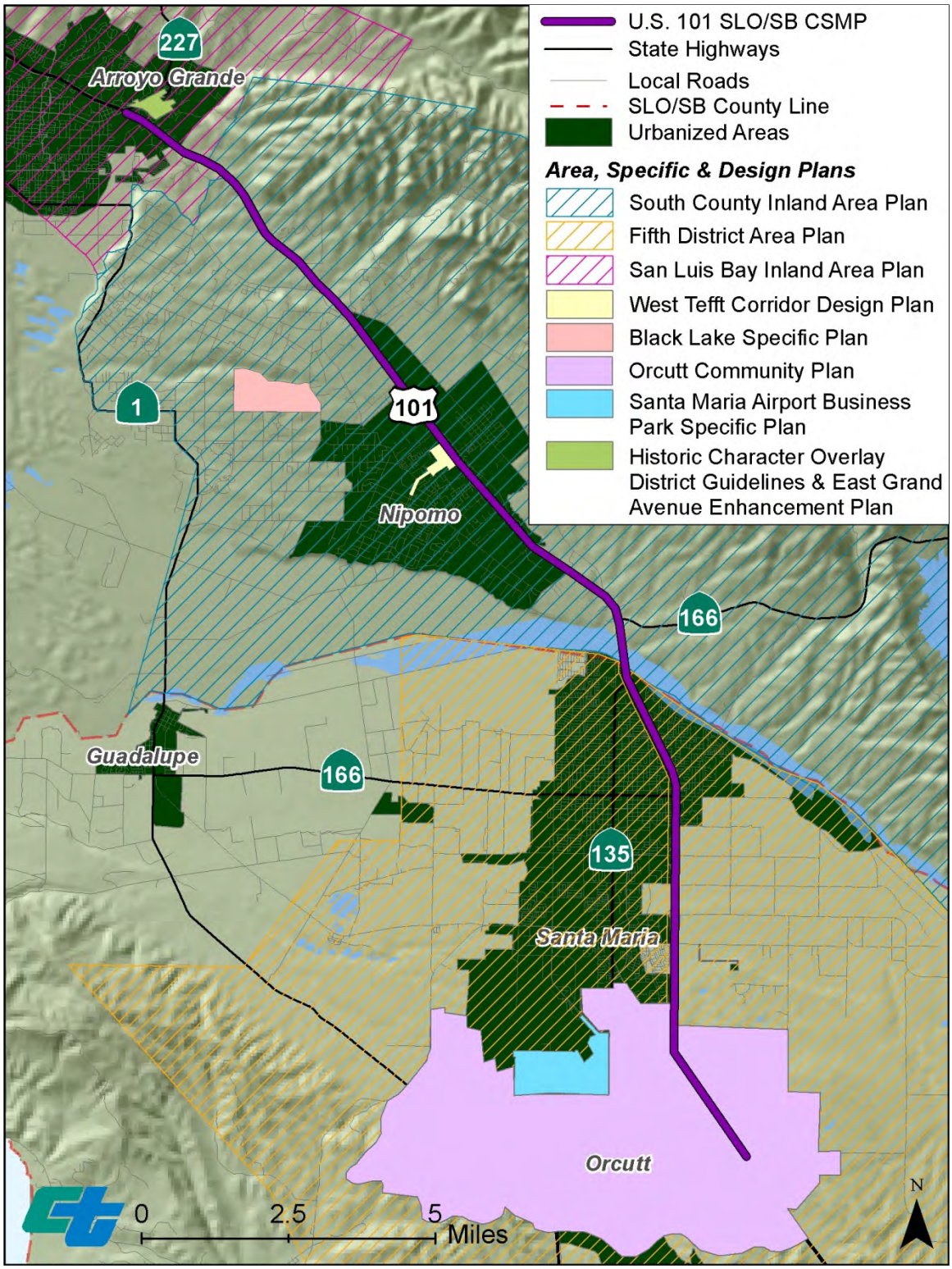
Many of these plans provide recommendations pertaining to the US 101 CSMP corridor. *Figure 1.4* identifies plan locations which provide specific recommendations relevant to US 101. Recommendations include proposed new intersections within the corridor, widening portions of the highway, and other design strategies to promote mobility along the corridor. Pedestrian and bicycle improvements, expanded transit services, and preservation of visual resources are also included in the plans listed above (Appendix C). As this study identifies deficiencies and works toward developing proposed improvement strategies, it is important that recommendations from local planning efforts and studies are considered.

1.4 Collaboration

The process for developing the US 101 CSMP was a collaborative effort involving representatives from the various units within Caltrans as well as participation from local and regional partners representing areas within the corridor. Caltrans representatives that participated in this process as members of the study team included individuals from planning, design, project management, traffic operations and traffic safety. Local and regional partners involved in the development of the CSMP included: Santa Barbara Association of Governments (SBCAG), San Luis Obispo Council of Governments (SLOCOG), Santa Barbara County, San Luis Obispo County, City of Santa Maria, City of Guadalupe, City of Arroyo Grande, and San Luis Obispo Regional Transit Agency. Four study team meetings were held during the development of the CSMP to discuss and comment on study milestones and included the following:

- October 13, 2010: Kick Off Meeting
- December 7, 2010: Corridor and Transportation System Characteristics Meeting
- March 1, 2011: Comprehensive Corridor Performance Assessment and Recommended Corridor Management Strategies Meeting
- March 30, 2011: Parallel Routes and Local Improvements and Land Use and Future Development Meeting

Key discussions at these meetings included: identifying the role of the study team; developing the process for the study team to provide input on the CSMP; determining the physical limits of the study corridor and how the corridor would be segmented; and enhancing the Land Use and Future Development section and the Parallel Routes and Local Roads Improvements section of the document. The input provided at these meetings and through written comments subsequent of the meetings played a key role in shaping the outcome of the US 101 CSMP.



Sources: Area, Specific, & Design Plans (San Luis Obispo County, 2007). *Note: This map only displays plan locations for those plans that provide recommendations specific to US 101. More information on recommendations can be found in Appendix C.*

Figure 1.4: Area, Specific, & Design Plans for the US 101 CSMP Corridor

2 Corridor & Transportation System Characteristics

2.1 Corridor Description

2.1.1 US 101 Regional Significance

US 101 is California's major north-south *coastal* route and provides the most direct coastal route between Los Angeles and San Francisco, and is a vital asset to the national, state, and local economies. Its close proximity to two of the nation's largest cities makes it an essential route for national and international goods movement, commerce, trade, tourism, education, and other important industrial activities. In addition, US 101 is a strategic corridor for Vandenberg Air Force Base's military transport, spaceport, and national defense operations. Its high traffic volumes, goods movement, strategic north-south location and environmental setting are consistent with numerous federal and state special designations (designations listed in section 2.1.5).

In Caltrans District 5, US 101 runs approximately 269 miles through four counties in the central coast region including: Santa Barbara, San Luis Obispo, Monterey and San Benito. The route closely follows the Camino Real from the Spanish Colonial period providing diverse vistas for travelers. These range from lush landscaping and attractive built environments in defined urban areas to stunning ocean views and long stretches of lightly populated open areas including range land, orchards, and vineyards.

US 101 functions as an alternate route for a portion of Interstate 5 (I-5), the state's main north-south route between the inland cities and counties. At times I-5 is closed down in both directions at the "Grapevine", located in the Tehachapi Mountains at the southern end of the Central Valley. During these closures—caused by inclement weather (most often snow or fog), fires, traffic incidents, or other adverse conditions—some traffic diverts to US 101 for north-south travel within the state. Within the last five years (January 2006-January 2011) I-5 has experienced 17 full closures, each ranging in duration from two to 23 hours (Appendix D). Within this same time period US 101 in District 5 has experienced three full closures ranging in duration from four to 12 hours. None of these closures occurred within the corridor limits (Appendix D). As identified in the 2012 *Central Coast California Commercial Flows Study,* US 101 also connects to critical east-west highways for goods movement to the central valley and central coast via Highways 1, 41, 46, 58, and 166 (*Figure 2.1*). These key transportation networks, combined with the central coast region's robust commercial activities and $6.5 billion dollar agricultural industry makes this area a principal economic producer/generator for both the state and nation.

2.1.2 The CSMP Corridor

The US 101 Corridor System Management Plan (CSMP) corridor extends south to north approximately 22 miles from the Clark Avenue interchange at the southern limits of the Santa Maria Urbanized Area in Santa Barbara County to the Grand Avenue interchange in Arroyo Grande in San Luis Obispo County. The corridor is the only route that directly connects these two cities and serves as the primary road for local and regional travel between Santa Barbara and San Luis Obispo counties. It accommodates balanced flows of traffic north bound and south bound during morning and evening commute periods.

The corridor also incorporates local land use and transportation systems ten miles east and west of US 101. Land use in the urbanized centers of Santa Maria, Nipomo and Arroyo Grande is largely characterized by commercial and residential development. Rural open space and agricultural lands are interspersed between these three communities and east of US 101. The rolling terrain of the corridor offers scenic views including the Santa Lucia Mountains which define the horizon to the east. State Routes 166, 1, and 135 as well as many other local arterial and collector routes within the corridor (described in Section 2.4) are all part of a greater transportation system that connects to US 101.

Source: Critical Goods Movement Highways (Association of Monterey Bay Area Governments, 2012).

Figure 2.1: Goods Movement Corridors

2.1.3 Route Segmentation

Consideration of existing route designations as well as characteristics of the surrounding areas all factored into establishing the corridor limits and segments for this study including: route designations, traffic volumes, the location of major interchanges and surrounding land use (Table 2.1 & *Figure 2.2*).

Segment 1

Segment 1 is the longest segment of the corridor and extends approximately nine miles from the US 101/Clark Avenue interchange to the US 101/SR 135 interchange. The US 101/Clark Avenue interchange serves the unincorporated community of Orcutt located west of the highway. From this interchange, the segment extends north past Santa Maria Way, Betteravia Road, Stowell Road, SR 166 West (Main Street), and Donovan Road interchanges before reaching its northern most terminus at the US 101/SR 135 junction (*Figure 2.2*). The segment is a six lane freeway for most of its length and includes the transition to a four lane facility near the Clark Avenue interchange.

Segment 2

Segment 2 extends approximately one mile from the US 101/SR 135 interchange in Santa Barbara County to the US 101/SR 166 interchange in San Luis Obispo County (*Figure 2.2*). SR 135 is a north-south facility primarily serving commuter and local traffic through the city of Santa Maria. SR 166 serves as an important goods movement route and major east-west connector between US 101 on the central coast and I-5 in the Central Valley. The Santa Maria River Bridge is located between the two interchanges and connects the urbanized area of Santa Maria city across the county line to SR 166 in San Luis Obispo County. This segment is a four lane freeway. Fall 2011 construction will begin to widen the bridge to six lanes and add a Class I bicycle path.

Segment 3

Segment 3 extends approximately seven miles between the US 101/SR 166 interchange and the US 101/Los Berros interchange. From SR 166, the route spans the distance of the unincorporated community of Nipomo (*Figure 2.2*). This segment of US 101 includes an interchange at Tefft Street and a second interchange currently under construction north of Tefft Street at Willow Road. The Willow Road Interchange is planned to be completed by fall of 2013. This highway segment is a four lane freeway.

Segment 4

Segment 4 extends approximately five miles from the US 101/Los Berros interchange to the US 101/Grand Avenue interchange in the city of Arroyo Grande. This segment of the route is surrounded by rural rolling agricultural lands. A few private driveways as well as intersections are located along this segment. Intersections include: Hemi Road, Laetitia Vineyard Drive and El Campo (*Figure 2.2*). Two interchanges are located in the city of Arroyo Grande: Traffic Way and Grand Avenue. This segment is four lanes and transitions from freeway to expressway just north of the Los Berros interchange and returns to freeway just north of the US 101/El Campo Rd. intersection.

Table 2.1: US 101 CSMP Corridor Segment Summary

SEGMENT	PM BEGIN	PM END	DESCRIPTION
1	SB 82.18	SB 90.99	Clark Avenue to SR 135
2	SB 90.99	SLO 0.80	SR 135 to SR 166
3	SLO 0.80	SLO 7.84	SR 166 to Los Berros Road
4	SLO 7.84	SLO 13.17	Los Berros Road to Grand Avenue

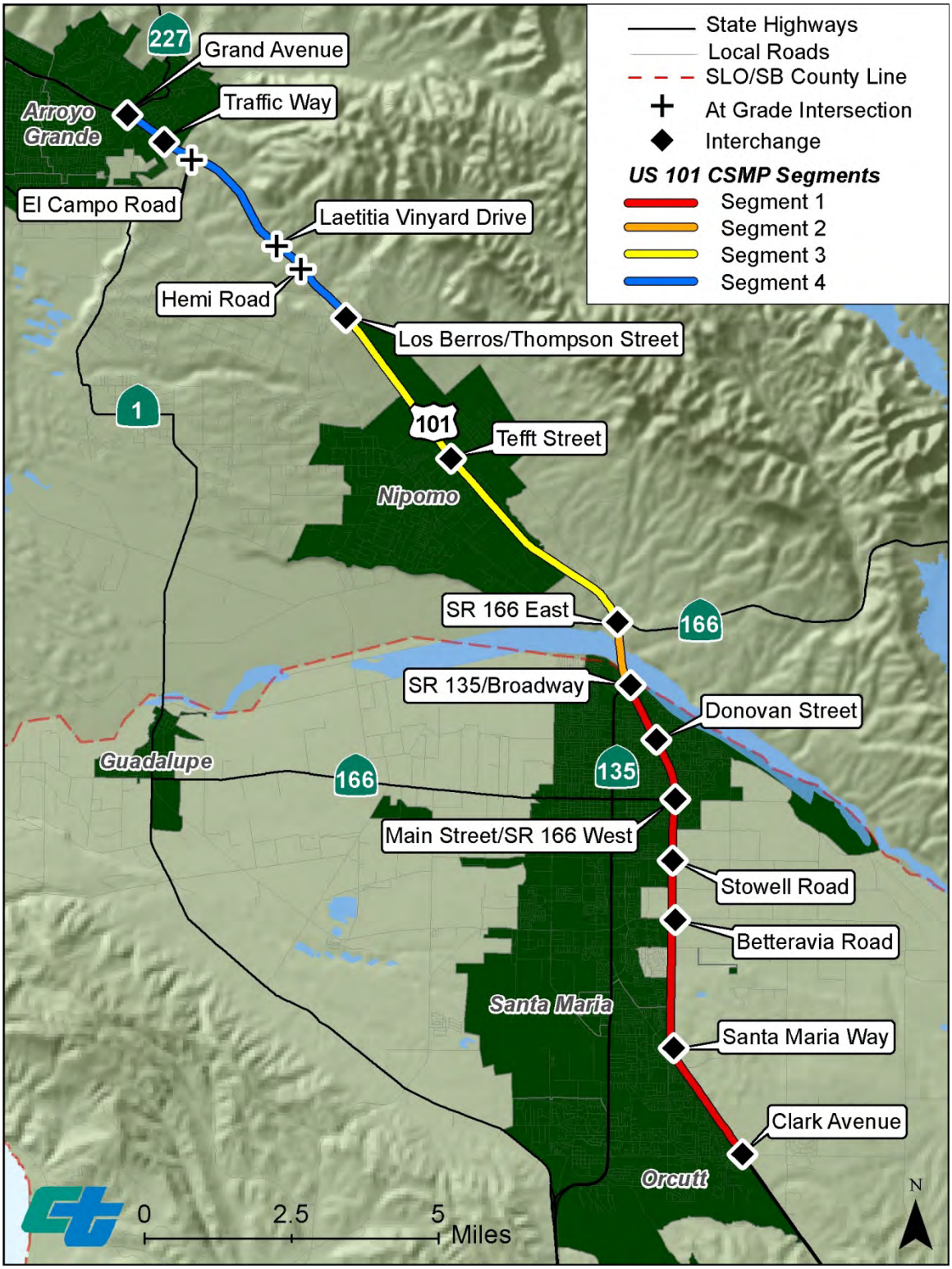


Figure 2.2: US 101 CSMP Corridor Segmentation & Major Intersections and Interchanges

2.1.4 Freeway Agreements

A freeway agreement documents the understanding between Caltrans and a local agency relating to the planned traffic circulation features of the proposed facility (California Department of Transportation, 2010). Seven freeway agreements exist within the postmile limits of the US 101 CSMP corridor, and apply to the entire corridor (Table 2.2). As described previously, segment four contains a portion of highway currently designated as expressway. However, the freeway agreements included in the table below indicate that the ultimate concept for the entire corridor is freeway. Converting existing expressway portions of US 101 to freeway would entail closing all of these intersections and providing a controlled access facility that may include overcrossings or interchanges. A system of local road improvement may also be necessary to maintain local circulation. Additionally, SLOCOGs Regional Transportation Plan (2010) includes converting the expressway portion of US 101 from Los Berros Road to Arroyo Grande to freeway in the unconstrained project list (Appendix C).

Table 2.2: Caltrans Freeway Agreements with Local Agencies

DATE	PARTNER AGENCIES	PM BEGIN	PM END
1976	County of Santa Barbara	SB 72.9	SB 83.8
1981	County of Santa Barbara	SB 84.0	SB 88.1
1980	City of Santa Maria	SB 88.1	SB 90.0
1955	San Luis Obispo County	SLO 0.0	SLO 7.5
1967	San Luis Obispo County	SLO 7.5	SLO 9.0
1954	San Luis Obispo County	SLO 9.0	SLO 12.0
1989	City of Arroyo Grande	SLO 12.0	SLO 14.6

2.1.5 Route Designations

The following designations and classifications provide information regarding the facility itself within the CSMP corridor limits and its intended use. They also indicate the availability of special purpose funding related to the designation.

The Federal functional classification for the US 101 CSMP corridor alternates between Urban Principal Arterial and Rural Principal Arterial. This classification recognizes trip lengths and travel densities indicative of substantial statewide and interstate travel. US 101 is a Federal Aid Primary Route.

Portions of the route are designated Freeway and Expressway as part of the Freeway Expressway System (F&E). The U.S. Department of Defense, in cooperation with the U.S. Department of Transportation, has identified the corridor area as part of the National Highway System as a Strategic Highway Corridor Network (STRAHNET) route. STRAHNET is a network of linked highways deemed essential to national defense for facilitating the movement of troops and equipment to airports, ports, rail lines and military bases.

US 101 is part of the State of California Department of Transportation Interregional Road System (IRRS) and designated as a Focus Route and High Emphasis Route in the *Interregional Transportation Strategic Plan (ITSP)* (California Department of Transportation, 1998). The 1998 ITSP states that facility standards required for US 101 to meet the Focus Route concept are at minimum a four lane freeway, with intermediate four lane expressway segments from Goleta to Gilroy. An update of the ITSP is underway which plans to change the concept for US 101 to include converting all expressway portions of US 101 to freeway. The updated ITSP is planned to be adopted winter 2011/12. US 101 is also eligible to be part of the state Scenic Highway System.

On January 1, 1998, California Senate Bill 45 created an Interregional Improvement Program (IIP) for which the Department submits projects to the California Transportation Commission (CTC) in specified categories. The IIP funds project components that serve interregional movement of people and goods, including state highway projects on the IRRS. Because of the Focus Route designation, projects located along US 101 receive a higher funding priority than other IRRS routes or non-IRRS routes. US 101 is designated a Terminal Access Route to the National Truck Network.

2.2 Community Characteristics

There are many elements that create a sense of place and character in a community. In addition to examining the people (demographics) and the place (land use) that define the corridor study area, focus is placed on the nature of the transportation system that provides mobility within the corridor. US 101 and the surrounding transportation networks are part of one greater system that serves both local commuters and regional travelers. Analysis of land use, demographics, parallel routes, local connections, and goods movement results in a better understanding of how the people and places of the community interact with transportation along and surrounding the US 101 corridor.

2.2.1 Demographics

To ensure a proper analysis of a corridor and provide strategies for the future, planning must take into account the setting and context of the area including population growth trends, information on where jobs and industry are located and the nexus to housing and services.

The US Census (2010) provides population data for the year 2000 and 2010 for the jurisdictions that are part of the CSMP corridor (Table 2.3). The table below displays population data from the 2000 and 2010 census and includes the percent increase in population growth within this time period. San Luis Obispo county and the city of Arroyo Grande share similar growth trends to California and Santa Barbara county. The city of Santa Maria, city of Guadalupe, and the community of Nipomo share much higher growth rate trends ranging from 25 to 32 percent. Of all the communities within the corridor, Orcutt has experienced the least growth within the last ten years, less than 1%, while Nipomo has experienced the most growth at 32%.

Table 2.3: Population Growth Comparison

AREA	2000	2010	PERCENT INCREASE
California	33,871,648	37,253,956	10%
Santa Barbara County	399,347	423,895	25%
San Luis Obispo County	246,681	269,637	9%
City of Santa Maria	77,423	99,553	29%
City of Guadalupe	5,695	7,345	29%
City of Arroyo Grande	15,851	17,252	9%
Orcutt (unicorporated)	28,830	28,905	<1%
Nipomo (unicorporated)	12,626	16,714	32%

Source: (U.S. Census Bureau, 2010)

The 2010 US Census data also identifies the “Not Hispanic or Latino” group as the largest population group in all geographic areas within the corridor except in the city of Santa Maria and city of Guadalupe. This trend is consistent with the 2000 US Census. The 2010 US Census Bureau indicates that the city of Santa Maria is 70 percent “Hispanic or Latino” and the city of Guadalupe is 85 percent “Hispanic or Latino”.

According to the SBCAG's Regional Transportation Plan, *Vision 2030* (2008), the population of the Santa Maria Valley Region which includes the city of Santa Maria, community of Orcutt and city of Guadalupe, is projected to increase by 50 percent between the year 2000 and 2030. Within this same time frame it is also anticipated that employment will increase by 47 percent from 41,508 to 60,927. This region is the fastest growing area in the county. SBCAG's Regional Growth Forecast (2007), forecasts that the jobs/housing ratio of the Santa Maria Valley region will change from 1.22 in 2005 to 1.60 in 2040. Additionally, *Vision 2030* also identifies that between the year 2000 and 2030, the total countywide vehicle miles traveled in Santa Barbara is forecast to increase by 63 percent from 9.77 million to 15.88 million. According to the U.S. Census Bureau (2010), 42.6% of the 27,630 jobs accounted for in the city of Santa Maria are employed by city residents.

According to SLOCOG's Regional Transportation Plan, *RTP-PSCS* (2010), in 2008 the population of the South San Luis Obispo county area[2] was approximately 77,980 or 31 percent of the county's entire population. The *San Luis Obispo County 2040 Population, Housing & Employment Forecast* (San Luis Obispo Council of Governments, 2011), forecasts the population of South County San Luis Obispo to increase from 75,038 in 2010 to 90,243 in 2040. It is also projected that the jobs/housing ratio of the South County area will decrease from 1.78 in 2010 to 1.59 in 2040.

2.2.2 Land Use and Future Development

Local jurisdictions are required by law to maintain general plans that contain the vision of the community's future. Land Use is included as a required element of the general plan, which highlights goals, policies, and objectives for the long-term vision of land development in the community. Local zoning ordinances, also required by law, then translate the general plan's land use broad policy statements into specific requirements of individual landowners (Willam Fulton, 2005). Land use characteristics of the communities within the US 101 CSMP corridor, as identified in local general plans, are described in this section of the document by local jurisdiction.

This study also highlights plans for future development of these communities. Land use development decisions directly impact how transportation systems operate and are maintained. Additionally, new State legislation such as SB 375 mandates that MPOs develop a Sustainable Communities Strategy (SCS) into its regional transportation plan that demonstrates how, through more efficient coordination of land use decisions and transportation investments, each region can reduce per capita greenhouse gas emissions from cars and light trucks.

By gaining better insight into future development plans of the corridor, the associated probable impacts on the transportation system can be identified early. This provides an opportunity to plan ahead in developing strategies for maintaining long-term mobility along the US 101 CSMP corridor. To obtain a general understanding of the magnitude of future corridor development, a planning level survey of development activity in the corridor was conducted. The survey was intended to provide a snapshot of future development potential in the corridor. An extensive analysis of future development is not within the scope of the CSMP, therefore simple parameters were established to determine what projects were included in the survey.

[2] In addition to Nipomo and the incorporated and unincorporated portions of Arroyo Grande included as part of the US 101 CSMP corridor, the South County area also includes jurisdictions not included in the US 101 CSMP corridor. These are the incorporated communities of Grover Beach and Pismo Beach and the unincorporated communities of Avila Beach, and Oceano.

The types of projects included in the survey are categorized as residential, commercial, industrial, or institutional. Residential, commercial, and industrial developments over 200,000 square feet and/or larger than 50 units are included and all institutional developments of any size are included. Tables located in Appendix E identify the square footage and/or number of units for each of these developments by jurisdiction. The projects included in the survey include those located within a ten mile area east and west of the US 101 CSMP corridor. Since this study has a 20 plus year planning horizon, the developments included in the survey represent projects in all phases of development prior to occupancy. The project information included in Appendix E for the survey was provided by local agency planning department staff and Caltrans staff.

Santa Barbara County

In Santa Barbara County, existing land use east of US 101 primarily consists of agricultural lands which transitions to primarily residential in the unincorporated community of Orcutt located south of the city of Santa Maria. Land use adjacent to the west of the US 101 CSMP corridor from Clark Avenue to Santa Maria Way in Orcutt is primarily residential. Based on the projects included in the development survey, future growth east and west of the US 101 CSMP corridor in Santa Barbara County is estimated to increase by 5,425 residential units, 764,515 square feet of commercial and/or industrial use and 546,767square feet of institutional development (Appendix E).

Santa Maria

In Santa Maria from Santa Maria Way to McCoy Lane, land use is primarily residential to west of US 101. From McCoy Lane north to Stowell Road, commercial development largely defines the western border of the city of Santa Maria. North of Jones Street to the Santa Barbara/San Luis Obispo County line, the city boundaries extend both east and west of the US 101 corridor. The areas directly adjacent to US 101 are largely defined as residential with smaller areas of commercial, industrial and public space (2005). Future growth east and west of the US 101 CSMP corridor in Santa Maria is estimated to increase by at least 13,432 residential units, 49,092 square feet of office space, 13,568,174 square feet and 422 acres of commercial development, 137,939 square feet and 50 lots of industrial development, and 373,610 square feet of institutional development in addition to 7 new schools. The largest projects in the city are the Bradley Ranch Annexation and Area 9 (Appendix E).

Guadalupe

Guadalupe was included in the development activity survey as it is within ten miles east of US 101. Future growth in Guadalupe is estimated to increase by eight acres of commercial development, and 980 residential units (Appendix E).

Arroyo Grande

Directly adjacent to US 101 in the city of Arroyo Grande, existing land uses vary both east and west of the US 101/Grand Avenue interchange. These uses range from agricultural, single family residential, public facilities, residential rural, and residential hillside to mixed use. Currently residential uses compose a large portion of the city. Future plans identify expansion of low-medium density housing, low density housing, and conservation open space as a priority. Since only a small portion of the US 101 CSMP corridor extends into Arroyo Grande, future growth east and west of the corridor is estimated to increase only by 6,500 square feet of institutional development (Appendix E).

San Luis Obsipo County

In the San Luis Obispo County portion of the corridor, land use surrounding US 101 is primarily composed of agricultural and rural lands. Located northwest of the US 101/SR 166 interchange, recreational and commercial services can be found. Within the urbanized area of Nipomo, the community is largely residential. However, land use directly surrounding US 101 and the Tefft Street corridor is primarily commercial. Between the Nipomo urban area boundary and the Arroyo Grande city limits, agricultural lands mixed with rural residential uses are predominant. Recreational lands can also be found northwest of the US 101/Los Berros Road interchange. Future growth east and west of the US 101 CSMP corridor in San Luis Obispo County is estimated to increase by 1,644 residential units, 431,368 square feet of commercial and/or office space, 149,000 square feet of industrial use, and 15,000 square feet institutional development (Appendix E).

Development Activity Survey Conclusion

As identified in this planning level analysis of future development in the communities surrounding the corridor, within the 20 year plus planning horizon there are sizeable plans for growth and development. This survey for the corridor estimates a total growth increase by 21,481 residential units; 14,590,013 square feet and an additional 430 acres commercial and/or office space; 524,575 square feet, 50 lots, 83 acres of industrial development; 955,377 square feet of institutional development; and nine new schools in the future (Appendix E). The local and regional transportation impacts generated by this projected growth will generate increased traffic volumes and will need to be considered as part of future planning efforts. The Development Activity Survey also made apparent a shift to supporting a more balanced ratio of different types of land uses which in the future could improve the jobs/housing balance along the corridor. Creating a jobs/housing balance is important to reducing impacts to the transportation system.

According to the Draft Environmental Impact Reports (DEIRs) for the Orcutt Marketplace, Enos Ranch, Area 9, DJ Farms, and Woodlands (to name just a few of the larger scale projects planned for the corridor), these developments are projected to generate a combined 203,829 Average Daily Trips (ADT) (Appendix E). As explained in greater detail in Chapter 3: Comprehensive Corridor Performance Assessment, the magnitude of some future large development projects listed could not be factored into the 2000 SBCAG Regional Model or the Caltrans historic trend data forecasts. Therefore, congestion may occur on the corridor at a faster rate then what is projected in the forecasts presented in Chapter 3.

The scope of future development varies from one community to the next along the corridor, but having a better understanding of the location and magnitude of future development will be a useful tool for maintaining the long-term mobility of US 101. As these developments are approved locally, impacts to US 101 as part of the regional and interregional State Highway System will be identified. Anticipating these future impacts to US 101 early will provide an opportunity for Caltrans and its local partners to begin working together to develop solutions before the transportation system is overwhelmed.

The locally led environmental review process for each future development project will also provide opportunity to study their respective contribution to cumulative and specific impacts. This process will include a traffic analysis which will determine the magnitude of impacts to the local and regional transportation networks and outline mitigation measures appropriate to these impacts. Identifying these impacts can also aid Metropolitan Planning Organizations (MPOs), counties, and cities in developing and implementing transportation impact fee programs and/or other funding strategies for infrastructure improvements.

2.3 Goods Movement

US 101 is California's major north-south coastal route between Los Angeles and San Francisco, and is a vital asset to the national, state and local economies. Its proximity to two of the nation's largest metropolitan areas (Los Angeles and the San Francisco Bay Area) makes it an essential route for national and international goods movement, commerce, trade, tourism, and other important industrial activities. Its significance within the goods movement context is that it acts as the only highway connecting the major regions of California and is the lifeline surface facility for shippers, growers, aggregate miners, and manufacturers located on the California central coast. When Interstate 5 is closed due to inclement weather, fires, or major collisions, US 101 serves as a major through connector. The effects of an Interstate 5 closure may be temporary in terms of hours or days, and it is US 101 that maintains the continuous, daily travel throughput of freight and people supporting the state, local, and national economies. Within the last five years (January 2006-January 2011) I-5 has experienced 17 full closures, each ranging in duration from two to 23 hours.

US 101 is identified as a Focus Route and High Emphasis Route within the Department's Interregional Transportation Strategic Plan. All Focus and High Emphasis Routes are identified within Caltrans' Statewide Goods Movement Strategy, which recommends these routes receive the highest priority for improvement. Freight, connectivity, and capacity issues were major decision points for awarding Proposition 1B funds for widening the Santa Maria River Bridges located at the boundary of Santa Barbara and San Luis Obispo counties. US 101 is also the only highway in the corridor area that is designated a through component of the Surface Transportation Assistance Act (STAA) National Network.

California has four goods movement regions and Caltrans District 5 lies within the central coast region. Agricultural commodities, raw materials, and manufactured goods are transported to, from and through the central coast predominately on heavy trucks. Union Pacific Railroad's (UPRR) California coastal freight line parallels US 101 but does not conduct significant loading and unloading operations within the region, therefore regional freight imports and exports travel by truck to their destination or to an intermodal facility elsewhere in California. In addition, US 101 is a strategic corridor for Vandenberg Air Force Base's military transport, spaceport, and national defense operations.

Truck traffic on the corridor within the plan area averages 7.7% of total vehicle traffic. It is notable that in terms of truck volumes, there are more trucks (of all sizes) using US 101 between SR 135 and SR 166 than the entire remaining corridor segment. This truck volume split occurs at the northern junction of US 101 / SR 166. There are approximately 1,000 more trucks on US 101 south of the junction than there are north of it. More than 500 are five axle heavy trucks. All of these trucks travel across the Santa Maria River Bridges.

While goods movement brings economic benefits to the region, more trucks have impacts on air quality, noise, congestion, and public health. Trucks are responsible for higher percentages of nitrogen oxide (NOx) emissions and particulate matter 2.5 (PM2.5) emissions than passenger vehicles. With recently enacted legislation such as Assembly Bill (AB) 32 and Senate Bill (SB) 375, transportation and land use planning will need to examine the impacts that goods movement has on air quality. Several initiatives are under way that will likely have a major influence on the options for reducing truck emissions over the next decade. The California Air Resources Board (CARB) is in the process of adopting in-use truck rules that would apply to existing vehicles already on the road. As currently envisioned, the rules would be phased in to require that all truck engines meet the 2007 U.S. Environmental Protection Agency (EPA) emission standard by 2013, and all truck engines meet the 2010 U.S. EPA emission standards by 2021. It

is essential that transportation planning along our highway corridors take into consideration strategies that comply AB 32 and SB 375.

As the central coast continues to evolve and increase in population, it will be faced with the challenge of providing mobility for people and goods within and visiting the region. This growth in population will bring with it increased freight transportation demand that will create issues that need to be addressed in the transportation and land use planning process. Designated truck parking whether at Safety Roadside Rest Areas or elsewhere has been identified as an inadequate resource since at least 1995 through AMBAG's Regional Truck Study[3]. In order to accommodate the projected growth in population and goods movement, additional investment in these facilities will be required.

2.4 Parallel Routes and Local Road Improvements

US 101 serves a critical role in providing regional and interregional mobility as a primary component of the State Highway System. Within the central coast, there are no comparable parallel north-south routes that can serve as an alternative to help alleviate traffic congestion along the 22 mile length of the corridor. The only other statewide, multi-lane parallel north-south route to US 101 is I-5 located to the east of San Luis Obispo County in the Central Valley. To the west, State Route 1 also serves as a primary arterial and an alternative parallel route to US 101. Unlike US 101, State Route 1 is designated as a two lane conventional highway, limiting its capacity.

In the county of Santa Barbara along the corridor, a comprehensive network of arterials and collectors serve the local needs in Orcutt and the city of Santa Maria. In the more densely urbanized areas of Santa Maria and Orcutt, to the west of US 101, the system is more complex with local arterials and collectors supporting local connectivity as well as providing access to regional and inter-regional routes including SR 1, SR 166, and SR 135.

North of the Santa Maria River, SR 166 serves as a major east-west goods movement corridor between the central coast and the central valley. West of US 101 in Nipomo, local arterials and collectors that serve the community include Los Berros Road, Orchard/Pomeroy, Halcyon, Osos Flaco Lake Road, Tefft Street and Bonita School Road. To the east of Nipomo, Thompson Road remains as the primary north-south connector through Olde Towne Nipomo. Both SR 1 and Bonita School Road provide north-south access across the Santa Maria River between San Luis Obispo County and Santa Barbara County, however neither road can accommodate the traffic volumes that US 101 can accommodate. SR 1 also serves as the primary route to the city of Guadalupe in San Luis Obispo County.

Locally, Tefft Street serves as the primary and most centralized minor arterial that connects the west and east sides of Nipomo. Los Berros Road and Thompson Road also provide east-west connectivity under US 101 and between the east and west sides of Nipomo. The completion of the Willow Road Interchange in fall 2013 will also facilitate enhanced east-west connectivity in Nipomo. Phase II of the Willow Road Interchange project will complete the frontage road system for local circulation. In the city of Arroyo Grande, Grand Avenue serves as the major east-west collector through the community of Arroyo Grande. Grand Avenue east of US 101 within the city limits was part of SR 227 until November

[3] In collaboration with Caltrans District 5, Association of Monterey Bay Area Governments, Santa Barbara County Association of Governments, San Luis Obispo Council of Governments and three regional RTPAs, the Central Coast California Commercial Flows Study was developed to identify the most important freight movement bottlenecks along the central coast, and to identify solutions for freight movement in the five counties of the central coast (Santa Barbara, San Luis Obispo, Monterey, San Benito and Santa Cruz). The study was recently completed and identifies capital improvements and legislative priorities to meet freight movement challenges along the central coast (Association of Monterey Bay Area Governments, 2012).

2008 when it was relinquished to the city. This collector continues to serve local, commuter, and recreational traffic.

As the communities surrounding US 101 continue to grow and develop, ample local surface circulation improvements will need to be implemented to minimize dependency on US 101 for local trips. In the areas surrounding the corridor, traffic generated by future development should be accommodated by local street and road systems. The City of Santa Maria General Plan Circulation Element Update (2009) and San Luis Obispo County *South County Area Plan-Inland* (2009) identifiy local road improvements within the area of the US 101 CSMP corridor.

The comprehensive list of improvements from these two documents include different types of improvements ranging from landscaping to capacity increasing for all classifications of roadway. Included below is a selection of local circulation improvements that were considered to have the greatest potential to reduce demand on US 101. This includes improvements to local roads oriented north to south that serve as alternative parallel routes to US 101. Improvements to existing roads are identified in *Figure 2.3* by an orange line, proposed extensions of existing roads are identified by a pink line, and a yellow dashed line indicates a conceptual or general recommendation from the following list of improvements.

Road improvements to alleviate local demand on the State Highway System south of the Santa Maria River Bridge, as identified in the City of Santa Maria General Plan Circulation Element Update (2009), include the following Table 2.4.

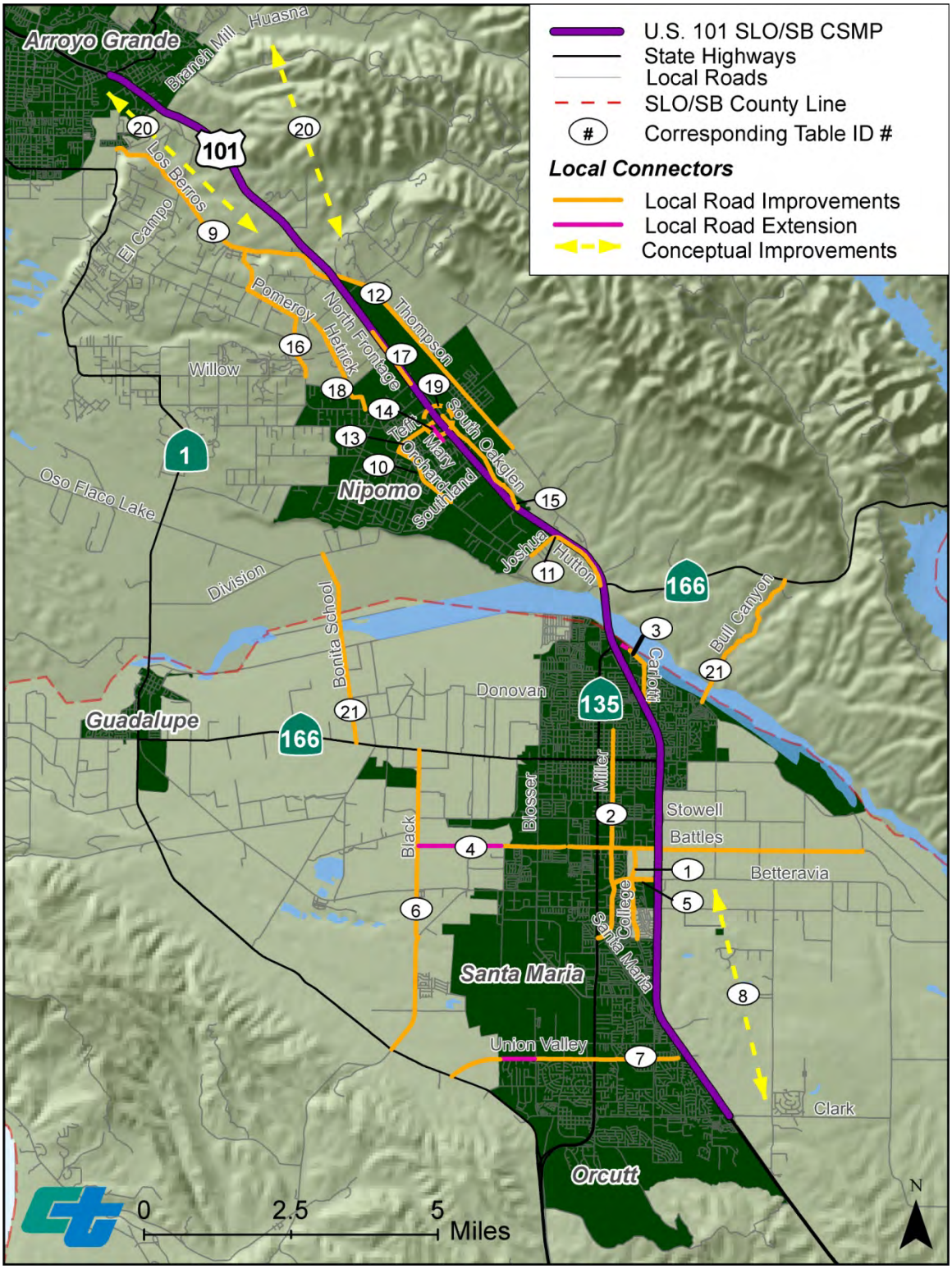
Table 2.4: Local Road Improvements in Santa Maria

Figure 2.3 ID #	Santa Maria General Plan Proposed Road Improvements
1	Improve College Drive from Battles Road to Sunrise Drive from a local road to secondary arterial street standards.
2	Widen Miller Street from minor arterial standards to secondary arterial street standards from Alvin Avenue to Santa Maria Way as needed.
3	Extend Seaward Drive (classified as a local road) north of Donovan Road to the Santa Maria River levee, then northwesterly along the levee until it intersects with the Broadway/U.S. 101 Interchange.
4	Improve Battles Road to the standards of an arterial as the road currently transitions between a minor arterial and a local road. Extend Battles Road from its terminus at Depot Street west to Black Road.
5	Widen Betteravia Road to primary arterial standards between Miller Street and US 101.
Figure 2.3 ID #	**Caltrans Proposed Local Road Improvements Along the CSMP corridor**
6	Widening Black Road which is classified as a major collector to a four lane facility between SR 166 and SR 1.
7	Extending Union Valley Parkway (UVP) which serves as a minor arterial from US 101 west as appropriate to accommodate potential future development as proposed in the *Draft Supplemental Environmental Impact Report for the Orcutt Community Plan* (2011).
8	Expanding the north-south parallel local road network east of US 101 to meet traffic demand created by future development.

North of the Santa Maria River Bridge, encompassing the areas of southern San Luis Obispo County and Nipomo, the *South County Area Plan-Inland* (2009) includes the following local road improvements which could alleviate demand on US 101 for local trips (Table 2.5).

Table 2.5: Local Road Improvements in San Luis Obispo South County

Figure 2.3 ID #	San Luis Obispo South County Area Plan-Inland Proposed Road Improvements
9	Improve Los Berros Road to rural arterial standards
10	Improve Orchard Road between West Tefft Street and Southland Street. Improve to two lane rural arterial standards from Southland Street to Joshua Road
11	Improve Joshua and Hutton Roads which serve as minor arterials to two-lanes with 8-foot paved shoulders from Orchard Avenue to Cuyama Lane as a parallel route to US 101
12	Improve Thompson Avenue currently serving as a minor arterial to urban two-lane standards within the urban reserve line
13	Improve Tefft Avenue to urban arterial standards with four lanes from Orchard Road to South Oakglen Avenue
14	Construct Mary Avenue (currently serving as a minor arterial) from Tefft Street to Grand Street, and extend north to Inga Avenue to a two-lane urban collector as development occurs
15	Improve South Oakglen which transitions between a minor arterial and collector with two traffic Lanes
16	Improve Pomeroy Road from minor arterial to rural collector standards between Los Berros Road and Willow Road
17	Improve North Frontage Road from principal arterial to urban collector standards from Sandydale to the proposed interchange at the Willow Road extension
18	Improve Hetrick Road which transitions between local and minor arterial to a two-lane rural standard as a parallel route to Highway 101, from Pomeroy Road north to Aden Way.
Figure 2.3 ID #	**Caltrans Proposed Local Road Improvements Along the CSMP corridor**
19	Operational Improvements to the Tefft Street Interchange
20	Developing a parallel route network between the US 101/Los Berros interchange and US 101/Traffic Way interchange to facilitate upgrading US 101 to freeway standards
21	Improving collector facilities Bonita School Road and Bull Canyon Road as necessary to accommodate growth demands. These roads currently serve as the only alternate north-south routes to US 101 and SR 1 between Santa Barbara County and San Luis Obispo County within the CSMP corridor.



Source: Local Connectors (Santa Barbara County, 2010) *and* (San Luis Obispo County, 2006).

Figure 2.3: Local Road Improvements

2.5 Multimodal Transportation

2.5.1 Bicycle Access

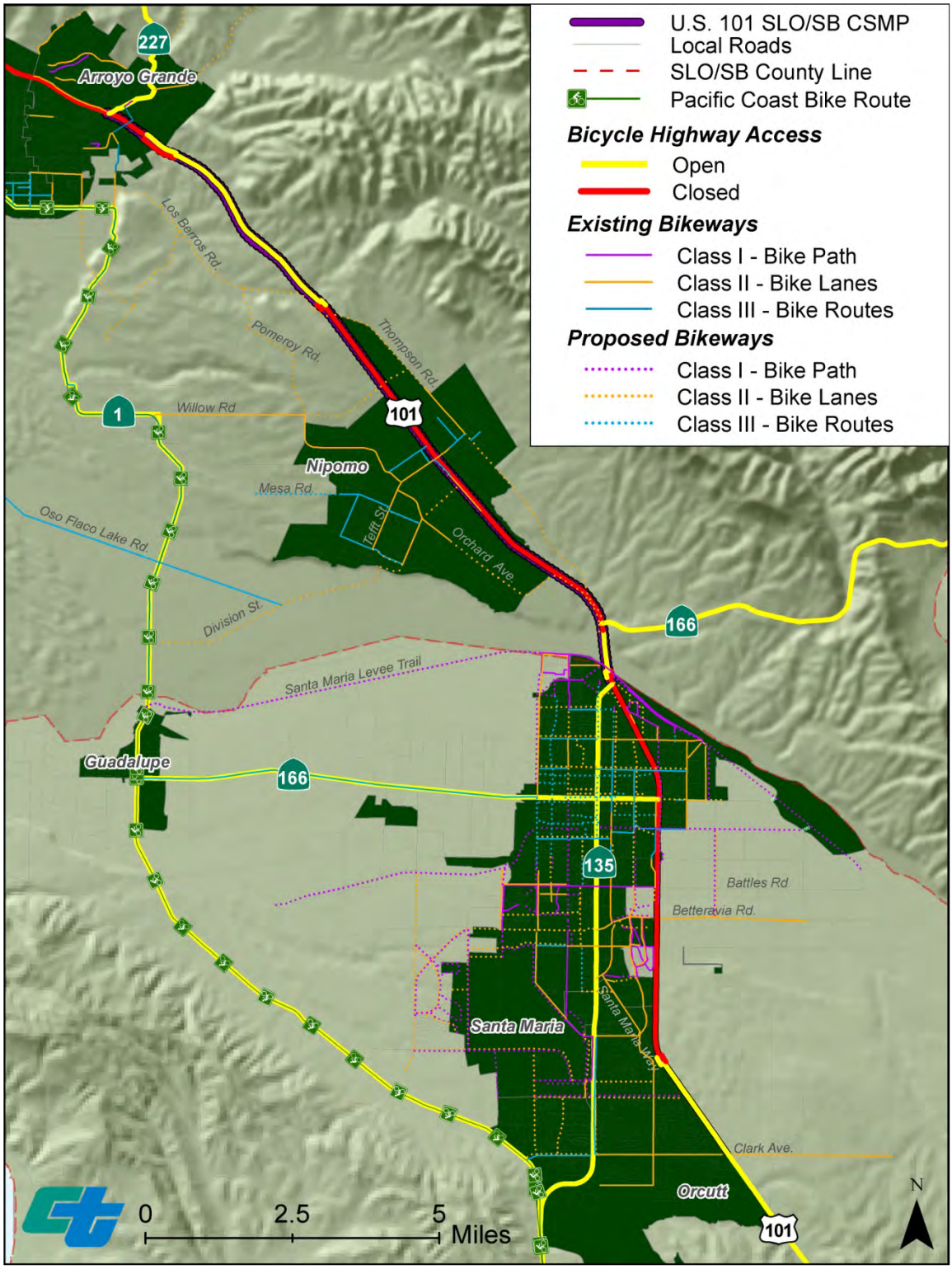
Bicyclist have right of access to all public roads except where specifically prohibited such as parts of access controlled freeways. More than half of US 101 in the CSMP corridor is closed to bicyclists. Three portions of the highway that are open to bicyclists include: 1.) from the US 101/Clark Avenue Interchange to the US 101/Santa Maria Way interchange, 2.) from the junction of US 101/SR 135 (Broadway) to the junction of US 101/SR 166 (Thompson), 3.) from the US 101/Los Berros Road interchange to where the highway transitions from expressway to freeway near Halcyon Road.

Bicycle plans for the city of Arroyo Grande, city of Santa Maria, and San Luis Obispo county provide information on existing bikeways within the corridor and provide recommendations for future expansion of the bicycle networks within their respective communities. Bikeways in these plans are typically defined by one or a combination of the following bicycle classifications. Class I (provides a completely separated right of way for the exclusive use of bicycles and pedestrians with cross flow by motorists minimized), Class II (provides a striped lane for one-way bike travel on a street or highway) or Class III (provides for shared use with pedestrians or motor vehicle traffic).

The *Arroyo Grande Bike Plan* (2006) identified existing bikeways (*Figure 2.4*) and developed ten priorities for bicycle improvement within the city. Most of the priority improvements are located along the local arterials, with exception to one priority which proposes installing bike route signs across Oak Park Boulevard. This is planned to enhance connectivity from the Class II bikeway at the Pike to the Class III Old Oak Park Road bikeway that crosses US 101. Oak Park Boulevard is located one intersection north of the Grand Avenue intersection and northern terminus of the CSMP corridor.

The *Santa Maria Bikeway Master Plan* (2009) provides an extensive inventory of existing bikeways as well as identifying future bikeways within the city (*Figure 2.4*). Improving bikeway connectivity through the city will not only encourage increased connectivity and ridership in the city, but will also provide an alternative to commuting by automobile on US 101 for local trips. Directly adjacent to US 101, the *Santa Maria Bikeway Master Plan* (2009) proposes the Bradley Channel Bike Path Extension. This Class I bicycle path is located just east of US 101 and will extend from Betteravia Road to just north of Donovan Road.
Another major proposed project includes the extension of the existing Class I Santa Maria River Levee trail located along the southern bank of the Santa Maria River. The proposal will extend the path east and west of US 101 over nine miles total (*Figure 2.4*). Plans for the western extension of the Santa Maria River Levee trail are to continue the path to the Guadalupe Dunes. The eastern segment will continue south-east, intersecting Bull Canyon Road and extend beyond the city limits.

In addition to the proposed Class II bicycle improvements on Thompson Road, the *San Luis Obispo County Bikeways Plan* (2010) identifies other proposed Class II bicycle improvements that will improve the bicycle network through the South County area. Locations for these improvements include: Division Street, Orchard Avenue, Joshua Street, Hutton Road, Willow Road, Thompson Avenue, Los Berros Road, Pomeroy Road, El Campo Road, and Halcyon Road. These proposed future bicycle improvements will not only benefit local connectivity in Nipomo, but will also improve bicycle access from US 101 to the Pacific Coast Bike Route on State Route 1 (*Figure 2.4)*. More information on US 101 CSMP Corridor future bicycle and pedestrian improvements identified in the Regional Transportation Plans (RTPs) for SBCAG and SLOCOG can be found in Appendix F.



Sources: Pacific Coast Bike Route (California Department of Transportation, 2010)*; Bicycle Highway Access* (California Department of Transportation-District 5, 2009)*; and Existing and Proposed Bikeways* (City of Arroyo Grande, 2006)*,* (City of Santa Maria , 2009)*, and* (San Luis Obispo County Bicycle Advisory Committee & Department of Public Works, 2010).

Figure 2.4: Bicycle Access

The existing portion of the Santa Maria River Levee trail will also intersect with the Class I separated bicycle path that will be part of the Santa Maria River Bridges Widening project. The Santa Maria River Bridge Class I path will be located on the west side of the bridge and connect north to Hutton Road in San Luis Obispo county (*Figure 2.5*). The Class I path will allow both bicyclist and pedestrians to travel to connecting local pedestrian and bicycle facilities north and south of the bridge. These future improvements will improve cross county bicycle mobility between the city of Santa Maria and the community of Nipomo and enhance regional multimodal travel on the central coast.

Figure 2.5: Santa Maria River Bridge Class I Path

2.5.2 Rail

The Union Pacific Railroad is located west of US 101 within the corridor and traverses near State Route 1 on the central coast and accommodates passenger rail and freight service.

Amtrak provides daily passenger rail service along the railway by way of the Pacific Surfliner and Coast Starlight trains. The Pacific Surfliner offers two trains a day to San Luis Obispo, one originating in San Diego and one originating in Los Angeles that include stops in the CSMP corridor in Guadalupe and Grover Beach. The Pacific Surfliner is currently the second busiest passenger rail line in the United States. The Coast Starlight offers two daily trips from Los Angeles to Seattle with a stop south of the corridor in the city of Santa Barbara and north in the city of San Luis Obispo. Ridership from June 2010 through July 2011 on the Pacific Surfliner was 2.7 million and the Coast Starlight was 432,000. At the San Luis Obispo and Grover Beach stations, Amtrak users are offered free transfers onto any RTA or SLO transit bus. Both Santa Barbara and San Luis Obispo transportation agencies continue to work with the Los Angeles-San Luis Obispo-San Diego Rail Corridor Agency (LOSSAN) and the Coast Rail Coordinating Council (CRCC) to increase service speeds, reliability and frequencies in the corridor. The nearest stations to the corridor are located in the cities of San Luis Obispo, Grover Beach, and Guadalupe.

The Santa Maria Valley Railroad is also located within the corridor and consists of 14 miles of mainline track and maintains additional siding and spurs (*Figure 2.6*). The railroad is composed of two primary sections of mainline track. One track traverses east from the city of Guadalupe to near the eastern terminus of Battles Road in Santa Barbara County. The other track is located parallel to Depot Street and runs north near the intersection of Skyway and Hagerman roads to Mill Street. The Santa Maria Valley Railroad is currently owned by the Coast Belle Rail Corporation.

2.5.3 Transit

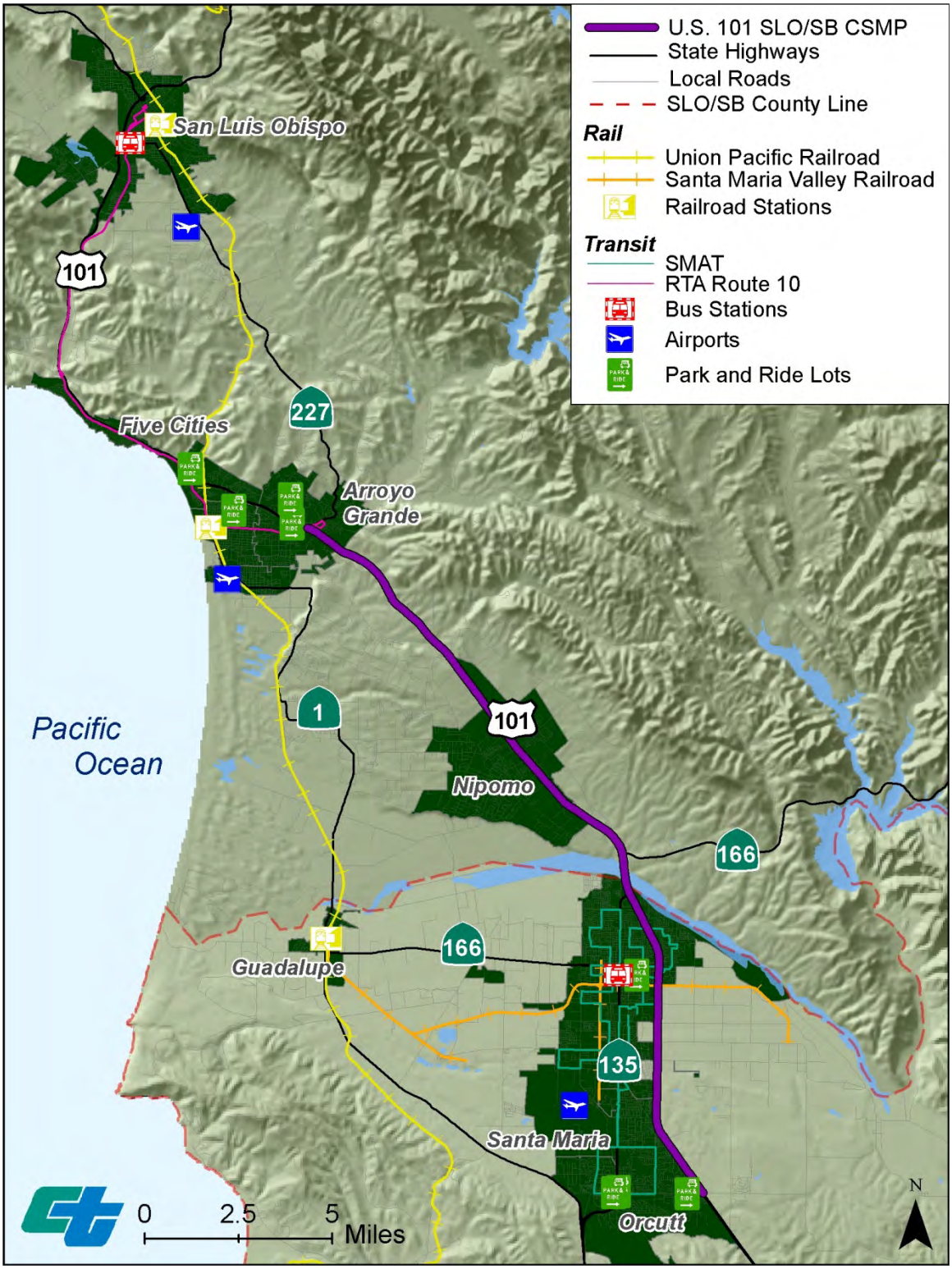
Local, regional, and private transit providers that serve southern San Luis Obispo County and northern Santa Barbara County include:

- Santa Maria Area Transit (SMAT): provides comprehensive local fixed route bus service in Santa Maria and unincorporated Orcutt and is the ADA paratransit service provider for the area (*Figure 2.6*).
- South County Area Transit (SCAT): provides local fixed routes 21, 23, and 24 serving areas of Shell Beach, Pismo Beach, Grover Beach, Oceano, and Arroyo Grande.
- San Luis Obispo Regional Transit Authority (RTA): provides through connections between the cities of San Luis Obispo, the Five Cities Area, Nipomo, and Santa Maria by way of Route 10 (*Figure 2.6*). Route 10 serves approximately 161,000 weekday riders per year (San Luis Obispo County, 2010). Nipomo's Dial-a-Ride serves the local general public on weekdays and connects into Route 10. SLORTA is also the ADA paratransit service provider for this area, operating runabout demand-responsive service. SLO Rideshare provides countywide online bus trip planning and personalized trip planning assistance over the phone and through Google Transit. Transit riders can also purchase monthly bus passes online.
- Clean Air Express: an interregional commuter bus program which provides service from northern Santa Barbara County, including Santa Maria, to southern Santa Barbara County. Clean Air Express currently offers multiple round trips for North County commuters to Santa Barbara and Goleta. Due to the popularity of the bus service there may be a need in the future to expand service. The SBCAG *North County Regional Transit Plan* (2006) proposes the addition of Saturday service and extension of service to the Santa Maria Transit Center as short-term improvement alternatives.
- The Breeze: the Breeze provides regional transit service and offers 16 one-way trips daily on weekdays between Santa Maria and Lompoc with stops at Vandenberg AFB and Vandenberg Village. Long-term proposed improvements from the SBCAG *North County Regional Transit Plan* (2006) include adding Saturday service and improving headways to 60 minutes.
- SMOOTH (Santa Maria Organization of Transportation Helpers): a regional transportation provider, offers the Los Alamos Shuttle and Guadalupe Transit as part of its transit division. SMOOTH provides two daily trips on Tuesday and Saturday from Los Alamos to Santa Maria on the Los Alamos Shuttle. SMOOTH also provides transit within the city of Guadalupe (Guadalupe Shuttle) Monday through Friday, and between Guadalupe and Santa Maria (Guadalupe Flyer) Monday through Saturday.
- Greyhound: a private provider of interregional bus service by way of US 101.

June 19, 2011 the new Santa Maria Transit Center located at the corner of Miller and Boone Streets opened. This center provides a new park and ride lot location, 16 bus parking bays, indoor seating areas, a snack shop, public restrooms, a children's play area and bicycle racks (*Figure 2.6*).

2.5.4 Aviation

Within the corridor the Santa Maria Public Airport and San Luis Obispo County Regional Airport provide scheduled commercial airline service (*Figure 2.6*). The Oceano County Airport serves private and recreational uses.



Sources: Rail (Caltrans Division of Rail, 2010), (Caltrans TSI/GIS Branch, 2002); *Transit* (Bridgewater State College and Federal Transit Authority (FTA) and Caltrans TSI/GIS Data Branch, 1995), (Greyhound State Government Affairs and Caltrans TSI/GIS Data Branch, 1995); *Airports* (Caltrans Division of Aeronautics, 2007); *Park and Ride* (Caltrans Division of Traffic Operations, 2010).

Figure 2.6: Existing Rail, Transit, and Aviation Service

2.6 Transportation Demand Management

Transportation Demand Management (TDM) is the application of strategies and policies to reduce overall travel demand on the transportation system and facilitate mobility options. It is necessary to propose new TDM programs and enhance existing programs, such as transit facilities, ridesharing programs, and park and ride lots, to reduce demand on US 101. New TDM elements such as bike/pedestrian facilities and employer-based programs will need to be developed concurrently with identified funding sources.

2.6.1 Commuter Programs

Rideshare is a division of the San Luis Obispo Council of Governments (SLOCOG) which values providing transportation options and promoting Transportation Demand Management (TDM) programs which conserve fuel, reduce air pollution and make it easier for commuters to move around. Traffic Solutions, a division of Santa Barbara County Association of Governments (SBCAG) also promotes TDM through implementation of commuter programs. Rideshare serves commuters destined for San Luis Obispo County, and Traffic Solutions is responsible for commuters destined for Santa Barbara County. The following services are currently part of the TDM programs managed by SLO Rideshare and/or SBCAG Traffic Solutions:

- Transportation Choices Program: Rideshare manages this free program which offers businesses and organizations to equip employers with tools to encourage their employees to develop sustainable transportation habits and integrates all commute modes. This program is guided by input from the Steering Committee that includes large, mid, and small employers, the Regional Transit Authority, Ride-On Transportation, Caltrans, Calpoly, Morris & Garritano Associates, and the San Luis Obispo Bike Coalition.

- Trip Reduction Plan and Employee Commuter Survey**:** Rideshare works with employers to administer a companywide survey of employee commute behaviors and interests. Based upon this survey, Rideshare and the employer develop a Trip Reduction Plan. This plan identifies how the employer can reduce employee related commute trips and make measurable recommendations. Traffic Solutions also works with employers in Santa Barbara County to develop commuter benefits programs and offers services including: commuter matching, employee commuter surveys, vanpool assistance, marketing assistance, Expert FlexWork consulting, worksite presentations and literature, and metrics for measuring program effectiveness.

- Carpool: Carpool is an effective and inexpensive way to reduce vehicle trips. SLO Rideshare and Traffic Solutions have free online carpool matching systems that supports commuters traveling on the same corridor at the same time to share the ride.

- Vanpool: Currently there are three active vanpool operators in San Luis Obispo County (VPSI, Enterprise Vanpool and Ride-On Transportation) and three in Santa Barbara County (VPSI, Enterprise Vanpool, and CalVans). Rideshare and the vanpool operators assist employers and commuters with inter-office and countywide vanpool matching. Traffic Solutions offers incentives to vanpool riders including new rider rebates and new vanpool start-up incentives.

- Emergency Ride Home: This program provides up to four emergency rides home per year to registered users of Traffic Solutions Online program. Participants who carpool, vanpool, walk,

bike, or use transit to get to work at least once a week may register for the service. In Rideshare's online program, registrants are eligible for four rides per year at a reimbursable rate of $45 per ride.

- Mid-day Shuttles: Currently the Lunchtime Express Shuttle operates in the city of San Luis Obispo, allowing two or more individuals to receive free rides to sponsoring restaurants. This program is managed by Ride-On Transportation and is funded by the participating restaurants.

- School Pool and Safe Routes to School: This program allows parents to coordinate carpooling opportunities to get their children to and from school through the Traffic Solutions Online Program. Safe Routes to School is a nationally recognized program offered through Rideshare that encourages students to walk and bike to school instead of having parents drive them.

- Rideshare Month: This annual program provides incentives and events to commuters using alternative transportation in San Luis Obispo County during the month of October.

- Curb Your Commute: This Traffic Solutions program provides frequent commuter events to encourage reduced delay on US 101 during construction of the Milpas to Hot Springs operational improvements. The first phase of the program started in 2008 and ran through 2010. The second phase of the program will be coordinated with the CMIA HOV construction project on Highway 101 in 2011.

- Bike Challenges and Bike Month: Rideshare and Traffic Solutions provide organized activities and programs to promote bicycle commuting. Both counties organize commuter bike challenges and offer other services to bicyclists. Rideshare frequently organizes bike kitchens, bike valet, and bike breakfasts during May Bike Month. Traffic Solutions partners with the Santa Barbara Bicycle Coalition for the annual CycleMAYnia (Bike Month) that includes organized rides and races, bike valet, educational classes, and celebrations of bike art, fashion, and films during the month of May.

- Incentive Program and Employer Trip Reduction Tracking: iRideShare Rewards, Rideshare's online incentive program, is used to reward participants for not driving alone to work. The program is administered by Rideshare and funded by participating employers. Once users sign up for iRideShare.org online, they can record the days they ride the bus, vanpool, carpool, ride a bike, walk to work, or work from home in a personal online commute calendar. Each day they do not drive alone earns them "iRideShare Rewards" that can be redeemed for movie tickets, gift certificates to local businesses, and donations to local charities. Traffic Solutions Online also provides commuter matching service, allows members to calculate annual commute savings and posts commuter benefits (Trip Rewards) provided by participating employers. These benefits include transit discounts and cash incentives for telecommuting and/or ridesharing.

- Traffic Map: The online Traffic Map on Rideshare's website provides information on highway incidents and roadway hazards as reported by CHP in San Luis Obispo County and the city of Santa Maria.

- 511: The 511 telephone application provides information on road conditions, public transportation, ridesharing, and roadside assistance in English and Spanish. The three digit

telephone number can be accessed from any landline or cellular phone. The road conditions menu provides up to date information on highway incidents or roadway hazards in San Luis Obispo county and the city of Santa Maria.

- Dynamic Ridesharing: Traffic Solutions acquired a FHWA Value Pricing Pilot Program Grant to implement a pilot Dynamic Ridesharing program using smartphone technology. The pilot project, scheduled to begin in the fall 2011, will focus on the US 101 corridor from Ventura to Santa Barbara and the corridor between Santa Barbara City College and UCSB. The Dynamic Rideshare program will facilitate instant, real time ridesharing matching as well as provide automated rideshare cash incentives. If the pilot program is successful, Dynamic Ridesharing will be implemented throughout Santa Barbara County.

- Transportation Demand Management Program during Highway Construction: The purpose of the program is to reduce traffic on US 101 during the construction phase of the Santa Maria River Bridges Widening project and will be strategically marketed towards single occupant vehicle commuters that live and work between the urban areas of Santa Maria, the Five Cities and San Luis Obispo. The TDM strategies that will be developed will be designed to leverage employer-based solutions that result in long term travel behavior change, as well as to increase overall awareness of the benefits of telecommuting, carpooling, vanpooling, and using transit.

  Traffic Solutions and Rideshare will work in collaboration to reach out to local employers to offer incentives to their employees to carpool, form vanpools, or use transit. Any TDM marketing materials prepared for the program will also highlight the bike lane included in the Santa Maria River Bridge widening project.

2.6.2 Park and Ride Lots

In addition to the Traffic Demand Management strategies identified above, park and ride lots can be used to encourage commuters to participate in vanpools/carpools and ride transit. Within the US 101 CSMP corridor, there are three existing park and ride lots in the community of Orcutt (Table 2.6 and *Figure 2.6*). Four additional park and ride lots can be found just north of the corridor in Grover Beach, Pismo Beach, and Arroyo Grande.

Table 2.6: US 101 CSMP Corridor Park and Ride Lots

PARK & RIDE LOT NAME	LOCATION	NUMBER OF SPACES
Clark Avenue NE	Clark Avenue and Rte 135 Northeast quadrant, Orcutt	15
Clark Avenue NW	Clark Avenue and Rte 135 Northwest quadrant, Orcutt	45
Clark Avenue/US 101	Clark Avenue and Rte 101 eastside, Orcutt	34
Ramona Garden Park (South County Transit Center)	East of US 101 and Grand Avenue, Grover Beach	20
Prime Outlet Center	At Five Cities Drive Exit and Rte 101, Pismo Beach	20
Walmart	Walmart parking lot, Arroyo Grande	26
Halcyon Road	Halcyon Road Exit and Rte 101, Arroyo Grande	49

Sources: (California Department of Transportation, 2009)

In Santa Barbara County, according to the SBCAG Regional Transportation Plan, *Vision 2030* (2008), one new park and ride lot is proposed in Santa Maria at the US 101/SR 135 Interchange. Additionally, the Santa Maria Transit Center also includes a park and ride lot located at the corner of Miller and Boone Streets.

Currently work is underway to add 21 parking spaces to the Halcyon Park and Ride lot in San Luis Obispo County. According to the SLOCOG *Regional Transportation Plan-Preliminary Sustainable Communities Strategy* (2010), a future park and ride lot will be considered at one of the following locations within in the US 101 CSMP corridor: the Highway 166 interchange, Los Berros/Thompson interchange, or Willow Road interchange. The *San Luis Obispo South County Bus Rapid Transit Assessment* (2011) also highlights West Tefft Street and Spyglass Drive as potential locations to consider for a future park and ride lot.

Encouraging Park and Ride lot opportunities countywide would contribute to reducing single-occupant-vehicle trips within the county and subsequently along the US 101 corridor. It may also be determined that park and ride locations outside the corridor would serve commuters who work in the corridor, in addition to residents who commute to work through and outside the corridor. Caltrans supports locating future park and ride lots where multimodal nodes exist. Caltrans encourages and supports local agencies to construct and maintain park and ride lot facilities at locations that address safety and mobility needs of bicyclists, pedestrians, and transit users in all projects. However due to current state funding constraints, Caltrans will not be able to support the maintenance and operation of new park and ride facilities in the State's right-of-way.

2.7 Intelligent Transportation Systems (ITS)

Intelligent Transportation Systems (ITS) include a range of diverse technologies which, when applied to a transportation system, can help improve safety, reduce congestion, enhance mobility, minimize environmental impacts, save energy, and promote economic productivity. ITS technologies are varied and include traffic signal controls, network surveillance, en-route traveler information systems, and transit management systems.

ITS Elements

ITS vehicle detection systems along the US 101 CSMP corridor include microwave detectors, loop detectors, and other detection technologies. No additional detection elements are funded along the corridor at this time. Closed Circuit TV (CCTV) cameras to monitor traffic are also proposed at multiple locations along the corridor in the future (Table 2.7).

A Changeable Message Sign (CMS) is planned to be located northbound on US 101 near the junction of US 101/SR 166. In the future, Caltrans also plans to place a CMS on US 101 in the southbound direction near the junction of US 101/SR 166. No ramp meters currently exist on US 101 within the CSMP corridor. However, US 101 is continually being monitored for ramp metering viability.

In addition to ITS elements currently installed and proposed by Caltrans for the US 101 CSMP corridor, the *Central Coast ITS Implementation Plan* (2007) also identified long-range goals for ITS enhancements. This plan developed the framework for integration of these ITS technologies along the central coast through a multi-agency effort. The plan offers general ITS recommendations in addition to specific recommendations. General ITS project recommendations include: implementation of portable traffic management systems, improved regional traffic control, improved incident management systems, and continued ITS planning.

Table 2.7: US 101 CSMP Corridor ITS Elements

ITS TYPE	DIRECTION OF TRAVEL	LOCATION	POSTMILE	STATUS
Vehicle Detection	NB/SB	Santa Maria Way – Santa Maria	84.61	Installed
Closed Circuit Camera	TBD	Future Union Valley Parkway Interchange – Santa Maria	83.60	Proposed
Vehicle Detection	NB	Betteravia Road – Santa Maria	86.28	Installed
Closed Circuit Camera	NB	Betteravia Road – Santa Maria	86.28	Proposed
Vehicle Detection	NB/SB	Betteravia Road – Santa Maria	86.79	Installed
Loop Detection	NB/SB	At O.C. N Side of Bridge – Santa Maria	87.60	Installed
Vehicle Detection	NB/SB	Stowell Road – Santa Maria	87.63	Installed
Vehicle Detection	NB	Main Street – Santa Maria	88.27	Installed
Closed Circuit Camera	NB	Main Street – Santa Maria	88.27	Proposed
Vehicle Detection	NB/SB	Main Street – Santa Maria	88.98	Installed
Vehicle Detection	NB	Donovan Road – Santa Maria	90.18	Installed
Closed Circuit Camera	NB	Donovan Road – Santa Maria	90.18	Proposed
Vehicle Detection	SB	Route 135/Broadway – Santa Maria	90.98	Installed
Closed Circuit Camera	SB	Route 135/Broadway – Santa Maria	90.98	Proposed
Vehicle Detection	NB/SB	N of JCT 166 East – San Luis Obispo County	1.10	Installed
Closed Circuit Camera	TBD	Tefft Street – San Luis Obispo County	4.85	Proposed

Specific ITS recommendations from the plan pertaining to locations within the CSMP Corridor are identified in Table 2.8. The estimated timeframe for implementation is also listed in Table 2.8 (short-less than 5 years, medium-5 to 10 years, and long-term-greater than 10 years). As identified in the "Current Status" column in Table 2.8, most of the improvements within the Short and Short-Medium time frame have been implemented or are close to completion. Implementation of the projects identified for completion within a Medium or Medium-Long time frame will be dependent on funding availability. Due to funding constraints, the time frames for these planned improvements may be prolonged.

In the future, ITS data will be more broadly accessible through the use of the web based tools such as CA 511 and Performance Measurement System (PeMS). CA 511 focuses on real time data and PeMS has an emphasis historical data. District 5 is currently in the process of transmitting vehicle detection data from field ITS elements to the PeMS server. Information can then be shown on the PeMS website which can be accessible by local agencies that register for the traffic information. This has changed the way traffic data is collected, processed and analyzed for measuring the performance of transportation systems. Caltrans' Division of Research and Innovation is currently researching, testing and evaluating new transportation technologies for the future. They are currently investigating the use of Bluetooth Technology as an economical alternative to obtaining real time transportation data in rural corridors.

Table 2.8: Central Coast ITS Implementation Plan Improvements on the US 101 CSMP Corridor

ITS PROJECT	SPECIFIC LOCATION/AREA	PLAN TIME FRAME	POSSIBLE RESPONSIBLE AGENCY	CURRENT STATUS
Interactive Traveler Information	San Luis Obispo County (511 Telephone Call-In System)	Short	SLOCOG	IMPLEMENTED
Interactive Traveler Information	Santa Barbara County (real time traffic information provided on the internet)	Short	SBCAG	PLANNED FOR SPRING 2012
Closed Circuit TV	US 101 –Clark Ave. in Santa Barbara to San Luis Obispo County Line	Short-Medium	Caltrans	PROPOSED (See Table 2.7)
Roadway Sensors	US 101 –Clark Ave. in Santa Barbara to San Luis Obispo city Limits	Short-Medium	Caltrans	IMPLEMENTED (See Vehicle Detection in Table 2.7)
Changeable Message Signs	Junction of US 101 & SR 166	Short-Medium	Caltrans	PLANNED FOR 2013
Road Weather Information Systems	US 101 Ventura County Line to Monterey County Line	Short-Medium	Caltrans	SHORT-MEDIUM TIMEFRAME
Ramp Metering	US 101 – SR 166/Santa Barbara County Line to Los Berros	Medium	Caltrans/CHP	MONITORED FOR RAMP METERING VIABILITY
Smart Call Boxes	US 101- Ventura County Line to north Paso Robles	Medium-Long	SBCAG, SLOCOG, Caltrans	MEDIUM-LONG TIMEFRAME
Ramp Metering	US 101 –Clark Ave. in Santa Barbara to San Luis Obispo County Line	Medium-Long	Caltrans/CHP	MONITORED FOR RAMP METERING VIABILITY
Integrated Freeway Arterial Control	city of Santa Maria	Medium-Long	Caltrans, Santa Maria	MEDIUM-LONG TIMEFRAME

Source: (Association of Monterey Bay Area Governments, 2007)

3 Comprehensive Corridor Performance Assessment

The Comprehensive Corridor Performance Assessment (CCPA) is an analysis of the existing conditions, future conditions, and deficiencies based on measurable performance within the corridor. Performance measures are essential to corridor management and improvements. To identify the current and projected deficiencies within the corridor, identify locations for investment, and develop a range of solutions, Caltrans and its partners have identified **Mobility** and **Traffic Safety** as performance measures to analyze the US 101 CSMP corridor. Performance measures such as **Reliability** and **Productivity** require detection and/or extensive count data. The corridor currently does not have enough detection data available to analyze the reliability and productivity of this corridor.

Mobility: Describes how well people and freight move along the corridor.

Traffic Safety: Provides an overview of collisions along the corridor and highlights locations of high concentrations of collisions or readily apparent patterns. California State TASAS (Traffic Accident Surveillance Analysis System) data can be used to determine the number of collisions, collision rates, and locations for collisions along a corridor.

3.1 Mobility

Forecast Methodology

To better understand mobility on the US 101 CSMP corridor, the baseline and forecasted peak volumes were used to identify when flows become unstable and breakdowns of the system are likely to occur. This was determined when PM peak volumes reached 85% of the capacity of the facility (V/C of 0.85).
For this planning level analysis, regional model outputs were used and only the PM peak was analyzed. Caltrans counts and historical data for forecasting were used when the regional model outputs were not available (See Appendix G for more information on modeling assumptions).

For Segment 1, the 2000 Santa Barbara County Association of Governments (SBCAG) Regional Model was used to obtain the 2000 baseline year and 2030 forecasted year for daily volume, directional split, PM peak volume and capacities as identified through the Highway Capacity Manual (Caltrans, 2011)(Table 3.1). For segments 2 through 4, Caltrans historical trend data was used to obtain the 2008 baseline year and 2035 forecasted year for daily volume, directional split, and PM peak volume. The San Luis Obispo Council of Governments (SLOCOG) regional model is currently being updated to address SB 375 Sustainable Community Strategies and for this reason Caltrans historical trend data was used.

Performance Assessment

SEGMENT 1:
Analysis of the 2000 SBCAG Regional Model forecasts shows that in Segment 1 from Clark Road to SR 135, a V/C of 0.85 or unstable traffic flows are estimated to occur by 2033. This will be found occurring first in the northbound direction during the PM peak. The segment is expected to be able handle increased demand up to 2033 because it was recently expanded to a six-lane freeway. This expansion was intended to accommodate future demand as identified in the 2000 SBCAG Regional Model.

Land Use and future development also have impacts on the local and regional transportation systems. As mentioned in *Section 2.2.2: Land Use and Future Development*, the magnitude of some larger developments under consideration along the US 101 corridor were unable to be captured in baseline and future forecasts. This is the case for Segment 1, because some larger developments were not approved at the time the regional growth forecast was developed which populated the 2000 SBCAG Regional Model[4]. SBCAG is currently updating their regional model concurrently with the regional growth forecast. The developments that have been approved and amended into local general plans since the last model update will be factored into the new regional model.

The magnitude of growth generated by these larger projects may result in US 101 experiencing unstable flows earlier than 2033 as projected in Table 3.1. Prior to development of these projects, a more detailed assessment of cumulative and specific impacts should be initiated by local governments as part of the state and federal environmental review processes (CEQA and NEPA). This process will include a traffic analysis which will determine the magnitude of impacts to the local and regional transportation networks and will outline mitigation measures appropriate to these impacts. A local general plan amendment may also be necessary prior to development approval.

Table 3.1: Segment 1 SBCAG Model 2000 and 2030 Forecasts

SEGMENT 1	**SBCAG MODEL**						
Clark Rd to SR-135	Length (miles)	Daily Volume	Split (a)	PM Volume	PM V/C	Capacity	Year @ v/c=0.85 (h)
	Year 2000						
Southbound	8.9	23,110	0.39	1,707	0.44	3,800	2051
Northbound	8.8	21,570	0.61	2,632	0.69	3,800	**2033**
Total		**44,680**		**4,338**		**7,600**	
	Year 2030						
Southbound	8.9	45,506	0.44	3,317	0.63	5,200	2051
Northbound	9.1	41,662	0.56	4,264	0.83	5,200	**2033**
Total		**87,168**		**7,581**		**10,400**	

***Note: capacity between 2000 and 2030 increase due to completion of the Santa Maria Six Lane Project**

SEGMENTS 2, 3, & 4:

Analysis of Caltrans historic trend data forecasts show that Segment 2 (SR 135 to SR 166) is expected to reach V/C of 0.85 or unstable traffic flows by 2037 in the southbound direction during the PM peak (Table 3.2). This will be four years earlier than the northbound direction because volumes are greater in the southbound direction. Segment 3 (SR 166 to Los Berros Road) is expected to reach V/C of 0.85 in the PM peak, northbound direction first by 2015 (Table 3.3). It is estimated that Segment 4 (Los Berros Road to Grand Avenue) is already displaying unstable flows as of 2008 (Table 3.4).

[4] Disclaimer: The larger developments including the Bradley Ranch Annexation Project, Area 9, and DJ Farms Specific Plan included in the survey are not included in SBCAG's 2000 Regional Model that was used to develop the Mobility section in Chapter 3. These projects were not included in the regional model because they were not approved when the growth forecast for the regional model was developed. Additionally, the regional model only includes projects that are anticipated to be constructed by 2030 and the construction timeline for these projects is undetermined.

Since Caltrans historic trend data does not factor in future development, it can also be assumed that unstable flows on segments 2, 3, and 4 could occur earlier than the years projected in Table 3.2, Table 3.3, and Table 3.4. This assumption is supported by the draft San Luis Obispo County South County Traffic Study. Concurrently with the development of the US 101 CSMP, San Luis Obispo County has been developing the US 101 South County Traffic Study and updating the South County Travel Demand Model. The limits of this study coincide with segments 2 and 3 of the US 101 CSMP. Draft results from this study (Table 3.5 & Table 3.6) show that Segment 2 is expected to reach a V/C of 0.85 by 2024 and that Segment 3 is expected to reach a V/C of 0.85 around 2017.

The South County Model anticipates unstable flows will be experienced on Segment 2 approximately 13 years earlier then the Caltrans historical trend forecasts. This is the case because the South County Travel Demand Model takes into account major commercial and housing developments being planned in Santa Maria, which leads to the model's prediction of heavier congestion along Segment 2 in the future compared to historical trends. The South County Travel Demand Model also factors in the construction of the Santa Maria River Bridge which will be expanded from four lanes to six lanes by 2015. Once the Santa Maria River Bridge is widened, there will be a sharp reduction of capacity between Segment 2 and Segment 3 (at SR 166 in San Luis Obispo County) where US 101 will decrease from six lanes to four lanes. This may create a bottleneck and could expedite congestion in segments 3 and 4.

The scale of future development potential in South San Luis Obispo County is less than in northern Santa Barbara County, and explains why both the South County Model and Caltrans historic trend forecasts show comparable estimates for Segment 3. Segment 4 is already experiencing unstable conditions and would benefit from further analysis to address this deficiency.

As discussed in Segment 1, future land use development and improvements to the transportation network are required to undergo an environmental review process to identify significant impacts prior to approval. The environmental process will provide a more refined assessment of the cumulative and specific impacts, including traffic impacts, and how they can be avoided and/or mitigated.

Table 3.2: Segment 2 Caltrans 2008 and 2030 Forecasts

SEGMENT 2	CALTRANS DATA BASED ON HISTORIC TRENDS						
SR-135 to SR-166	Length (miles)	Daily Volume	Split (a)	PM Volume	PM V/C	Capacity	Year @ v/c=0.85 (h)
	Year 2008						
Southbound	2.1	32,953	0.51	2,839	0.79	3,600	**2037**
Northbound	2.1	32,047	0.49	2,761	0.77	3,600	2041
Total		**65,000**		**5,600**		**7,200**	
	Year 2030						
Southbound	2.1	47,555	0.51	4,074	0.83	4,900	**2037**
Northbound	2.1	46,246	0.49	3,962	0.79	5,000	2041
Total		**93,801**		**8,037**		**9,900**	

*Note: capacity between 2008 and 2030 increase due to future completion of the Santa Maria River Bridges Project

Table 3.3: Segment 3 Caltrans 2008 and 2030 Forecasts

SEGMENT 3	CALTRANS DATA BASED ON HISTORIC TRENDS						
SR-166 to Los Berros	Length (miles)	Daily Volume	Split (a)	PM Volume	PM V/C	Capacity	Year @ v/c=0.85 (h)
	Year 2008						
Southbound	7.2	26,832	0.49	2,649	0.74	3,600	2018
Northbound	7.0	27,868	0.51	2,751	0.76	3,600	**2015**
Total		**54,700**		**5,400**		**7,200**	
	Year 2030						
Southbound	7.2	31,322	0.49	3,731	1.04	3,600	2018
Northbound	7.0	32,531	0.51	3,875	1.08	3,600	**2015**
Total		**63,853**		**7,606**		**7,200**	

Table 3.4: Segment 4 Caltrans 2008 and 2030 Forecasts

SEGMENT 4	CALTRANS DATA BASED ON HISTORIC TRENDS						
Los Berros to Grand	Length (miles)	Daily Volume	Split (a)	PM Volume	PM V/C	Capacity	Year @ v/c=0.85 (h)
	Year 2008						
Southbound	5.0	25,909	0.49	3,029	0.84	3,600	2009
Northbound	5.2	26,908	0.51	3,146	0.87	3,600	**2008**
Total		**52,817**		**6,176**		**7,200**	
	Year 2030						
Southbound	5.0	29,952	0.49	3,416	0.95	3,600	2009
Northbound	5.2	31,107	0.51	3,548	0.99	3,600	**2008**
Total		**61,059**		**6,964**		**7,200**	

Table 3.5: Segment 2 San Luis Obispo's South County Traffic Model 2008 and 2030 Forecasts

SEGMENT 2	US 101 COUNTY OF SAN LUIS OBISPO'S SOUTH COUNTY TRAFFIC MODEL						
SR-135 to SR-166	Length (miles)	Daily Volume	Split (a)	PM Volume	PM V/C	Capacity	Year @ v/c=0.85 (h)
	Year 2008						
Southbound	2.1	32,281	0.50	3,322	0.92	3,600	**2024**
Northbound	2.1	32,719	0.50	3,367	0.94	3,600	2025
Total		**65,000**		**6,689**		**7,200**	
	Year 2030						
Southbound	2.1	45,834	0.50	4,717	0.96	4,900	**2024**
Northbound	2.1	46,466	0.50	4,782	0.96	5,000	2025
Total		**92,300**		**9,499**		**9,900**	

*Note: capacity between 2008 and 2030 increases due to future completion of the Santa Maria River Bridges Project

Table 3.6: Segment 3 San Luis Obispo's South County Traffic Model 2008 and 2030 Forecasts

SEGMENT 3	US 101 COUNTY OF SAN LUIS OBISPO'S SOUTH COUNTY TRAFFIC MODEL						
SR-166 to Los Berros	Length (miles)	Daily Volume	Split (a)	PM Volume	PM V/C	Capacity	Year @ v/c=0.85 (h)
	Year 2008						
Southbound	7.2	26,118	0.49	2,668	0.74	3,600	2019
Northbound	7.0	26,882	0.51	2,746	0.76	3,600	**2017**
Total		**53,000**		**5,413**		**7,200**	
	Year 2030						
Southbound	7.2	34,019	0.50	3,623	1.01	3,600	2019
Northbound	7.0	34,281	0.50	3,651	1.01	3,600	**2017**
Total		**68,300**		**7,273**		**7,200**	

3.1 Traffic Safety

The State of California has a monitoring system to identify locations of high collision concentrations on state highway facilities. Once a location is identified as a high collision concentration, the location is analyzed for potential improvement, taking into account four elements: the driver, the vehicle, and the roadway and its related environment. Areas of higher actual collision rates compared to statewide average collision rates do not necessarily indicate the need for roadway safety improvements as a percentage of the collisions may be directly attributed to the vehicle or human factors. However, when an improvement is identified that is expected to reduce the number and/or severity of collisions, actions are taken which may lead to initiation of a safety project. Identifying specific safety improvements falls outside the scope of a planning level Corridor System Management Plan.

3.1.1 Mainline Collision Rates

The collision history for the corridor was derived from the most recent three years of data available (October 1, 2006 to September 30, 2009). Table 3.7 and *Figure 3.1* summarize the US 101 CSMP mainline collision rates by segment. The actual collision rates are those that are recorded for a specific route. These are then compared to statewide average collision rates for similar facilities. No information was included for Segment 1 of the corridor as construction was underway for the Santa Maria six lane widening project during this period. The collision data collected during this period would not be representative of normal conditions.

Table 3.7: US 101 CSMP Corridor Collision Rates by Segment

SEGMENT	ACTUAL COLLISION RATE	STATEWIDE AVERAGE COLLISION RATE
1	N/A	N/A
2	.62	.57
3	.46	.63
4	.52	.84

**Note: Incident rates are per million vehicle miles for a 3-year period from: 10/01/2006 - 09/30/2009*

As the above table illustrates, Segment 2 is the only segment in the US 101 CSMP corridor that has an actual collision rate exceeding the statewide average collision rate. The completion of the Santa Maria River Bridges Widening project is expected to reduce collision rates within this segment in the future by the addition of through lanes, increased capacity, wider shoulders, a bicycle and pedestrian separated path and additional safety features.

3.1.2 Intersection and Ramp Collision Rates

The following tables compare actual collision rates to statewide average collision rates for similar intersection and ramp facilities within the US 101 CSMP corridor. These collision rates are summarized by segment. In Segment 2, both ramps in the segment maintain actual collision rates for ramps below the statewide average collision rate for a similar facility as shown in Table 3.8.

Table 3.8: Segment 2 Actual and Statewide Average Collision Rates

RAMP	ACTUAL COLLISION RATE	STATEWIDE AVERAGE COLLISION RATE
South Bound on-ramp from North Jct. SR 166	.13	.40
North Bound off-ramp to North Jct. SR 166	.28	.75

In Segment 3, six of the eight ramps maintain actual collision rates greater than the statewide average collision rate for similar facilities. These locations are identified in Table 3.9 below. After the Willow Road Interchange is constructed, it is expected that some traffic from the Tefft Street interchange will divert to the new interchange and collision rates will reduce on the Tefft Street ramps.

Table 3.9: Segment 3 Actual and Statewide Average Collision Rates

RAMP	ACTUAL COLLISION RATE	STATEWIDE AVERAGE COLLISION RATE
South Bound off-ramp to North Jct. SR 166	1.83	.75
North Bound on-ramp from SR 166	1.00	.40
South Bound on-ramp from Tefft Street	.82	.75
North Bound off-ramp to Tefft Street	1.29	1.20
North Bound on-ramp from Tefft Street	1.27	.75
South Bound off-ramp to Tefft Street	1.72	1.20
North Bound off-ramp to Thompson Road	1.14	1.20
South Bound on-ramp from Los Berros	.38	.60

In Segment 4, three of the seven ramps and one at grade intersection exhibit actual collision rates above the statewide average collision rate. These locations are identified in Table 3.10 below. Flashing beacons have been installed on existing northbound and southbound signs located in this segment which read “Cross Traffic Ahead” and “Next 5 Miles”. Additionally, signs were added in the northbound and southbound directions prior to Laetitia Winery (the north bound sign included a flashing beacon). These beacons became operational late July 2010. The Los Berros Median Barrier project located within this segment is also expected to improve safety and decrease potential for cross median and run off the road collisions toward the median.

Table 3.10: Segment 4 Actual and Statewide Average Collision Rates

INTERSECTION OR RAMP	ACTUAL COLLISION RATE	STATEWIDE AVERAGE COLLISION RATE
North Bound on-ramp from Thompson Road	.76	.60
South Bound off-ramp to Los Berros Road	2.49	1.20
El Campo Road Intersection	.39	.30
South Bound on-ramp from Bridge Street	.00	.45
North Bound off-ramp to Bridge Street	.25	.60
South Bound off-ramp to Valley Road	1.52	1.20
North Bound off-ramp to SR 227/Grand Ave.	.33	1.00
South Bound on-ramp from SR 227/Grand Ave.	.84	.75

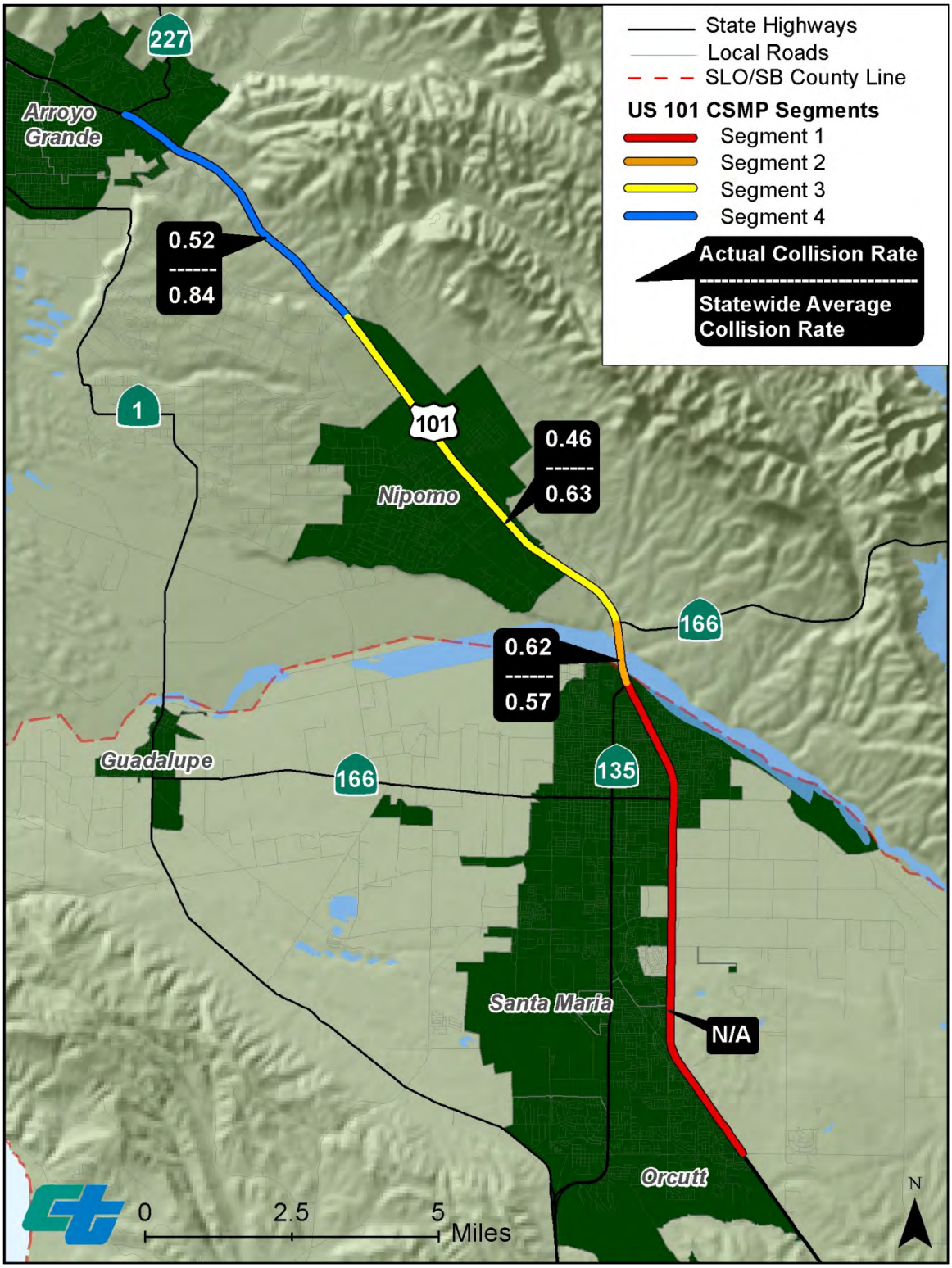


Figure 3.1: US 101 CSMP Corridor Collision Rates by Segment

4 Recommended Corridor Management Strategies

The primary purpose of US 101 CSMP is to develop strategies to manage the corridor and sustain existing transportation investments. Within the 20 year planning horizon, the following management strategies should be pursued to manage US 101[5]:

Maintenance and Preservation: Continue cost-effective maintenance of the roadway to ensure safe and comfortable use of the corridor. This would include maintenance and preservation designed to get full return on system investments, as well as reduce traveler costs and delay. Work in this area would include continued identification of pavement needs through the pavement condition survey and addressing those needs through the State Highway Operation and Protection Program (SHOPP).

Rail & Transit: Caltrans in partnership with SBCAG and SLOCOG will work together to support the improvement of rail and transit service. This includes supporting studies that would investigate origin and destination trends to improve transit and rail services across county lines. This also includes support of convenient and reliable commuter transit service, such as enhanced express bus service with bus rapid transit elements. Transit service that provides a link between the Santa Maria urban area and the Five Cities is vital. Regional agencies in coordination with Caltrans should continue to support the operation and expansion of this service when warranted by demand and projections. Continued coordination of compatible fare collection technology systems that allow customers to more seamlessly transfer from one transit provider to another, as well as other communication systems between transit providers in the corridor is encouraged.

Land Use & Transportation Connection: The way communities are planned and designed impacts travel behavior. Land use and transportation must be more closely linked to reduce the impact of sprawl and consumption of land, address the imbalance between jobs and housing, limit the increase in travel demand, and minimize the need for major highway capacity improvements. Transportation planning and projects should support concepts outlined in Caltrans' *Smart Mobility 2010: A Call to Action for the New Decade* including: convenient and safe multi-modal travel, speed suitability, accessibility, management of the circulation network, and efficient use of land. Sustainable communities and intermodal transportation including multimodal, frontage road, and mixed use improvements, are encouraged. To achieve these strategies, local agencies partner with Caltrans and actively seek the Department's participation in their development review process.

An additional opportunity to partner and facilitate a connection between land use and transportation is through the Regional Blueprint Program. The program was designed to integrate long-range planning for transportation, land use, housing, environmental resources, and infrastructure. The ultimate goal of blueprint planning is to facilitate consensus around a regional vision and preferred land use scenario that will enable the region to accommodate future growth and maintain quality of life for the local community and region. The emphasis of the land use and transportation planning connection is becoming a priority for the State, especially through implementation of new legislation such as SB 375 in the Metropolitan Planning Organization (MPO) area jurisdictions. Each MPO in California is responsible, pursuant to statute (SB 375), for developing a Sustainable Communities Strategy (SCS) for its regional transportation plan. The SCS is intended to demonstrate how, through more efficient coordination of land use decisions and transportation investments, each region can reduce per capita greenhouse gas emissions from cars and light trucks.

[5] SLOCOG *Regional Transportation Plan and Preliminary Sustainable Communities Strategy* (2010) policies and strategies that coincide with the US 101 CSMP Recommended Corridor Management Strategies are included in Appendix E.

Modal Options: The focus is to support Caltrans Deputy Directive 64 (2008) Complete Streets to provide viable transportation options for all users. Greater opportunity to use other transportation modes will reduce demand on US 101. Caltrans in partnership with SLOCOG and SBCAG support the integration of transit, bicycle, and pedestrian transportation on frontage roads, parallel routes, and adjacent paths into a coordinated multimodal transportation system. The Santa Maria River Bridges widening project includes a multimodal path which will improve pedestrian and bicycle travel between Santa Barbara County and San Luis Obispo County. Improving the carrying capacity for bicycles on trains and buses is also recommended to encourage the integration of modes. Multimodal stations should be strategically placed in locations accessible to all modes of transportation. Caltrans looks to its local partners to coordinate multimodal strategies.

Transportation Demand Management: The focus is to reduce congestion by promoting transportation options such as telecommuting, vanpools, carpools, ridesharing, park and ride lots, alternate work schedules, and route selection. More transportation choices will aid in reducing congestion and can result in long-term travel behavior change through the awareness of travel alternatives. Additionally, Transportation Demand Management Programs are implemented during highway construction projects. Caltrans supports local agency efforts to expand and establish new park-and-ride lots that are strategically placed at locations that are easily accessible and serve as transit hubs. Public transit providers should also be encouraged to serve existing park-and-ride lots.

Incident Management: Collisions and incidents can be a major source of delay along a corridor. Reducing the time required to clear these collisions and incidents and restore free flow conditions within the corridor lessens delay and diversion of traffic onto the local arterials. The need for Freeway Service Patrol (FSP) is determined by congestion in an area. As congestion increases, there will be opportunities for SLOCOG and SBCAG in partnership with Caltrans to investigate FSP along the corridor.

Intelligent Transportation Systems (ITS)/Traveler Information/Traffic Management: It is recommended to upgrade communication and enable deployment of advanced transportation systems, to improve safety, incident response, and traveler information. Real time traveler information allows travelers to make more informed decisions regarding trip planning, route choices, time choices, and mode selection. Traffic management reduces congestion through the use of technologies such as collision warning systems and advanced traffic management systems.

To aid traffic management and improve traveler information, detection has been installed throughout the US 101 CSMP corridor at various locations including Santa Maria Way, Betteravia Road, on the Santa Maria River Bridge, Stowell Road, Main Street, Donovan Road, SR 135/Broadway, SR 166 east and Tefft Street. Additionally, closed circuit cameras are currently proposed for six locations along the corridor including the future Union Valley Parkway Interchange, Betteravia Road, Main Street, Donovan Road, SR 135/Broadway and Tefft Street. The data collected will be useful for traffic management purposes and for improving traveler information to highway users.

Operational Improvements: The focus is to pursue operational improvements that maximize efficiency of the system, reduce delay, and preserve and enhance existing services. These include but are not limited to improving interchanges, upgrading intersections, and converting expressways to freeways. Other improvements could include: intersection improvements, auxiliary lanes, bikeways, and sidewalks. Determining specific operational improvements for the US 101 CSMP corridor would be under the scope of a future project specific study.

Ramp Metering: Ramp metering is another viable traffic management strategy and has the potential to maximize the productivity of the freeway. When combined with other recommended strategies, ramp metering accommodates more efficient vehicle movement on the freeway and local arterials. Currently Caltrans Division of Traffic Operations is finalizing the statewide Ramp Metering Development Plan that will explain general statewide and District 5 strategies for implementation ramp meters. In the future a more detailed District 5 specific ramp metering plan should be developed to identify the capacity of on-ramps, evaluate locations where ramp metering would be appropriate, examine the potential impact of new ramp metering systems on local roads, and consider funding opportunities and challenges. A successful ramp metering plan will require a partnership with local and regional agencies. As congestion builds Caltrans would look to its local partners to collaborate.

New Interchanges: Two new interchanges within the corridor include the Willow Road Interchange and the Union Valley Parkway Interchange. The Willow Road Interchange currently under construction and the Union Valley Parkway Interchange project expected to break ground in 2012 will benefit mobility on US 101 as well as local circulation. Future land use decisions and traffic analysis will determine the need for new access within the corridor.

One objective of a coinciding corridor study in southern San Luis Obispo County, the *US 101 South County Traffic Study,* is to determine if a new interchange would be appropriate on US 101 between the US 101/SR 166 Interchange and the US 101/Tefft Street Interchange. The draft findings of this planning level study suggest that an overcrossing or interchange on US 101 within this area could benefit the corridor in the future. A detailed traffic study would be required to determine the purpose and need for a new overcrossing or interchange at this location. The traffic study would need to demonstrate that the existing interchanges and/or local roads and streets in the corridor cannot provide the necessary traffic service or be improved to satisfy future year traffic demands.

Parallel Road Network Development: The focus is to increase the capacity and connection of the parallel road network to reduce local traffic demand on US 101. As part of the *National Highway System* (NHS) the primary purpose of US 101 is to serve regional and interregional travel. Improving local circulation is encouraged. As communities surrounding the corridor continue to grow and develop, parallel north-south local transportation systems will need to be improved and expanded to accommodate local travel demand to minimize dependency on US 101 for local trips. The completion of the Willow Road Interchange in fall 2013 will facilitate enhanced east-west connectivity in Nipomo. Phase II of the Willow Road Interchange project will complete the frontage road system for local circulation. Additional supported local road improvements that could alleviate demand on US 101 for local trips are identified in section 2.4.

Freeway Conversion: Segment 4, from Los Berros Road to Grand Avenue, is the last portion of the corridor that serves as expressway. Freeway Agreements and the State's Interregional Transportation Strategic Plan (ITSP) support freeway conversion of this segment. Closing median and at-grade intersections and eliminating left turn movements across mainline traffic would improve mobility and achieve the facility standard concept.

System Expansion: Travel forecast analysis shows that in the 20+ year planning horizon, congested conditions on US 101 in San Luis Obispo county will increase. Priority for investments should be given to Segment 4, Los Berros to Grand Avenue, which is already experiencing congested conditions. Prior to a capacity increasing project at this location, operational, parallel route, and frontage road improvements should be considered. Future congestion along the corridor does indicate that expansion of US 101 to a six lane facility should be considered subsequently.

Table 4.1: Current Programmed Projects on the US 101 CSMP Corridor

SEGMENT	PROJECT TITLE (DESCRIPTION)	PROJECT LOCATION	PHASE	PROJECT BEGIN CONSTRUCTION
1	**Union Valley Parkway Interchange** Construct interchange*	1.2 miles north of Clark Avenue overcrossing to 0.9 miles south of the Santa Maria undercrossing	Plans, Specifications & Estimates/ Right-of-Way	2012
1	**McCoy – Route 101** interchange Construct interchange	From north of Santa Maria Way to south of Betteravia Rd.	Project Approval & Environmental Document	2017
1	**101/135 IC** Operational improvements to existing interchange	101/135 interchange	Project Approval & Environmental Document	2030
2	**Santa Maria River Bridges** Widen & replace bridges. Construct auxiliary lanes & bicycle path	0.5 miles north of Santa Maria connector to Route 101/166	Construction	2011
3	**Willow Road Interchange** Construct new interchange	0.9 miles north of the Tefft Street overcrossing to 1.6 miles south of the Los Berros Road undercrossing	Construction	2011
4	**Los Berros to Traffic Way Median Barrier** Construct median barrier	Los Berros Road undercrossing and Bridge Street undercrossing	Plans, Specifications & Estimates/ Right-of-Way	2013
4	**Brisco Road Interchange** Interchange and ramp modifications	Brisco Road undercrossing	Project Approval & Environmental Document	2014

Note: All Project Approval & Environmental Document phase projects may not be funded through construction. For additional future projects on the corridor, see SBCAG and SLOCOG Regional Transportation Plan Projects in Appendix A.

* *On April 25, 2012, the California Transportation Commission voted on the allocation of $6.1 million in Corridor Mobility Improvement Account (CMIA) cost savings to this project. Since this project is within the limits of the US 101 CSMP, this document fulfills the requirement for the Union Valley Parkway Interchange project to receive CMIA cost savings.*

Appendix A SBCAG and SLOCOG Regional Transportation Plan Projects

The tables below provide a snapshot of the SBCAG and SLOCOG Regional Transportation Plan (RTP) projects within the US 101 CSMP Corridor. For more detailed information about these projects and other projects in Santa Barbara and San Luis Obispo counties, please refer to the SBCAG Regional Transportation Plan, Vision 2030 (2008), and the SLOCOG Regional Transportation Plan-Preliminary Sustainable Communities Strategy (2010).

Completed Projects

PROJECT TYPE	PROJECT DESCRIPTION	RTP AGENCY
Highway	Widen Highway 101 between Santa Maria Way to Rte 135 & Highway 101 sep.	SBCAG
Highway	Implement various safety and operational improvements on SR 166	SLOCOG
Highway	US 101 Ph IA & IB operational improvements	SLOCOG
Transit	Operating Expenses-SMAT (2007-2009)	SBCAG
ST/RDS	Construct channelization on Los Berros between Stanton & Pomeroy	SLOCOG
Bike/Ped	Construct shoulders/bike lanes on Halcyon Rd.	SLOCOG

Funded-Not Yet Completed Projects

PROJECT TYPE	PROJECT DESCRIPTION	RTP AGENCY
Highway	Construct New Interchange at Willow Rd. Between Los Berros and Tefft Street Interchanges	SLOCOG
Highway	District 5 Corridor Master Plan	SLOCOG
Highway	Widen and Replace Santa Maria River Bridges and add bicycle path	SLOCOG
Highway	Install native drought tolerant trees, shrubs and mulching from Rte 1/101 to Rte 101/166 in South San Luis Obispo county	SLOCOG
Bike/PED	Redesign Short Street between East Branch and Olohan Alley in Arroyo Grande to create a pedestrian plaza.	SLOCOG
Bike/PED	Construct 4' shoulders for Class II Bike Lanes on S. Orchard, Joshua in Nipomo	SLOCOG
Bike/PED	Widen Price Canyon shoulders to construct Bike Lanes from SR 227 to 0.5 miles south	SLOCOG

SBCAG Programmed Projects and SLOCOG Short-, Mid-and Long-Term Improvements

PROJECT TYPE	PROJECT DESCRIPTION	RTP AGENCY
Highway	Construct Interchange on Hwy 101 at Union Valley Parkway	SBCAG
Highway	Construct at-grade intersection on SR 135 @ Union Valley Parkway	SBCAG
Highway	SHOPP Lump Sum-Bridge Preservation, Collision Reduction, Roadway Preservation, Roadside Preservation, Mobility, Emergency Response Program, and Mandates	SBCAG
Highway	Local HBP & HES Lump Sum	SBCAG
Highway	Highway Safety Improvement Program	SBCAG
Highway	US 101-Brisco/Grand interchange improvements and US 101 Brisco Aux Lane in Arroyo Grande	SLOCOG

Highway	Construct Phase I US 101 South County Corridor Study improvements between Los Berros Road and SR 166 in Nipomo	SLOCOG
Highway	Widen SR 1 shoulders to 8' in rural areas	SLOCOG
Highway	US 101 Major Investment Study to determine capacity increasing projects regionwide	SLOCOG
Highway	US 101/Los Berros interchange improvements	SLOCOG
Highway	SR 1 Scenic byway billboards	SLOCOG
Highway	SR 1 Scenic highway enhancements	SLOCOG
Highway	SR 1/Halcyon Rd. intersection improvements	SLOCOG
ST/RDS	Construction of two lane road with Class II bike lane on Union Valley Parkway	SBCAG
ST/RDS	Widen Miller Street	SBCAG
ST/RDS	Betteravia Rd. Circulation Improvement between Hwy 101 and SR 135 (Purchase Right of Way, widen to 6 lanes, signalize intersections).	SBCAG
ST/RDS	Cook & McClelland Intersection Enhancements	SBCAG
ST/RDS	Construction of new bridge between Foxen Cyn. Rd. and Santa Maria Mesa Rd.	SBCAG
ST/RDS	East Branch retaining wall expansion between Corbett Canyon and Garden Street in Arroyo Grande	SLOCOG
ST/RDS	Construct Sidewalk infill on West Branch Street in Arroyo Grande	SLOCOG
ST/RDS	W. Tefft Street median and access improvements in Nipomo	SLOCOG
ST/RDS	Hill Street widening and sidewalk/streetscape improvements in Nipomo	SLOCOG
ST/RDS	Design and install gateway signs and landscaping in Nipomo	SLOCOG
ST/RDS	Mary Avenue streetscape enhancements in Nipomo	SLOCOG
ITS/TDM	Transportation Demand Management	SBCAG
ITS/TDM	Reverse Van-Pool	SBCAG
ITS/TDM	US 101 Traffic Management System TMS, ramp metering and frontage road study from South County to Paso Robles	SLOCOG
ITS/TDM	Park & Ride lease costs	SLOCOG
ITS/TDM	Park & Ride maintenance costs	SLOCOG
ITS/TDM	Construct Park & Ride Lot at Willow Interchange	SLOCOG
ITS/TDM	Los Berros Park & Ride Lot in Nipomo	SLOCOG
ITS/TDM	Regional ITS improvements for Peds	SLOCOG
Bike/Ped	Regional Bikeway Improvements on Santa Maria Valley RR: McCoy to Main St.	SBCAG
Bike/Ped	Location: Multipurpose Trail from Hwy 101, along Jones and SMVRR, west to Railroad Ave. Bikeway	SBCAG
Bike/Ped	Restripe East Grand Avenue in Arroyo Grande to include bike lanes where they are missing	SLOCOG
Bike/Ped	Install bike lanes, sharrows and bike related signage on E. Grande and E. Branch from Oak Park Road to Corbett Canyon in Arroyo Grande	SLOCOG
Bike/Ped	Provide Class II Bikeways on the Corbett Canyon Road Corridor	SLOCOG
Bike/Ped	Safe Routes to School Program	SLOCOG
Bike/Ped	Los Berros Road widening/bike lanes phase I in Nipomo	SLOCOG
Bike/Ped	Los Berros Road widening/bike lanes phase II in Nipomo	SLOCOG
Bike/Ped	Install Class II bike lanes on Corbett Canyon Rd in Arroyo Grande	SLOCOG
Transit	Construction of SMAT Transit Center in Santa Maria	SBCAG
Transit	Breeze Bus Service	SBCAG

Transit	Nighttime transit service	SBCAG
Transit	Transit bus procurement for fixed route and ADA services	SBCAG
Transit	Operating Assistance for two additional Route 10 bus runs from San Luis Obispo to Santa Maria	SBCAG
Transit	Commuter transit service from North County to South Coast	SBCAG
Transit	Operations for Commuter Services	SBCAG
Transit	Operating Expenses-SMOOTH (2007-2009)	SBCAG
Rail	Rail Improvements	SBCAG
Other	Open Space Acquisitions Regionwide	SLOCOG

SBCAG Planned and SLOCOG Unconstrained Projects

PROJECT TYPE	PROJECT DESCRIPTION	RTP AGENCY
Highway	SR 166/Santa Maria to Guadalupe Maintenance & Rehabilitation	SBCAG
Highway	Widen Santa Maria Bridge over Santa Maria river	SBCAG
Highway	SR 166 Safety Improvements from Santa Maria to Guadalupe	SBCAG
Highway	Operational and safety improvements on SR 166 from Santa Maria to Kern Co. Line Passing lanes at three locations.	SBCAG
Highway	Maintenance & Rehabilitation of Highway 166 East Roadside Rest Area	SBCAG
Highway	Widen SR 1 through Guadalupe to four lanes, bring up to standard	SBCAG
Highway	US Highway 101 & SR 135 (interchanges) – Reconstruct IC and extend Broadway East. Revise N/B ramps, widen overcrossing, and Park and Ride	SBCAG
Highway	Modify ramps at Hwy. 101 at Betteravia (NB auxiliary lane in the future)	SBCAG
Highway	Add capacity to approaches and on/off ramps to address congestion at Main Street at US 101	SBCAG
Highway	US 101 in Arroyo Grande between Los Berros and Fair Oaks - convert expressway portion of highway into freeway	SLOCOG
Highway	Construct turn lanes and traffic signals on SR 1 from Will Road to Callender	SLOCOG
Highway	Construct staging facilities for roadside recreational opportunities on SR 1	SLOCOG
ST/RDS	Widen arterials to City standards on Miller Street between Robles Street and Cook Street.	SBCAG
ST/RDS	Identified in City's circulation element as needed to improve circulation on Alvin Ave between Curryer St. and Miller St. – Modify to secondary arterial stands with Class II bike lanes	SBCAG
ST/RDS	Construct a roundabout at the intersection of Depot, Railroad and Fester	SBCAG
ST/RDS	Lengthen EB left turn lane for Stowell Rd. at College Dr.	SBCAG
ST/RDS	Purchase ROW, widen to 6 lanes, signalize intersections – Betteravia Rd., Blosser, and SR 135.	SBCAG
ST/RDS	Improve north/south circulation on College Dr. between Battle Rd to Betteravia Rd.	SBCAG
ST/RDS	Modify to secondary arterial standard – A Street between McCoy Lane and Stowell Rd.	SBCAG
ST/RDS	Miller St. between Barcelius to Stowell Rd. – Widen to four lanes w/ channelization and Class II Bike lanes.	SBCAG
ST/RDS	McCoy Ln. between A Street and Mahoney Rd – Construct to secondary arterial standards and Improve east/west circulation.	SBCAG

ST/RDS	Foster Rd. between SR 135 and Blosser Rd. – Widen to four lanes and construct a Class II Bike lane	SBCAG
ST/RDS	E Street – Acquire ROW and construct four lane arterial, Fairway to Betteravia	SBCAG
ST/RDS	Update traffic controllers on Grand Avenue between 4th St. and Oak Park Blvd in Grover Beach	SLOCOG
ST/RDS	Thompson Rd. streetscape improvements in Nipomo	SLOCOG
ITS/TDM	Operational Improvements on Highway 101 between Santa Maria and SLO Co. (PM 81.18 to 91).	SBCAG
ITS/TDM	ITS Improvements on Hwy 1/101 Junction and Hwy 1/135 Junction	SBCAG
ITS/TDM	Implementation of 511 Travelers Information Hotline for Santa Barbara County	SBCAG
ITS/TDM	Purchase and Install Advanced Public Transportation System (APTS)	SBCAG
ITS/TDM	Park and Ride, Hwy 101/Clark	SBCAG
ITS/TDM	Construct TMS-Vehicle Detection stations on US 101 south of Cuesta Grade to the county line.	SLOCOG
ITS/TDM	Install solar powered vehicle detectors, CCTV and CMSs in Nipomo on US 101	SLOCOG
ITS/TDM	Install solar powered vehicle detectors, CCTV and CMSs between the Santa Maria River Bridge and El Campo north of Nipomo on US 101	SLOCOG
ITS/TDM	Upgrade Caltrans' TMC at the District 5 office	SLOCOG
ITS/TDM	Regional ITS Improvements	SLOCOG
Bike/Ped	Construct multi-use levee/walkway from Guadalupe St. to Coastal area (4.5 miles) along the Santa Maria River.	SBCAG
Bike/Ped	Construct commuter bikeway at UVP, Bradley Channel, Jones Trail, Blosser Trail and from levee to La Brea.	SBCAG
Bike/Ped	Construct Class II bike lanes from West Main St. to Guadalupe Dunes County Park	SBCAG
Bike/Ped	Construct Class I multi-purpose bikeway along the Santa Maria levee, Santa Maria to Guadalupe	SBCAG
Bike/Ped	Construct Class II bike lanes on SR 227	SLOCOG
Bike/Ped	Construct Class II bike lanes on Alpine Street in Arroyo Grande	SLOCOG
Bike/Ped	Extend trail from Regional Center W Branch to Rodeo Drive Creekwalk in Arroyo Grande	SLOCOG
Bike/Ped	Extend trail and provide ped crossing under US 101 in Arroyo Grande	SLOCOG
Bike/Ped	Construct 12' wide Class I bike/ped path (formerly Pacific Coast RR bike/ped path) in Nipomo	SLOCOG
Bike/Ped	Widen Pomeroy Rd and construct bike lanes in Nipomo	SLOCOG
Bike/Ped	Widen S. Frontage Rd and add bike lanes in Nipomo	SLOCOG
Bike/Ped	Nipomo W. Tefft Street sidewalks, streetlight & street trees improvements	SLOCOG
Bike/Ped	Orchard Ave. widening and bike lanes in Nipomo	SLOCOG
Bike/Ped	Hazel Lane bike lane construction in Nipomo	SLOCOG
Bike/Ped	Widen Juniper St. to provide for bike lanes in Nipomo	SLOCOG
Bike/Ped	Construct 12' wide Class I Bike/Ped path at the Nipomo Reg. Park	SLOCOG
Bike/Ped	Widen El Campo Rd. in Nipomo for bike lanes	SLOCOG
Bike/Ped	Construct Class I & II bike lanes in South County	SLOCOG
Transit	Bus replacement and expansion in Guadalupe, one bus every 5 years	SBCAG
Transit	Operating Expenses-Guadalupe Transit (2010-2030)	SBCAG

Transit	SMAT – Purchase 5 urban buses for limited stop express service	SBCAG
Transit	SMAT - Replace urban buses for limited stop express service	SBCAG
Transit	SMAT – Operate limited stop express service	SBCAG
Transit	SMAT – Replace 8 urban buses	SBCAG
Transit	SMAT – Replace 12 transit vans for complementary transit service	SBCAG
Transit	SMAT – Bus Staging expansion	SBCAG
Transit	SMAT – Purchase 20 urban transit buses for enhanced peak period local service	SBCAG
Transit	SMAT – Replace urban transit buses	SBCAG
Transit	SMAT – Operate enhanced peak period local service	SBCAG
Transit	SMAT – Operating Expenses (2010-2030)	SBCAG
Transit	Traffic Solutions Programs	SBCAG
Transit	Maintain North County Regional Transit (Breeze, CAE, Valley) – Capital and Operating	SBCAG
Transit	Expand North County Regional Transit (Breeze, CAE, Valley) – Capital and Operating	SBCAG
Transit	SMOOTH – Purchase one vehicle	SBCAG
Transit	SMOOTH – Purchase two vehicles biennially	SBCAG
Transit	SMOOTH – Fare Subsidy	SBCAG
Transit	SMOOTH – Operating expenses (2010-2030)	SBCAG
Rail	Upgrade rail stations in Santa Barbara County	SBCAG
Rail	Installation of new siding in Santa Barbara County	SBCAG
Rail	Implement additional train for Coast Daylight Santa Barbara County	SBCAG
Rail	Implement additional service – two roundtrips from Goleta to San Luis Obispo	SBCAG

*ITS/TDM = Intelligent Transportation Systems/Transportation Demand Management

Appendix B Caltrans Comments on San Luis Obispo South County Bus Rapid Transit Assessment

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY EDMUND G. BROWN Jr., Governor

DEPARTMENT OF TRANSPORTATION
50 HIGUERA STREET
SAN LUIS OBISPO, CA 93401-5415
PHONE (805) 549-3101
FAX (805) 549-3329
TTY 711
http://www.dot.ca.gov/dist05/

Flex your power!
Be energy efficient!

May 12, 2011

Ronald L. DeCarli
Executive Director
San Luis Obispo Council of Governments
1114 Marsh Street
San Luis Obispo, CA 93401

Dear Mr. DeCarli:

SAN LUIS OBISPO SOUTH COUNTY BUS RAPID TRANSIT ASSESSMENT

Thank you for the opportunity to respond to your agency's San Luis Obispo South County Bus Rapid Transit (BRT) Assessment. We appreciate the importance of improving transit, reducing congestion, and facilitating sustainable communities. We also acknowledge your agency's previous work in identifying the overall regional transit needs and deficiencies in the South County Transit Plan adopted in March 2011.

Caltrans supports the assessment's goal of providing efficient, direct and dependable transit service on US 101 in the South County. It should also balance that goal with the need to provide safe and efficient travel for all users through, to, and across the region.

The following summarizes our primary concerns and suggestions regarding the BRT Assessment. Additional detailed comments are also attached.

Transit efficiency on the local road system
In this rural area, we advise first incorporating BRT elements on the local road system to improve transit efficiency including, but not limited to, providing traffic signal priority lanes for buses and reducing nodes of congestion. As noted in the assessment, the Los Angeles County Metropolitan Transportation Authority in 2000 reported a 20 percent reduction in travel time using transit signal priority on local roadways. We suggest fully addressing BRT efficiencies on the local road system before US 101 as the highway currently accommodates transit well as evidenced in this study.

Building a complete network
Please consider that the BRT (or express bus) approach works best when there is a complete system of interconnected bus/carpool features such as designated highway lanes, bypass on-ramps, access ramps at freeway interchanges, ramp metering and other system elements. Together, they provide a network with connecting ramps and exclusive on/off ramps, which offer more consistent and predictable travel times for carpools, express buses, para-transit and emergency vehicles. The time savings also offer an incentive for people to rideshare and ride

transit during peak travel hours. This improved movement of people, goods and services enhances mobility; contributes to the national, state and local economies; and provides an important part of an integrated multi-modal transportation system supporting regional Smart Growth and sustainability.

US 101
We agree with the study's conclusion that current levels of transit operation and ridership—along with potential transit efficiencies—do not justify major changes to US 101 interchanges in the South County at this time. We also support the suggestion to consider transit design features with any new or reconstructed US 101 interchanges in this area.

Performance measurement and project priorities
An important next step to this assessment would be to evaluate potential investments in transit as well as park and ride lot facilities. Some criteria could include connectivity to transit, demand, impacts to highway congestion, potential service level improvements and ease of implementation. This planning effort would work well in coordination with regional partners to gather information and determine what commuters need as well as how to match those needs to available options.

We appreciate the opportunity to continue working with your staff on improving transit transportation for optimal safety, mobility and efficiency. We also look forward to offering additional assistance, when needed, on this important planning effort.

Sincerely,

AILEEN K. LOE
Deputy District Director
Planning and Local Assistance

Attachment

ATTACHMENT

Detailed Comments by Caltrans

San Luis Obispo South County Bus Rapid Transit Assessment

We offer the following guidelines in planning and developing for BRT elements along the state highway system:

- The assessment needs to address regular maintenance, including litter and graffiti removal, of transit facilities as well as the removal and disposal of the facilities if they become non-operational.
- Sidewalks should be located away from highway ramps and direct pedestrians toward local jurisdictional roadways—not along the shoulder of the ramp right of way.
- Bus shelters should be located at least 30 feet from the edge of traveled way. This distance would provide a 10-foot walkway/waiting area for pedestrians in front of the shelter. It would also meet Caltrans' 20-foot clear recovery zone requirements for errant vehicles.
- No new park and ride lot facilities are envisioned on state property due to maintenance and liability concerns. Separate agreements regarding maintenance and liability insurance would need to be obtained with the proposed property owners.
- Acceleration lanes should be at least 100 feet long, including tapers. Caltrans recommends paving the structural roadway section of the newly constructed pull-out pads and tapers with concrete to extend the service life and limit maintenance due to the intensified axle loading of the transit buses. A maintenance agreement would need to be executed between the transit agency and Caltrans for items such as pull-out pavement condition, litter/trash clean-up, graffiti removal, and specialized lighting of bus stop and associated pedestrian facilities located on state property.

Specific Comments

1) Cover Page – This page should include the date San Luis Obispo Council of Governments (SLOCOG) is scheduled to adopt the assessment.
2) Page 16, Brisco Road Interchange – Please clarify that the City of Arroyo Grande is currently developing the draft environmental document and the draft project report for this proposed interchange project. Please contact Teresa McClish, the city's Community Development Director, for more information regarding this project. She can be reached at 805-473-5420.
3) Page 17, Southland Street – Please note that the county's US 101 South County Traffic Study is still under way. Please also clarify that the full diamond interchange at this location is a proposal rather than a planned

improvement. Caltrans has notified the county that proposals for new interchanges—as explained in the Highway Capacity Manual—need to show that operational improvements to existing interchanges will not sufficiently improve traffic conditions. Once a new interchange is proposed, a traffic study using micro-simulation modeling would verify that such an improvement is needed. The proposed project would then be added to SLOCOG's next Regional Transportation Plan update.

4) Page 32, Figure 2 – This proposal offers sight distance issues at the driveway location. More detailed engineering would need to be presented for conceptual design approval.
5) Page 33, Figure 3 – As shown, this proposal is likely supportable.

Appendix C Survey of Area, Specific & Design Plan Recommendations for US 101

LOCAL PLANS	RECOMMENDATIONS
San Luis Obispo County Woodlands Specific Plan *1998*	No Proposed Recommendations to US 101
San Luis Obispo County Black Lake Specific Plan *Adopted 1983, Revised 1998*	In the distant future Willow Rd. may serve as an arterial carrying traffic between US 101 and Highway 1
San Luis Obispo County South County Inland Area Plan *Adopted 1980, Updated 1994, Amended 2006*	- Provide a separate Class I Bike Path in the reconstruction and widening of the Highway 101/Santa Maria River bridge, or an alternate seasonal surface crossing, to connect between the Pacific Coast Railroad right of way, Cuyama Lane and Santa Maria (This project has been programmed). - Construct two new interchanges at US 101 intersections with Willow Road and Southland Street (a full interchange at Southland-hook on and off ramps is acceptable for temporary use). Willow Road Interchange will be under construction in February 2011. - Widen the US 101/Tefft Street freeway bridge to four traffic lanes with Class II bike lanes, lighted and fenced sidewalks (These improvements have been completed). - Widen Highway 101 to six lanes in stages from Arroyo Grande to Santa Maria as needed depending on the success of alternative transportation and land use strategies to mitigate traffic congestion. - Planning Department should work with Caltrans, SLOCOG and the community to provide a freeway landscaping project on US 101 within Nipomo for beautification and screening. -Establish parallel routes to Highway 101 on Hetrick Road and Orchard Avenue to facilitate north south movement through the area (Include Class II bike lanes in Hetrick Road improvements). Improvements to the parallel route for Hetrick Road have been partially constructed. - Develop a long-term plan for transit development connecting south county residential and commercial centers along the Highway 101 corridor. -Construct a Class I bike path between, and connecting to, the Thompson Road/Highway 101 interchange through Nipomo to the Highway 166/101 interchange. -Develop Class II Bike Lanes- Los Berros Road from Valley Road to Thompson Road/Highway 101 interchange, then Thompson Road to Cuyama Lane/Highway 166.
San Luis Bay Inland Area Plan *Adopted 1980, Amended 2002, Revised 2003*	-"Viewshed Protection. The county should work with property owners toward continuing preservation of natural ridgeline profiles and scenic backdrops through open space agreements, contracts, or other appropriate instruments along the Highway 101 corridor."
San Luis Obispo County West Tefft Design Plan *2007*	-Install a median from US 101 to Pomeroy on West Tefft Street. -Re-align the South Frontage Road to create a southbound on-ramp to US 101 at the South Frontage/Hill Street intersection.
City of Santa Maria, Santa Maria Airport Business Park Specific Plan - *2008*	-Union Valley Parkway will connect Blosser Rd. and the Specific Plan Area to US 101.
City of Arroyo Grande East Grand Avenue Enhancement Plan	-"A similar landscaped median island and entry identification sign is also proposed in the future at the Freeway 101 southbound off-ramp to East Grand Avenue at the opposite end of the enhancement project area."

2002	-"Tentatively the proposed turnouts are located adjoining Freeway 101 ramps, west of Elm Street, and west of Courtland Street."
Orcutt Community Plan Adopted 1997, Last Amended 2010	-Clark Avenue/US 101 SB Ramps: Installation of traffic signals and minor widening to align the on- and off-ramps to provide for LOS B. -Clark Avenue/US 101 NB Ramps: Installation of traffic signals and minor widening to align the on- and off-ramps to provide for LOS C. - Policy CIRC-O-5: "Planning and construction of regional-serving transportation facilities in the planning area should be shared by the City, the County, and the State (Caltrans). Regional-serving transportation facilities include Union Valley Parkway, College Drive, "E" Street, and widening State Route 135 between Betteravia Road and Union Valley Parkway." - Action CIRC-O-5.1: "County Public Works Department and P&D should work with Caltrans on the planning associated with widening the US 101/Santa Maria Bridge which should include a separated Class I bicycle path or shall pursue a separate bike crossing over the Santa Maria River." - Action CIRC-O-6-2: "The County shall coordinate with Caltrans to incorporate park-and-ride facilities (including bike lockers, transit stops and benches) near planned freeway interchange improvement projects such as UVP/US 101 and UVP/SR 135 interchange. Park-and-ride locations shall be considered for Key Sites located adjacent to these interchanges." -Policy CIRC-O-7: "The County shall encourage Caltrans to accommodate planned bicycle facilities in the design and construction of new highway overpasses and/or widening of existing overpasses."
Area 9 Specific Plan Adopted 2011	- T-1(b) 20 (Traffic Improvements): "Install turn lanes at Bradley Road/U.S. 101 South Bound Ramps, including dual left-turn lanes on the southbound Bradley Road approach." - Impact T-2: "The segments of U.S. Highway 101 between Betteravia Road and Santa Maria Way and Betteravia Road and Stowell Road are forecast to operate at LOS C under Buildout conditions. The Specific Plan would degrade operation to LOS D in the northbound direction between Betteravia Road and Stowell Road. The Specific Plan would add more than 100 peak hour trips to this segment, which is a significant impact based on CMP criteria. The City of Santa Maria has adopted LOS D for operations. Pursuant to the CMP, a deficiency plan will be required at the time that operations degrade to LOS E."
Entrada Este Specific Plan Adopted 2008	- A roundabout is proposed for the intersection of College Drive/McCoy Lane adjacent to the proposed McCoy Road/US 101 interchange. - "McCoy Lane will be extended from its current eastern terminus, through the site, to connect with a newly proposed interchange at Highway 101. Additional north/south movement will be provided by the extension of Bradley Road, south through the project, to connect with College Avenue." - Program CIRC C.2: "The Specific Plan circulation system was developed in cooperation with the City's Public Works Department…Specific features include the completion of College and Bradley Roads through the site, and a new freeway interchange at the extension of McCoy Road." - Objective CIRC C.4: "Assist in the provision of the necessary functional improvements for the Betteravia off-ramp at Highway 101." - Policy CIRC C.4: "Participate in Measure D financing that targets the Betteravia off-ramp at Highway 101." - Program CIRC C.4: "The Specific Plan will provide ROW necessary to re-align the on and off-ramps at Betteravia, and grant the ROW for the realignment of Bradley Road north and south; and share financial contributions to this effort, as are appropriate

	based on direct benefits derived."
Rivergate Roemer Adopted 1994	- "Planned east-west roadways include the extension of Seaward Drive to the Broadway/US Highway 101 interchange, as outlined in the City's Circulation Element." - "Phase 3 will include the redesigned and reconfigures [sic] Broadway/US Highway 101 interchange with an access provided to Phase 4." - "Signalized intersections will be provided at the Broadway/US Highway 101 northbound off-ramp at Seaward Drive." - "Off-site/regional circulation improvements include alignment of Carlotti Drive/Donovan Road/US Highway 101 northbound off-ramp and Donovan Road/US Highway 101 southbound on and off ramp." - Program CIRC 1.1: "Construct the roadways within the specific plan area as shown in Figure 2-3, and designate those roadways as follows: Primary Arterial: Broadway/Seaward in the commercial area." - Policy CIRC 4: "Provide for the completion of off-site regional improvements with the phased development of this Specific Plan." - Program CIRC 4.1: "Donovan Road/US Highway 101 Northbound Ramps. Development of Phase 1 shall include the realignment of the northbound ramps eastward to align with Carlotti Drive, to form a standard four-way intersection, and the installation of a traffic signal." - Program CIRC 4.2: "Donovan Road/US Highway 101 Southbound Ramps. Development of Phase 2 shall include widening and signalization of this intersection." - Program CIRC 4.3: "Broadway/Seaward/US Highway 101 Northbound Ramps. Development of Phase 3 will include the extension of Seaward Drive to connect with the modified Broadway/US Highway 101 intersection." - Program CIRC 4.4: "Broadway/US Highway 101 Southbound Ramps. Development of Phase 3 will require improvements to the southbound off ramp at Broadway."
THE FOLLOWING PLANS CONTAIN NO SPECIFIC RECOMMENDATION FOR US 101	
San Luis Obispo County Olde Town Nipomo Design and Circulation Plan - *1999*	
City of Arroyo Grande Design Guidelines and Standards for the Historic Overlay District Adopted 1994, Updated 2009	
City of Santa Maria Hidden Pines Specific Plan - *Adopted 1994, Amended 1999, Reformatted 2010*	
City of Santa Maria West Main Specific Plan *Adopted 1994, Amended 1997 & 2008, Reformatted 2009*	
City of Santa Maria Estrada Specific Plan -*1976*	
City of Santa Maria West Stowell Specific Plan - *1994*	
City of Santa Maria Enos-Ranchos Specific Plan - *2008*	
City of Santa Maria Downtown Specific Plan - *2008*	
City of Santa Maria Mahoney Ranch North Specific Plan -*2008*	
City of Santa Maria Mahoney Ranch South Specific Plan - *2008*	
Blosser Southeast Specific Plan	
Blosser Southwest Specific Plan	
North Preisker Ranch	
Allan Hancock College Master Plan Update	
Oceano Specific Plan	
DJ Farms Specific Plan (Revised)	
Minami Specific Plan and Annexation	
Berry Gardens Specific Plan Amendment	
Huasna Annexation	

**Sources:* (San Luis Obispo County, 2010), (Santa Barbara County, 2010) (Santa Maria City, 2010), and (Arroyo Grande City, 2010).
**Note: Information included in the plans listed above was gathered to survey local recommendations pertaining to US 101 along the US 101 CSMP Corridor. The local plan recommendations listed above reflect the point in time when the plans were developed and do not necessarily reflect the current status of progress on these recommendations. Additionally, the recommendations listed do not necessarily meet Caltrans approval.*

Appendix D Interstate 5 and US 101 Full Closure Data (January 2006-January 2011)

INTERSTATE 5 (KERN COUNTY)			
DATE	COUNTY	LOCATION	DURATION (Hrs.)
3/11/2006	KER	GRAPEVINE	9
3/11/2006	KER	GRAPEVINE	6
3/18/2006	KER	GRAPEVINE	6
05/27/2006	KER	JCT 99/5	2
08/13/2006	KER	GRAPEVINE RD	9
09/03/2006	KER	JCT 99/5	4
1/17/2007	KER	GRAPEVINE RD	14
2/27/2007	KER	GRAPEVINE RD	9
12/8/2007	KER	GRAPEVINE RD SB	13
1/30/2008	KER	GRAPEVINE RD	17
2/3/2008	KER	GRAPEVINE	6
12/16/2008	KER	GRAPEVINE RD	17
2/16/2009	KER	JCT 99/5	12
3/3/2009	KER	GRAPEVINE RD	14
4/29/2010	KER	GRAPEVINE RD	4
1/20/2010	KER	GRAPEVINE RD	7
1/02/2011	KER	GRAPEVINE RD	23

US 101 (CALTRANS DISTRICT 5)			
DATE	COUNTY	LOCATION	DURATION (Hrs.)
3/17/2006	SB	Hollister Avenue	4
09/29/2006	MON	Alvarado Road	8
09/04/2007	SB	Vista Del Mar Road	12

Appendix E Land Use and Future Development Survey and Support Materials

Development Activity Survey

Table E1: Santa Barbara County Development Activity

***Figure 2.3* ID #**	PROJECT	LOCATION	SIZE	TYPE
1	Mesa Verde	SW of the southerly terminus of Stillwell, Orcutt	64 SFRs	Residential
2	Rice Ranch	South side of Stubblefield and Rice Ranch in the SE portion of the Orcutt community.	725 SFRs, condos, and a sports complex 1.2 du/acre	Residential
3	Old Mill Run	corner of Blosser and Old Mill in south Orcutt	60 SFRs	Residential
4	Orcutt Key Site 30	1,600 ft SW of Union Valley and Bradley	212 SFRs/multi-family units	Residential
5	Vintage Ranch	0.5 mile S of Clark, at the terminus of Stubblefield	52 SFRs	Residential
6	Orcutt Key Site 3 (SB Clark LLC)	Clark Ave and Hwy 101	156 SFRs and 160 lower income multi-family units	Residential
7	Orcutt Key Site 17	Rice Ranch Road area, south of Old Town Orcutt	257 units	Residential
8	Orcutt Key Site 22	NE Corner of SR 1 and Blackie Rd	2000 SFRs	Residential
9	Orcutt Plaza	Santa Maria Way and College	220,779 sf	Commercial
10	Orcutt Marketplace	Clark Ave and Hwy 101	306,100 sf	Commercial
11	OSR/Rice Produce Cooling Facility	NW corner of Betteravia and Rosemary	237,636 sf	Industrial
12	New County Jail	SW corner of Black and Betteravia	546,767 sf	Institutional
TOTAL RESIDENTIAL: 5,425 units				
TOTAL MIXED-USE: 0				
TOTAL COMMERCIAL : 526,879 sf				
TOTAL INDUSTRIAL: 237,636 sf				
TOTAL INSTITUTIONAL: 546,767 sf				

Table E2: Santa Maria Development Activity

Figure E1 ID #	PROJECT	LOCATION	SIZE	TYPE
13	Harvest Glen	SE corner of Sonya and Western	169 SFRs	Residential
14	Santa Maria Sr. Village	450 and 460 W. Stowell	60 senior apartments	Residential
15	La Vigna at Westgate Ranch	SE corner of Westgate and Battles	140 SFRs	Residential
16	Siena at Westgate Ranch / Siena Apartments	NW corner of Blosser and Marsala	211 apartment units	Residential
17	St. Claire	1735 Biscayne	128 condo units	Residential
18	The Terrace at Pacific Crest	SW corner of Battles and the SMVRR	112 condo/townhouse units	Residential
19	Refugio	NW corner of Professional Parkway and McCoy	125 condo/townhouse units	Residential
20	Sevilla	2770-2850 Santa Maria Way	70 SFRs	Residential
21	Eastridge Estates	NE corner of Main and Panther	120 SFRs	Residential
22	Mattel's Landing / Heritage at Westgate Ranch	N side of W. Battles at Westgate	296 small lot single-family units	Residential
23	Harvest Glen Townhomes	SE corner of Sonya and Blosser	203 condo/townhouse units	Residential
24	Centennial Square	SW corner Miller and Plaza	72 condo units; 7 apartments above 9,095 sf medical office	Mixed-Use
25	Celebration	305-329 Daniel; 1901-1977 Celebration	42 SFRs; 36 condo units; up to 7,644 sf office	Mixed-Use
26	Rancho Hermosa (Inger-McClelland Mixed Use)	215-245 E Inger	41 condo units; 6 apartments and 8,978 sf office	Mixed-Use
27	Lakeview Promenade	3596 Skyway	210 condo units; 53 senior apartments; and a 14,832 sf restaurant, 13,945 sf medical office, 1,225 sf general office, and 39,002 sf retail	Mixed-Use
28	Area 9	Bordered by Betteravia Road to the south, the Santa Maria Valley Railroad tracks to the north, Black Road to the west and "A" Street to the east	13.4 million square feet of commercial, industrial, open space, commercial manufacturing, and 550 units of mixed use residential	Mixed-Use
29	Bradley Ranch Annexation	East of US 101 from Union Valley Parkway to Prell Road	2,270 acres including 9,500 residences, 356 acres of commercial, 83 acres of industrial, 6 elementary, 1 Jr. high, and 1 high school	Mixed Use
30	Rice Depot Mercado	725-901 S. Depot St	49,000 sf retail, restaurant, and office lease space; 15	Mixed-Use

			apartments; 17,300 sf of industrial-office space	
31	Enos Ranch	East of US 101 between Battles Road and Betteravia Road	334 dwelling units and 66 acres of community commercial	Mixed Use
32	Mahoney Ranch	West of the Santa Maria Public Airport and east of Black Road	1,405 residential units, 65,340 sf commercial and 1 elementary school	Mixed-Use
33	Boone Street Redevelopment	612 W. Boone St	Site Redevelopment-development sf unknown	Commercial
34	Bishop Grande, LLC (Coleman/Hebard/Ventura)	NW of SMVRR, S. of Stowell at the S. end of Hanson	12 lot industrial subdivision (9.22 acres)	Industrial
35	Zimmerman Subdivision (Betteravia Industrial Park)	W of the SMVRR, between Carmen and Bettervaria	38 lot industrial subdivision (55.17 acres)	Industrial
36	"A" Street Business Center	2245-2399 A Street	137,939 sf of multi-tenant industrial space in 33 buildings	Industrial
37	Santa Maria Regional Landfill	Located east of US 101 at the Soloman Summit interchange	7950 tons per day	Industrial (Landfill)
38	Marian Medical Center	1440 E. Church	216,800 sf of hospital	Institutional
39	Vocational Training Center (VTC)	2445 "A" Street	Phase 1 of the VTC Master Plan 12,023 sf building	Institutional
40	Kidney Disease Center	2230 S. Depot	16,500 sf medical office	Institutional
41	Santa Maria Transit Center	400 E. Boone	4,748 sf transit center	Institutional
42	Grace Baptist Church expansion	605 E. McCoy	9,900 sf youth education building	Institutional
43	Apostolic Church of Christ expansion	400 N. Mary	6,200 sf addition to existing church facilities	Institutional
44	Mission Hope Cancer Center	1325 S. Stratford and 1406 E. Main	41,515 sf medical office	Institutional
45	Centro Christiano Pan de Vida	331 S. Oakley	5,540 sf building rehab for use as a church	Institutional
46	Luis Oasis Senior Center	4263 California	15,300 sf senior center in three phases	Institutional
47	Good Samaritan Shelter	401 W. Morrison St.	16 female Head of HH group quarters units (~48 beds)	Institutional
48	First Baptist Church – Valley Christian Academy	2970 Santa Maria Way	Church, K-12 school, and on campus staff housing	Institutional
49	Santa Maria Valley Humane Society	1687 W. Stowell Rd	18,248 sf adoption center/kennel and 1 SFR (caretaker's unit)	Institutional
50	Santa Barbara County	522 Lakeside Pkwy	13,460 sf government office	Institutional
51	Santa Maria Fire Station #3	2301 Preisker Ln	6,688 sf fire station	Institutional
52	Santa Maria Fire Station #5	1670 E. Donovan Rd	6,688 sf fire station	Institutional

TOTAL RESIDENTIAL: 2,900 units	
TOTAL MIXED-USE: 10,532 units, 49,092 sf office space, 13,568,174 sf & 422 acres commercial, 83 acres industrial, 7 elementary schools and 1 jr. high school	
TOTAL COMMERCIAL: square feet undetermined	
TOTAL INDUSTRIAL: 50 lots and 137,939 sf	
TOTAL INSTITUTIONAL: 373,610, 16 units, Church, K-12 school, and on campus staff housing	

Table E3: Guadalupe Development Activity

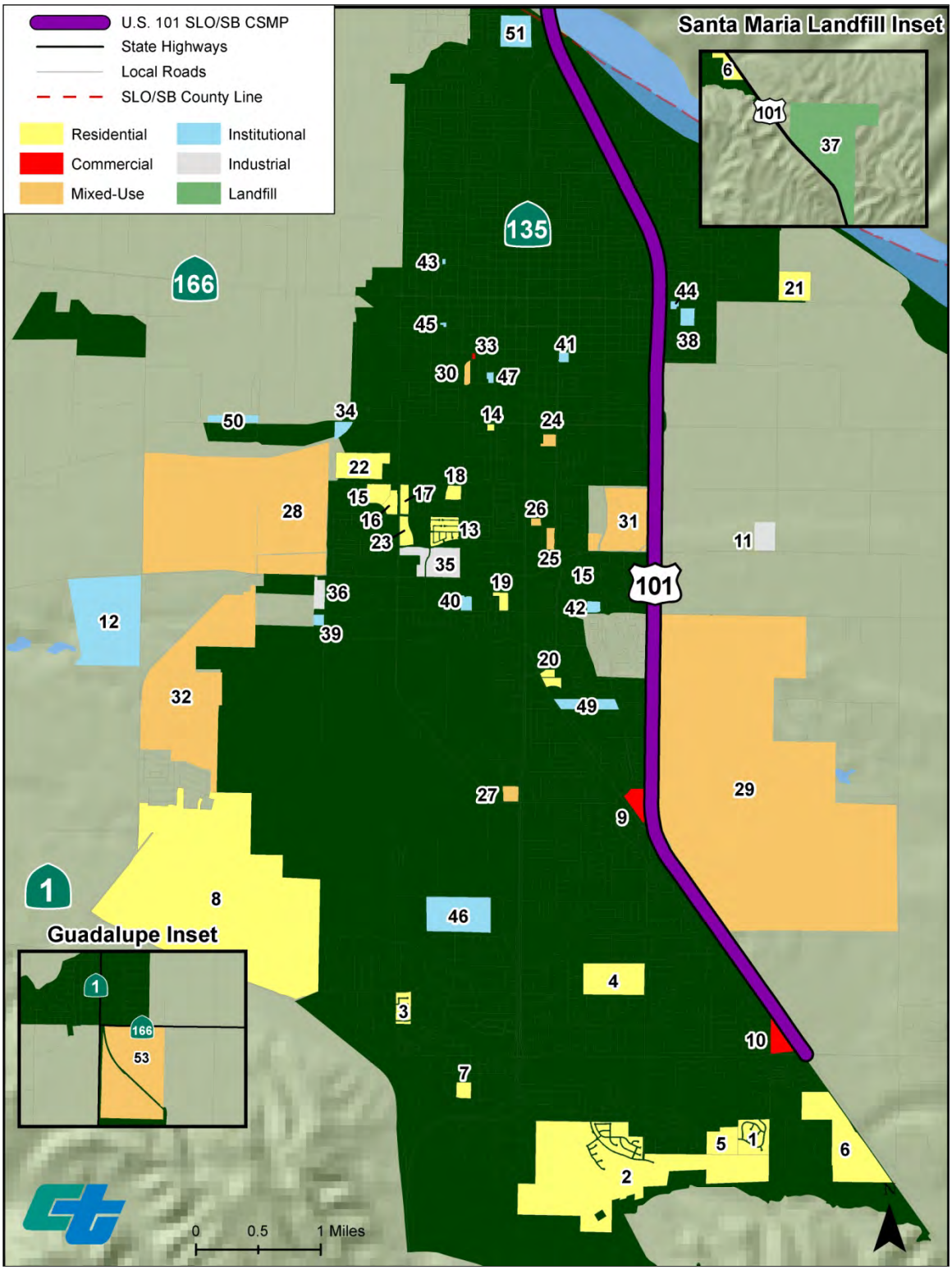
***Figure E1* ID #**	PROJECT	LOCATION	SIZE	TYPE
53	DJ Farms	SE corner of Highway 1 and Highway 166	980 residential units and 8.0 acres of commercial	Mixed-Use
TOTAL RESIDENTIAL: 0				
TOTAL MIXED-USE: 980 units and 8.0 acres of commercial				
TOTAL COMMERCIAL: 0 sf				
TOTAL INDUSTRIAL: 0				
TOTAL INSTITUTIONAL: 0				

Table E4: Arroyo Grande Development Activity

***Figure E2* ID #**	PROJECT	LOCATION	SIZE	TYPE
10	New Arroyo Grande City Hall	300 E. Branch Ave.	6,500 sf	Institutional
TOTAL RESIDENTIAL: 0				
TOTAL MIXED-USE: 0				
TOTAL COMMERCIAL: 0				
TOTAL INDUSTRIAL: 0				
TOTAL INSTITUTIONAL: 6,500 sf				

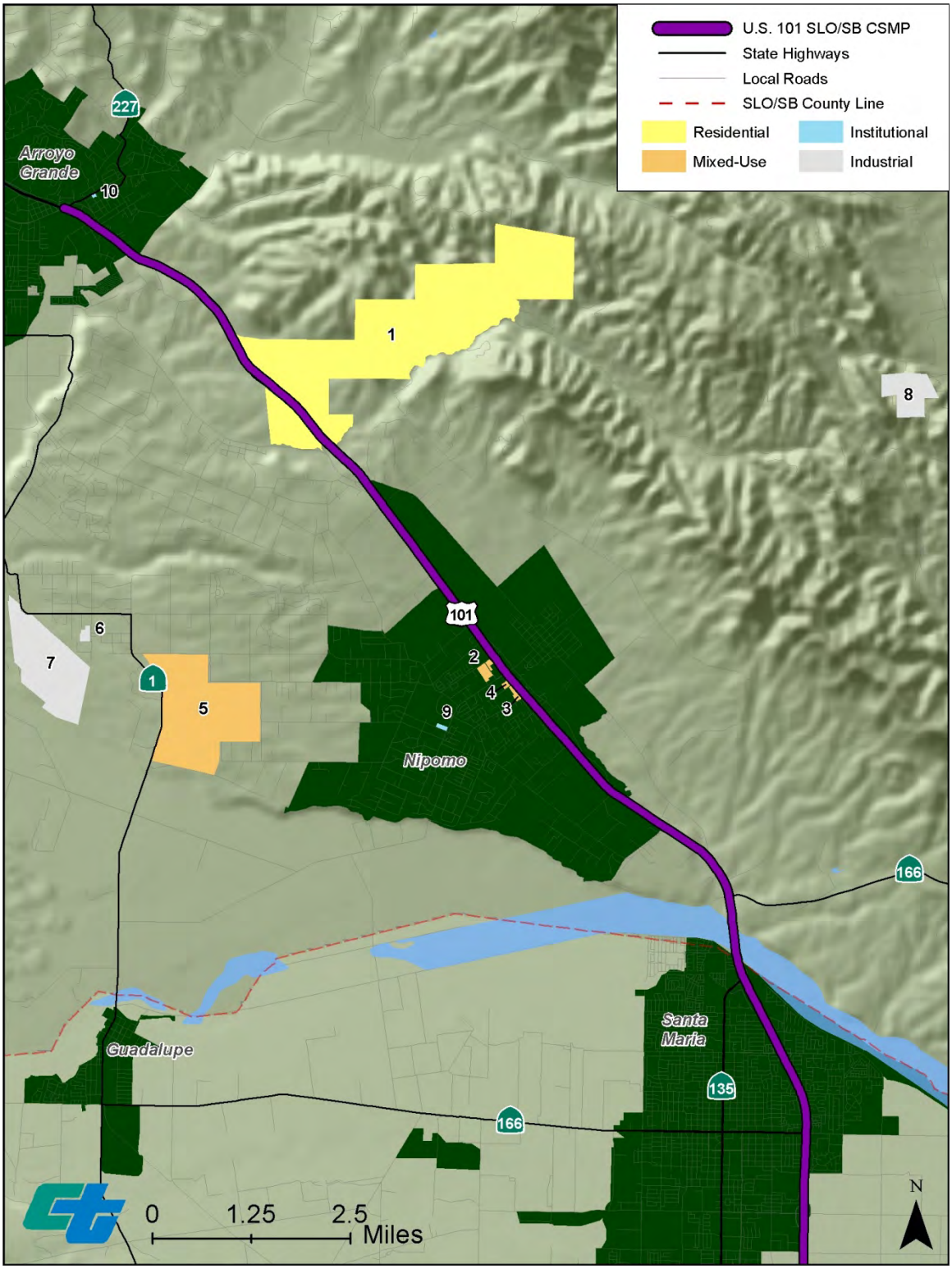
Table E5: San Luis Obispo County Development Activity

Figure E2 ID #	PROJECT	LOCATION	SIZE	TYPE
1	Laetitia Agricultural Cluster Subdivision	2 miles north of the community of Nipomo adjacent to Hwy 101	102 SFRs, a Ranch Headquarters/ Community/HOA Facility	Residential
2	LanDev LLC Mixed Use Development	SE side of Juniper, 90 ft W of N. Frontage, in the community of Nipomo	112 units, 97,600 sf assisted living facility; 16,000-sf restaurant/ conference facility; 130,000 sf of retail/office	Mixed-Use
3	Nipomo Center	between Hill and Grande, W of Hwy 101 in the community of Nipomo	59 multi-family units; 75,868 sf commercial	Mixed-Use
4	Shapiro Mixed-Use Development	170 S Frontage Road, in the community of Nipomo	12,000 sf office, 44,000 sf retail, 4,500 sf restaurant, and 51 multi-family units	Mixed-Use
5	Woodlands	South of Willow Road bordering Highway 1	1,320 residential units, 140,000 sf commercial, a 500 room hotel resort and a 300 acre golf course (golf course portion of the project is constructed and operational)	Mixed-Use
6	Sheridan Properties	804 Sheridan Road in the village of Callender-Garrett	149,000 sf industrial; 7 caretaker's units	Industrial
7	Conoco Philips Refinery Throughput Increase	2555 Willow Road, (unincorporated) Arroyo Grande, CA	Increase the throughput at the Santa Maria Refinery by 10% (up to 48,950 barrels/day). Results in increased truck traffic.	Industrial
8	Excelaron LLC	Mankin's Ranch; access road off of Suey Creek near junction with Huasna Townsite	re-establish oil production (up to 12 wells) on a previously explored oil field	Industrial
9	Nipomo Community Health Center	150 Tejas Place, in the community of Nipomo	15,000 sf health center	Institutional
TOTAL RESIDENTIAL: 102 units				
TOTAL MIXED-USE: 1,542 residential units, 422,368 sf commercial and/or office space, a 97,600 sf assisted living facility, a 500 room hotel resort and a 300 acre golf course				
TOTAL COMMERCIAL: 0				
TOTAL INDUSTRIAL: 149,000 sf and 7 caretaker units				
TOTAL INSTITUTIONAL: 15,000 sf				



Source: The shapefile generated to identify development locations was created by Caltrans District 5 staff and is based on the development activity survey.

Figure E1: Santa Barbara County Development Activity



Source: The shapefile generated to identify development locations was created by Caltrans District 5 staff and is based on the development activity survey.

Figure E2: San Luis Obispo County Development Activity

Table E6: US 101 CSMP Corridor Total Development Activity Totals	
TOTAL RESIDENTIAL:	**6,688 units**
TOTAL MIXED-USE:	**14,793 residential units, 14,039,634 sf & additional 430 acres commercial and/or office space, 83 acres industrial,7 elementary schools and 1 Jr. high school, 97,600 sf assisted living facility, a 500 room hotel resort and a 300 acre golf course**
TOTAL COMMERCIAL:	**550,379 sf**
TOTAL INDUSTRIAL:	**524,575 sf, 50 lots and 7 caretaker units**
TOTAL INSTITUTIONAL:	**955,377 sf, 16 units, Church, K-12 school and on campus staff housing**

ADT Projections for a Survey of Projects on the US 101 CSMP Corridor

SANTA BARBARA COUNTY				
PROJECT	DOCUMENT TYPE	YEAR	SCH#	ADT
Rice Ranch	DEIR	2003	2000061073	7,356
(Housing Element)	DEIR	2008	2008061139	938
(Clark LLC)	DEIR	2010	2007091023	1,315
Orcutt Key Site 17	DEIR	2011	2011051055	722
Orcutt Plaza	DEIR	2003	2002061057	9,657
Orcutt Marketplace	DEIR	2008	(Key Site 1)	10,442
OSR - Rice Cooling	TIS	2007		629
Santa Barbara County Jail	SEIR	2008	2007111099	2,772
Orcutt Plaza	DEIR	2003	2002061057	9,657

CITY OF SANTA MARIA				
PROJECT	DOCUMENT TYPE	YEAR	SCH#	ADT
Enos Ranch	DEIR	2007	2007011082	40,034
Santa Maria Regional Landfill	DEIR	2009	2006091069	1,296
Refugio	ND	2007	2006091086	1,020
Centennial Square	MND	2006	2006011126	798
Lakeview Promenade	DEIR	2008	2007051141	6,047
Area 9	DEIR	2010	2008071018	98,217
Rice Depot Mercado	MND	2010	2009111045	1,735
A Street Business Center	MND	2006	2005081113	1,213
Marian Medical Center Expansion	DEIR	2007	2006101049	2,270

CITY OF GUADALUPE				
PROJECT	DOCUMENT TYPE	YEAR	SCH#	ADT
DJ Farms	DEIR	2005	1992111025	24959 (18097 if reductions are applied)

SAN LUIS OBISPO COUNTY				
PROJECT	DOCUMENT TYPE	YEAR	SCH#	ADT
Laetitia Ag cluster	DEIR	2008	2005041094	1,234
Woodlands	DEIR	1998	1995031020	30,177
Sheridan Properties aka Vawter Industrial	APPL	2010	N/A	1,111
Excelaron	DEIR	2009	2009021025	24
Nipomo Community Health expansion	APPL	2011	N/A	828

Appendix F SLOCOG Regional Transportation Plan Policies and Strategies

Rail & Transit

- Public Transportation (PT) Policy 9, Express Bus Corridors: Support the regional deployment of a Bus Rapid Transit network along main commute corridors enabling the delivery of more competitive travel times and more attractive bus transit services.
- PT Strategy d: Support the planning and development of park-and-ride lots strategically located along bus transit corridors and designed to accommodate BRT operational and physical characteristics.
- Rail Policy 7: Identify commuter rail services options including Paso Robles – SLO - Grover Beach – Santa Barbara County services.
- Rail Strategy 4: Support the addition of passenger rail cars to the existing Coast Starlight train to accommodate local demand.

Land Use & Transportation Connection

- HSR 1. Facilitate land use and transportation projects that support sustainable communities and intermodal transportation improvements
- 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.

Transportation Demand Management

- TDM / TSM 9. Place a high priority on operational improvements that maximize efficiency of the system including: intersection channelization and signalization, roundabouts, one way streets, ramp metering, passing lanes, paved shoulders, bikeways, bike lanes, and sidewalks.
- TSM Strategy 1. Raise the efficiency and safety of Highways, Streets and Roads, Non-Motorized Transportation and Public Transportation by implementing: intersection channelization, roundabouts, traffic standards, one-way streets, complete streets, and widened shoulders.
- TSM Strategy 4. Provide operational improvements on US Highway 101 and major local streets that promote carpool, vanpool and public transit during peak commute periods.
- TSM Strategy 6. Expand the capacity of existing park-and-ride lots or provide new lots where daily usage of existing sites is at 75 percent of capacity, and provide appropriate improvements, including:
    - a. Encourage public transit providers to serve major park-and-ride lots with fixed route service, including freeway bus access facilities, and new construction and lease arrangements to assure a lot in each community exceeding 2,500 in population.
    - b. Provide amenities to maximize security and general utility, including: handicap accessible facilities, lighting, landscaping, signage, bike lockers, bus shelters, telephones, electric vehicle charging facilities and other appropriate amenities as identified in SLOCOG's adopted Inventory and Analysis of Park & Ride Lots.
    - c. Support and advocate the implementation of capital amenities to improve public mass transportation connection to park-and-ride lots, including but not limited to transit pullouts, bus benches and shelters, bicycle racks and lockers, actuated signals, and development of multimodal centers, intercity rail and air travel facilities.

- TSM Strategy 7. Encourage and support the development of full service multimodal transportation centers in each of the planning areas of the county complete with visitor travel services and lodging where appropriate.

Intelligent Transportation Systems (ITS)/Traveler Information/Traffic

- HSR 12. Work with Caltrans and local jurisdictions to increase the efficiency of the existing transportation system through: improved performance monitoring; operational improvements; promoting and supporting increased vehicle occupancy; commuter alternatives; using technology to improve operations; and, use of flexible hours to spread peak hour use.

Operational Improvements

- HSR 12. Work with Caltrans and local jurisdictions to increase the efficiency of the existing transportation system through: improved performance monitoring; operational improvements; promoting and supporting increased vehicle occupancy; commuter alternatives; using technology to improve operations; and, use of flexible hours to spread peak hour use.
- HSR 3. Place higher emphasis on assessing and programming funding for improvements that maximize overall system connectivity and efficiency.

Intersection Upgrades

- HSR 14. Reconstruct interchanges as operations and/or safety warrants. All interchange improvement projects shall be built so as not to preclude the use of the median for future capacity improvements. A cost-benefit assessment should be undertaken to consider short-term operational improvements that would use the median versus the anticipated use of the median for a long-term capacity improvement.

Parallel Road Network Development

Efficiency measures in the RTP include the following:

- Focusing increased emphasis on Operational Improvements such as auxiliary lanes and extended ramps.
- Modifying or reconstructing interchanges to improve operations, increase capacity and not preclude future use of median for improved operations.
- Improving the frontage and parallel road system, with emphasis on intercommunity connections.
- Improving the regional park-n-ride lot system and enhance transit express access.
- Implementing recommendations of the Central Coast Intelligent Transportation System (ITS) Plan, such as changeable message signs and a ramp meter system.
- Improving and promoting Transportation Demand Management and Transportation System Management programs.

Facility Expansion

The SLOCOG 2010 RTP does not include facility expansion as a project in the timeline of the plan. Rather, it focuses first on improvements as summarized above. There is one strategy pertaining to the conversion of US 101 to full freeway standards.

- HSR Strategy 7: Work with Caltrans and local jurisdictions to include socially and environmentally sensitive design, routing, and maximum feasible mitigation of impacts in all roadway construction considering the following highway route concept improvements:
    - a. U.S. 101: full freeway standards between the Santa Barbara County line and Paso Robles with four lanes, except for the Cuesta Grade which shall remain as an expressway

Appendix G Modeling Assumptions

INTRODUCTION

This memorandum is prepared as part of the Corridor System Management Plan (CSMP) for US 101 in Santa Barbara and San Luis Obispo Counties. The US 101 corridor consists of the 4 segments between Clark Ave in Santa Barbara county and Grand Ave in San Luis Obispo county.

The objective of this memo is to identify the assumptions made as part of the development of baseline and forecasted peak volumes and capacity analysis along the US 101 corridor.

KEY ASSUMPTIONS

Each segment was evaluated with the following assumptions:

- The directional capacity used for U.S. 101 was taken from the regional model to calculate the Volume to Capacity (V/C) ratio. The use of 85% of the capacity of the facility (V/C of 0.85) to define where peak hour flows become unstable and the system begins to breakdown is based on the 1994 Highway Capacity Manual (HCM). It outlines the threshold between Level of Service "E" and "F" is at a v/c ratio of 0.85 (Source: 1994 HCM, Table 3-1, Pg. 3-9)
- The variability in the traffic volumes in Tables 1 through 4 was addressed using calculated weighted averages based on segment lengths.
- Regional Model outputs reflect traffic patterns during fall or spring Tuesday thru Thursday. Historical trend data uses the annual daily traffic volumes for an entire year. Annual average daily traffic is the estimated total volume for the year divided by 365 days. The traffic count year is from October 1st through September 30th. More information regarding traffic and vehicle data can be found on the following website: http://www.dot.ca.gov/hq/traffops/saferesr/trafdata/index.htm
- PM Peak period volumes were analyzed because they are typically higher than the AM Peak period.
- The regional travel model analyzes mainline volumes at a macro level, it is not validated or calibrated to a project level and therefore should not be used in a micro level analysis such as calculating turning movement volumes and intersection level of service which would be included in traffic study operational analysis. The regional model is used as a basis to develop inputs for the micro level analysis.
- Speed and Travel Time, are based on regional model outputs.
- The San Luis Obispo Council of Governments (SLOCOG) regional model is currently being updated to address SB-375 Sustainable Community Strategies and for this reason Caltrans used historical trend data. For segment forecasts in Tables 2 through 4 in Chapter 3, Caltrans historical trend data was used to obtain the 2008 baseline year and 2035 forecasted year for daily volume, directional split, and PM peak volume. The use of Caltrans historic trend data is limited since it is not based on land use but only on historical data captured by count stations along the corridor.

- The SBCAG Model used for this project was based on the 2002 Regional Growth Forecast for development of its 2000 to 2030 forecast. The current and future land use development section in Chapter 2 includes projects that may not be included in this version of the SBCAG Regional Model's land use assumptions, for example, the Area 9 Specific Plan in Santa Maria. General Plan land use amendments and other specific land use decisions made after this version of the Regional Model will be included in subsequent updates of the SBCAG Model.

- The data used in the evaluation of traffic volumes and capacities are typical values based on averages over time and represented in traffic forecasting tools. As such, the conditions indicated in the evaluation may not always reflect the experiences of travelers at any particular place at any specific time. For example, localized capacity restrictions (e.g. bottlenecks at a given interchange) are not well represented in regional traffic models. In addition, incidents on the road such as accidents and vehicle breakdowns (non-recurring congestion) are not represented in regional traffic models. The result of these limitations of the methodology and data used in this analysis is that many times the volume to capacity ratio or average speed shown in the evaluation may be more optimistic than what would actually be experienced on the roadway under the forecasted conditions.

- The land use data in Traffic Analysis Zones in the Regional Travel Demand Model include census demographic data as well as the SBCAG Regional Growth Forecast, which incorporates the General Plan. The land use data in Traffic Analysis Zones produces and attracts trips in the model.

- When a proposed development exceeds the amount designated in a General Plan land use element, an amendment to the General Plan is required; this change is not immediately incorporated in the regional model until new future-year land use scenarios are developed for input into the regional travel model; typically during an RTP/SCS update. For this reason, the magnitude of some future proposed large development projects may not be factored into the regional model forecast analysis.

- The locally led environmental review process for each future development project will also provide opportunity to study their respective contribution to cumulative and specific impacts. This process will include a micro-level traffic analysis which will determine the magnitude of impacts to the local and regional transportation networks and outline mitigation measures appropriate to these impacts. Identifying these impacts can also aid Metropolitan Planning Organizations (MPOs), counties, and cities in developing and implementing transportation impact fee programs and/or other funding strategies for infrastructure improvements.

Appendix H Works Cited

Area Plans. (2009, October 14). Retrieved March 07, 2011, from San Luis Obispo County : http://www.slocounty.ca.gov/planning/General_Plan__Ordinances_and_Elements/Area_Plans.htm

Arroyo Grande City Community Development Department. (2006). *Arroyo Grande Bike Plan.* City of Arroyo Grande.

Arroyo Grande City. (2010). *Documents and Maps.* Retrieved October 27, 2010, from City of Arroyo Grande: http://www.arroyogrande.org/city-hall/city-departments/community-development/planning/documents/

Association of Monterey Bay Area Governments. (2012). *Central Coast California Commercial Flows Study.* Monterey: AMBAG.

Association of Monterey Bay Area Governments. (2010). *Special Projects*. Retrieved July 27, 2011, from Association of Monterey Bay Area Governments: http://www.ambag.org/programs/special_projects.html

Association of Monterey Bay Area Governments. (2007). *Transportation Planning*. Retrieved October 27, 2010, from District 5: http://www.dot.ca.gov/dist05/planning/pdf/CentralCoastIntelligentTransportationPlan.pdf

Bridgewater State College and Federal Transit Authority (FTA) and Caltrans TSI/GIS Data Branch. (1995, January 1). fta_bus. Sacramento, CA, USA.

California Coastal Commission. (2009, August). coastzn (Coastal Zone Boundary).

California Department of Transporation. (2010). *Smart Mobility 2010:A Call to Action for the New Decade.* Sacramento.

California Department of Transportation. (1998, June). *Interregional Transportation Strategic Plan.* Retrieved July 21, 2011, from Office of Capital Improvement Programming: http://www.dot.ca.gov/hq/transprog/ocip.htm

California Department of Transportation. (2010, February). PacCoastBikeRoute. San Luis Obispo.

California Department of Transportation. (2009, March). *Park and Ride Lots District 5*. Retrieved August 10, 2011, from California Department of Transportation: http://www.dot.ca.gov/hq/traffops/systemops/hov/Park_and_Ride/pdfs/d5_prkride.pdf

California Department of Transportation. (2010). *Project Development Procedures Manual.* Sacramento.

California Department of Transportation-District 5. (2009, November). Bicycle Access. San Luis Obispo, CA, District 5.

California Interagency Watershed Mapping Committee. (1999). calw22. *Calwater 2.2.1* .

Caltrans & Federal Emergency Management Agency. (2001, January 1). floodzn.

Caltrans District 5. (2010). *Caltrans Distirct 5 Traffic Management Branch Deployment Status.* San Luis Obispo.

Caltrans District 5. (2008). *Caltrans District 5*. Retrieved October 27, 2010, from Commuter Information: http://www.dot.ca.gov/dist05/commuter_info/pdf/08lots.pdf

Caltrans Division of Aeronautics. (2007, June). airport. Sacramento, CA, USA.

Caltrans Division of Rail. (2010, September 29). Rail. Sacramento, CA, USA.

Caltrans Division of Traffic Operations. (2010, July 28). prk_rde. Sacramento, CA, USA.

Caltrans. (2011, August 1). *Highway Design Manual*. Retrieved September 19, 2011, from California Department of Transportation: http://www.dot.ca.gov/hq/oppd/hdm/hdmtoc.htm

Caltrans TSI/GIS Branch. (2002, July 29). rr_sta. Sacramento, CA, USA.

City of Arroyo Grande. (2006). *Arroyo Grande Bike Plan.* City of Arroyo Grande.

City of Arroyo Grande. (2010). *Doccuments & Maps, Land Use*. Retrieved November 8, 2010, from The City of Arroyo Grande: http://www.arroyogrande.org/city-hall/city-departments/community-development/planning/documents/land-use-map.pdf

City of Arroyo Grande. (2010). *Doccuments & Maps, Zoning Map*. Retrieved November 8, 2010, from City of Arroyo Grande: http://www.arroyogrande.org/city-hall/city-departments/community-development/planning/documents/zoning-map.pdf

City of Santa Maria . (2009). *Santa Maria Bikeway Master Plan.* Santa Maria.

City of Santa Maria. (2009, November 17). *Circulation Elements of the General Plan*. Retrieved March 04, 2011, from City of Santa Maria California: http://www.ci.santa-maria.ca.us/54321.shtml

City of Santa Maria Community Development Department. (1994). *Entrata Este Specific Plan.* City of Santa Maria: Columbia Square Ltd.

City of Santa Maria. (2010). *Major Project Archived List*. Retrieved November 8, 2010, from City of Santa Maria: http://www.ci.santa-maria.ca.us/54328.shtml

City of Santa Maria. (2005, December 20). *Zoning Map*. Retrieved November 8, 2010, from City of Santa Maria: http://www.ci.santa-maria.ca.us/40541-ZoningMap.pdf

Engineers, I. o. (2003). *Trip Generation, 7th Edition.* Washington DC: Institute of Transportation Engineers.

Greyhound State Government Affairs and Caltrans TSI/GIS Data Branch. (1995, August 1). bus_term. Sacramento, CA, USA.

San Luis Obispo Chamber of Commerce. (2010). *2010 Community Economic Profile*. Retrieved October 2010, 29, from San Luis Obispo Chamber of Commerce: http://slochamber.org/cm/Doing_Business_in_SLO/Economic%20Profile/Home.html

San Luis Obispo Council of Governments. (2010). *2010 Regional Transportation Plan-Preliminary Sustainable Communities Strategy (2010 RTP-PSCS).* Retrieved May 2011, 24, from San Luis Obispo Council of Governments: http://library.slocog.org/PDFs/Planning/2010RTP/WebFinal/1%20Introduction.pdf

San Luis Obispo Council of Governments. (2011). *2040 Regional Growth Forecast.* San Luis Obispo: San Luis Obispo Council of Governments.

San Luis Obispo Council of Governments and LSC Transportation Consultants, Inc. (2011). *San Luis Obispo South County Bus Rapid Transit Assessment. .* San Luis Obispo.

San Luis Obispo Council of Governments. (2010). *Programs & Projects*. Retrieved December 27, 2010, from San Luis Obispo Council of Governments: http://www.slocog.org/cm/Programs_and_Projects/2010_Regional_Transportation_Plan.html

San Luis Obispo County & Department of Conservation. (2009). sanluisobispo_wa_2009.

San Luis Obispo County Bicycle Advisory Committee & Department of Public Works. (2010). *County Bikeways Plan, 2010 Update.* San Luis Obispo County.

San Luis Obispo County. (2007). County Planning Area Boundaries. San Luis Obispo, CA. Retrieved from Library Services Robert E. Kennedy Library: http://lib.calpoly.edu/collections/gis/slodatafinder/

San Luis Obispo County. (2010). *Crop Reports.* Retrieved July 21, 2011, from San Luis Obispo County: http://www.slocounty.ca.gov/agcomm/Crop_Reports.htm

San Luis Obispo County. (2010). *Executive Director's Report on San Luis Obispo Regional Transit Authority.* San Luis Obispo.

San Luis Obispo County. (2010). *General Plans and Ordinances.* Retrieved October 27, 2010, from San Luis Obispo County: http://www.slocounty.ca.gov/planning/General_Plan__Ordinances_and_Elements.htm

San Luis Obispo County. (2010, September 24). *Land Use Maps, South County Planning Area*. Retrieved November 10, 2010, from San Luis Obispo County: http://www.sloplanning.org/gis/mapimagepdf/Rural_South_County-Inland_LUC_Map.pdf

San Luis Obispo County. (2006). *South County-Inland.* San Luis Obispo.

Santa Barbara County & Department of Conservation. (2009). SantaBarbara_wa_2009.

Santa Barbara County Association of Governments. (2006, October 19). *North Santa Barbara County Transit Plan.* Retrieved October 27, 2010, from Santa Barbara County Association of Governments: http://www.sbcag.org/PDFs/publications/North%20County%20RegionalTransit%20Plan.pdf

Santa Barbara County Association of Governments. (2007). *Regional Growth Forecast 2005-2040.* Santa Barbara: Santa Barbara County Association of Governments.

Santa Barbara County. (2010, May). *Comprehensive Plan, Circulation Element (CIRC).* Retrieved October 26, 2010, from County of Santa Barbara Planning and Development: http://sbcountyplanning.org/forms/maps/index.cfm?id=Comprehensive

Santa Barbara County. (2010). *Crop Report.* Retrieved July 2011, 21, from Santa Barbara County: http://www.countyofsb.org/agcomm/default.aspx?id=11562

Santa Barbara County. (2010). *Current Projects*. Retrieved November 8, 2010, from County of Santa Barbara Planning and Development: http://sbcountyplanning.org/projects/index.cfm

Santa Barbara County. (2010). *Key Site 30 Bradley Village*. Retrieved November 10, 2010, from Santa Barbara County Planning and Develoment: http://sbcountyplanning.org/projects/05GPA-00006/Documents/KeySite30_DEIR_ScopingPaper.pdf

Santa Barbara County. (2010). *Orcutt Planning Area.* Retrieved October 27, 2010, from County of Santa Barbara Planning and Development Long Range Planning Division Online: http://longrange.sbcountyplanning.org/planareas/orcutt/orcutt.php

Santa Barbara County Planning Department. (2011). *Draft Supplemental Environmental Impact Report for the Orcutt Community Plan 2011 Amendments.* Santa Barbara: Santa Barbara County.

Santa Barbara Couny Association of Governments. (2008). *Publications*. Retrieved October 27, 2010, from Santa Barbara Couny Association of Governments: http://www.sbcag.org/PDFs/planning/2008_RTP/RTP/RTP_Re-Adopted_FINAL.pdf

Santa Maria City. (2010, August 5). *Major Projects Archived Lists, City-Wide Development Map.* Retrieved October 26, 2010, from City of Santa Maria: http://www.ci.santa-maria.ca.us/54328-CitywideDevelopmentMap.pdf

Santa Maria City. (2010). *Public Documents.* Retrieved October 26, 2010, from City of Santa Maria: http://www.ci.santa-maria.ca.us/40558.shtml

Santa Maria Valley Economic Development Commission. (2010). *Demographics*. Retrieved October 29, 2010, from Santa Maria Valley Economic Development Commission: http://santamariaedc.com/cm/demographics/agriculture.html

Schwarzenegger, A. (2006). *Strategic Growth Plan Bond Accountability*. Retrieved August 10, 2011, from http://www.bondaccountability.ca.gov/Purpose/

State of California Department of Conservation. (2010, November). *Williamson Act Program-Reports and Statistics.* Retrieved July 21, 2011, from State of California Department of Conservation: http://www.conservation.ca.gov/dlrp/lca/stats_reports/Pages/index.aspx

(2006). *Strategic Growth Plan.*

U.S Census Bureau. (2010). *OnTheMap*. Retrieved July 29, 2011, from Center for Economic Studies: http://lehdmap.did.census.gov/

U.S. Census Bureau. (2010). *Main Page*. Retrieved May 18, 2011, from American Fact Finder: http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml

William Fulton. (2005). *Guide to California Planning.* Point Arena: Solano Press Books.

Appendix I Glossary

Aa

Access Control: The condition where the right of owners or occupants of abutting land or other persons to access a highway is fully or partially controlled by public authority.

Annual Average Daily Traffic (AADT): Daily traffic that is averaged over a calendar year or fiscal year.

Arterial: A class of street that primarily serves through-traffic and major traffic movements.

Assembly Bill 32: In 2006, the Legislature passed and Governor Schwarzenegger signed AB 32, the Global Warming Solutions Act of 2006, which set a 2020 greenhouse gas emissions reduction goal into law. It directed the California Air Resources Board to begin developing discrete early actions to reduce greenhouse gases while also preparing a scoping plan to identify how best to reach the 2020 limit. The reduction measures to meet the 2020 target are to be adopted by the start of 2011.

Auxiliary Lane: The portion of the roadway for weaving, truck climbing, speed change, or other purposes supplementary to through traffic movement.

Average Daily Traffic (ADT): The average number of vehicles passing a specified point during a 24-hour period. Frequently used in relation to the "peak-month" average daily traffic.

Average Lane Width: The average width of a travel lane. It is a weighted average of all lane widths found in the facility segment under consideration.

Bb

Bypass: An arterial highway that permits traffic to avoid part or all of an urban area.

Bike Route Class: Classification of a bicycle facility. There are three classes: Class I provides a completely separated right of way for the exclusive use of bicycles and pedestrians with crossflow by motorists minimized, Class II provides a striped lane for one-way bike travel on a street or highway and Class III provides for shared use with pedestrians or motor vehicle traffic.

Cc

California Air Quality Board (CARB): The State's lead air quality agency consisting of an eleven-member board appointed by the Governor and several hundred employees. CARB is responsible for attainment and maintenance of the state and federal air quality standards, and is fully responsible for motor vehicle pollution control. It oversees county and regional air pollution management programs.

California Environmental Quality Act (CEQA): 1970 State legislation that requires that public agencies regulate activities with major consideration for environmental protection.

Caltrans or Department: California Department of Transportation.

Capacity: The maximum number of vehicles or persons that can pass a point on a roadway during a specified time period (usually one hour) under prevailing roadway, traffic and control conditions.

Capacity Expansion: New facilities and operational improvements, which add through lanes.

Carbon Monoxide (CO): A product of incomplete burning of fuel, produced by motor vehicles (the primary source), home heating, and, to a lesser extent, industrial activities.

Carpool: A group of people who share automobile transportation to designated destinations, usually alternating drivers and vehicles.

Changeable Message Signs (CMS): Electronic signs that can change the message it displays. Often used on highways to warn and redirect traffic. Also referred to as variable or electronic message signs.

Closed Circuit Television (CCTV): This ITS technology allows a camera to display remote verification of road and weather conditions, traffic conditions and incidents. This CCTV camera will have compatibility with other communication technologies, such as, cable TV, kiosks and the internet.

Collector: A roadway providing land access and traffic circulation within residential, commercial and industrial areas.

Corridor Mobility Improvement Account (CMIA): created by the passage of Proposition 1B on November 7, 2006, directs CSMP development for corridors funded by this program.

Corridor System Management Plan (CSMP): A long range plan to comprehensively manage and operate urban transportation corridors across jurisdictions and modes.

Coincident: Occurring at the same time; in agreement. A highway may be signed coincident with another highway (Example: SR 89/SR 70).

Concept: A strategy for future improvements that will reduce congestion or maintain the existing level of service on a specific route.

Conformity: Process to assess the compliance of any Federally funded or approved transportation plan, program, or project with air quality implementation plans. The conformity process is defined by the Clean Air Act.

Congestion: Defined as, reduced speeds of less than 35 miles per hour for longer than 15 minutes.

Controlled Access Highway: In situations where the Director or the California Transportation Commission (CTC) has determined it advisable, a facility may be designated a "controlled access highway" in lieu of the designation "freeway". All statutory provisions pertaining to freeways and expressways apply to controlled access highways.

Conventional Highway: A highway without control of access, which may or may not be divided. Grade separations at intersections or access control may be used when justified at spot locations.

Corridor: A set of essentially parallel transportation facilities for moving people and goods between two points.

Dd

Daily Vehicle Miles of Travel: An estimate of Annual Vehicle Miles of Travel is the product of AADT X Segment Length X 365 days.

Delay: The time lost while traffic is impeded by some element over which the driver has no control.

Density: The number of vehicles per mile (or per lane per mile) on the traveled way at a given instant.

District: Department of Transportation Districts.

Divided Highway: A highway with separated roadbeds for traffic in opposing directions.

Ee

Environmental Impact Report (EIR): A detailed statement setting forth the environmental effects and considerations pertaining to a project as specified in California Environmental Quality Act (CEQA), and may mean either a Draft or a Final EIR.

Environmental Impact Statement (EIS): An environmental impact document prepared pursuant to the National Environmental Policy Act (NEPA) of 1969. The Federal government uses the term EIS in the place of or in addition to the environmental impact report (EIR), which is used in CEQA.

Expressway: An arterial highway with at least partial control of access, which may or may not be divided or have grade separations at intersections.

Ff

Facility Concept: General term used to describe the number of lanes and degree of access control on a State Route or Freeway. The term can be used to describe the existing facility or the future facility that will be required to handle projected traffic volumes within adopted level of service standards.

Federal Highway Administration (FHWA): An agency of the US Department of Transportation that funds highway planning programs.

Federal Transit Administration (FTA): An agency of the US Department of Transportation that funds transit planning and deployment programs.

Focus Routes: These routes are a subset of the 34 High Emphasis IRRS routes. They represent the ten corridors that should be the highest priority for completion to minimum facility standards in order to serve higher volume interregional trip movements.

Free Flow Speed: The average speed of vehicles on a given facility, measured under low-volume conditions, when drivers tend to drive at their desired speed and are not constrained by delay from traffic control devices.

Freeway: A divided arterial highway with full control of access and with grade separations at intersections. A freeway, as defined by statute, is also a highway in respect to which: (1) the owners of abutting lands have no right or easement of access to or from their abutting lands; or (2) such owners have only limited or restricted right or easement of access. This statutory definition also includes expressways.

Freeway and Express System (F&E): The Statewide system of highways declared by the Legislature to be essential to the future development of California. The F&E System has been constructed with a large investment of funds for the ability of control access, in order to ensure the safety and operational integrity of the highways.

Frontage Street or Road: A local street or road auxiliary to and located on the side of an arterial highway for service to abutting property and adjacent areas and for control of access.

Functional Classification: Guided by Federal legislation, refers to a process by which streets and highways are grouped into classes or systems, according to the character of the service that is provided, i.e., Principal Arterials, Minor Arterials and Major Collectors).

Gg

Goods Movement: The general term referring to the flow of commodities, modal goods movement systems and goods movement institutions.

Hh

High Emphasis Routes: High Emphasis routes that are characterized as being the most critical Interregional Road System (IRRS) routes. More importantly, these routes are critical to interregional travel and the state as a whole.

High Occupancy Vehicle (HOV): Term for multi-occupant highway vehicles such as buses, jitneys, vans and carpools.

Highway: Term applies to roads, streets, and parkways, and also includes right-of-way, bridges, railroad crossings, tunnels, drainage structures, signs, guard rails, and protective structures in connection with highways.

Highway Capacity Manual (HCM): Updated in 2000 by the Transportation Research Board of the National Research Council, the HCM presents various methodologies for analyzing the operation (Level-of-Service) of transportation systems.

Highway Classification: For purposes of capacity analysis, separation of two-lane highways into Class I, II or III. Class I includes major interregional routes, Class II includes smaller links in the system and Class III includes segments of two-lane highway in smaller developed areas or communities.

Highway Planting: Vegetation placed for aesthetic, safety, environmental mitigation, or erosion control purposes, including necessary irrigation systems, inert materials, mulches and appurtenances.

High Occupancy Vehicle (HOV) Lane: Preferential or exclusive lane for high occupancy vehicles.

Hydrocarbons (HC): Incompletely burned or evaporated fuel or solvents, produced by mobile sources and industrial sources.

Ii

Incident Management: Technologies that allow transportation managers to identify and respond quickly to incidents on the highway system.

Initial Study: A preliminary analysis prepared by the lead agency to determine whether an environmental impact report (EIR) or negative declaration must be prepared pursuant to the California Environment Quality Act (CEQA).

Intelligent Transportation Systems (ITS): Use of advanced sensor, computer, and electronic systems to increase the safety and efficiency of the transportation system.

Interchange: A system of interconnecting roadways in conjunction with one or more grade separations providing for the interchange of traffic between two or more roadways on different levels.

Intermodal: The ability to connect, and make connections between modes of transportation.

Interregional Road System (IRRS): A series of interregional state highway routes, outside the urbanized areas, that provides access to, and links between, the State's economic centers, major recreational areas and urban and rural regions.

Interregional Transportation Strategic Plan (ITSP): The ITSP identifies six key objectives for implementing the Interregional Improvement Program and strategies and actions to focus improvements and investments. This document also addresses development of the interregional road system and intercity rail in California, and defines a strategy that extends beyond the 1998 State Transportation Improvement Program (STIP).

Intersection: The general area where two or more roadways join or cross, which include roadside facilities for traffic movements in that area.

Interstate Highway System: The system of highways that connects the principal metropolitan areas, cities, and industrial centers of the United States. The Interstate System also connects the US to internationally significant routes in Mexico and Canada.

Ll

Level-of-Service (LOS): A rating using qualitative measures that characterize operational conditions within a traffic stream and perception of those measures by motorists and passengers.

Local Street or Local Road: A street or road primarily for access to residences, businesses, or other abutting property.

Local Transportation Commission (LTC): A designated transportation planning agency for a county which is not within the jurisdiction of a statutorily created Regional Transportation Planning Agency or a Council of Governments.

Mm

Median: The portion of a divided highway separating the traveled ways for traffic in opposite directions.

Merging: The converging of separate streams of traffic into a single stream.

Metropolitan Planning Organization (MPO): By federal provision, the Governor designates this organization by principal elected officials of general-purpose local governments. MPOs are established to create a forum for cooperative decision-making. Each MPO represents an urbanized area with a population of over 50,000 people.

Minor Arterial: A functional category of a street allowing trips of moderate length within a relatively small geographical area.

Minor Street or Road: Land access, with access to local and collector streets

Mixed Flow: Traffic movement having automobiles, trucks, buses and motorcycles sharing traffic lanes.

Mode: Types of transportation: auto, bus, rail, etc.

Mountainous terrain: A combination of horizontal and vertical alignments causing heavy vehicles to operate at crawl speeds for significant distances or at frequent intervals.

Multimodal: The availability of transportation options using different modes within a system or corridor.

Nn

National Environmental Policy Act (NEPA): 1969 legislation requiring all Federal agencies to prepare an environmental impact statement evaluating proposed Federal actions which may significantly affect the environment.

National Highway System (NHS): The NHS is approximately 160,000 miles of roadway as part of an interconnected system of interstates, principle arterials, the Strategic Highway Network (STRAHNET), the Major Strategic Highway Network Connectors, and Intermodal Connector routes. These serve major travel destinations and population centers, international border crossings, as well as ports, airports, public transportation facilities and other intermodal transportation facilities. The NHS must also meet national defense requirements and serve interstate and interregional travel.

National Network (NN) for Trucks: This network is comprised of the National System of Interstate and Defense Highways, examples are I-10, I-5 and I-80. STAA Trucks are allowed on the NN.

Nitrogen Oxides (NO_x): Products of high-compression internal combustion engines, power plants and other large burners.

Non-Motorized Transportation Facility: That combination of vehicles and ways generally including bikeways bicycles,

sidewalks, bridle paths and horses which permit the transport of people.

Pp

Particulate Matter (PM_{10}): Mostly carbon particles much like soot; however, fine particles of dust, metals, asbestos and suspended droplets are also found. Produced by industry, motor vehicles and natural processes. Fugitive dust comes from such sources as agricultural tilling, construction, mining and quarrying, paved and unpaved road and wind erosion.

Peak: 1. The period during which the maximum amount of travel occurs. It may be specified as the morning (a.m.) or afternoon or evening (p.m.) peak. 2. The period during which the demands for transportation services is the heaviest.

Peak Period Directional Split: During the peak period, the directional distribution of traffic.

Post-Mile (PM): Using miles and counties, the PM system identifies specific and unique locations in the California highway system.

Programming: Process of scheduling high-priority projects for development and implementation.

Primary Arterial: Mobility with intermittent access to arterials, other streets, and freeways and with minimal to direct land access.

Project Initiation Document (PID): A report that documents agreement on the design concept, design scope, schedule and estimated cost of a project so that the project can be included in a future programming document. Reports include, among others, the PSR, PSSR, Combined PSR/PR, PEER and the NBSSR.

Project Report: Report summarizing the feasibility of needs, alternatives, costs, etc., of a proposed transportation project affecting state transportation facilities. Often project reports consist of a Transmittal Letter and a draft environmental document.

Public Participation: The active and meaningful involvement of the public in the development of transportation plans and programs.

Public Transportation: Transportation service to the public on a regular basis using vehicles that transport more than one person for compensation, usually but not exclusively over a set route or routes from one fixed point or another. Routes and schedules may be determined through a cooperative arrangement.

Rr

Ramp: A connecting roadway between a freeway or expressway and another highway, road, or roadside area.

Ramp Metering: A traffic management strategy which utilizes a system of traffic signals on freeway entrance and connector ramps to regulate the volume of traffic entering a freeway corridor. This is to maximize the efficiency of the freeway and thereby minimize the total delay in the transportation corridor.

Region (Transportation Planning): A geographical area assigned to a Regional Transportation Planning Agency (RTPA) responsible for regional transportation planning.

Regional Transportation Plan (RTP): State-mandated documents to be developed biennially by all region transportation planning agencies (RTPAs). They consist of policy, action and financial elements.

Regional Transportation Planning Agency (RTPA): Created by AB 69 to prepare regional transportation plans and designated by the Business, Transportation and Housing (BT&H) secretary to receive and allocate transportation funds. RTPAs can be Councils of Government (COGs), Local Transportation Commissions (LTCs), Metropolitan Planning Organizations (MPOs), or statutorily-created agencies.

Rehabilitation: Activities which preserve the quality and structural integrity of a roadway by supplementing normal maintenance activities.

Resurfacing: A supplemental surface or replacement placed on an existing pavement to restore its riding qualities or increase its strength.

Ridesharing: Transportation system management (TSM) technique providing the systems and management to facilitate carpooling, vanpooling, buspooling and increasing transit usage.

Right-of-Way: Real estate acquired for transportation purposes, which includes the facility itself (highway, fixed guideway, etc.) as well as associated uses (maintenance structures, drainage systems, roadside landscaping, etc.)

Roadway: That portion of the highway included between the outside lines of the sidewalks, or curbs and gutters, or side ditches including also the appertaining structures, and all slopes, ditches, channels, waterways, and other features necessary for proper drainage and protection.

Rolling terrain: A combination of horizontal and vertical alignments causing heavy vehicles to reduce their speed substantially below that of passenger cars but not to operate at crawl speeds for a significant amount of time.

Ss

SAFETEA-LU: Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users. SAFETEA-LU is the federal transportation act signed into law in August 2005.

Scenic Corridor: A band of land which is visible from and generally adjacent to, but outside of, the highway right of way having scenic, historical, or other aesthetic characteristics.

Scenic Highway: An officially designated portion of the State Highway System traversing areas of outstanding scenic beauty and/or historic character. Designations include: All-American Road, National Scenic Byway, U.S. Forest Service Byway, Historic Highway and State Scenic Highway.

Secondary Arterial: Mobility with access to collectors, some local streets, and major traffic-generating land uses.

Segment: A portion of highway identified for analysis that is homogenous in nature.

Senate Bill 375: SB 375 is California state law that became effective January 1, 2009. This new law requires California's Air Resources Board (CARB) to develop regional reduction targets for greenhouse gas emissions (GHG), and prompts the creation of regional plans to reduce emissions from vehicle use throughout the state. California's 18 Metropolitan Planning Organizations (MPOs) have been tasked with creating "Sustainable Community Strategies" (SCS). The MPOs are required to develop the SCS through integrated land use and transportation planning and demonstrate an ability to attain the proposed reduction targets by 2020 and 2035.

Shoulder: The portion of the roadway contiguous with the traveled way for accommodation of stopped vehicles, for emergency use, and for lateral support of base and surface courses.

Signalized Intersection: A place where two roadways cross and have a signal controlling traffic movements.

State Freeway and Expressway System: The Statewide system of highways declared by the Legislature to be essential to the future development of California.

State Routes: State highways within the State, other than Interstate and US routes, which serve intrastate and interstate travel. These highways can be freeways, expressways or conventional highways.

State Transportation Improvement Program (STIP): Biennial document, adopted by the California Transportation Commission (CTC), which provides the schedule of projects for develop over the upcoming five years.

Strategic Highway Network (STRAHNET): A network of highways important to the United States strategic defense policy and which provides defense access, continuity, and emergency capabilities for the movement of personnel, materials and equipment in both peace time and war time.

Surface Transportation Assistance Act Network (STAA): The National Network (NN), Terminal Access (TA) and Service Access Route make up this network. These routes allow STAA trucks.

Surface Transportation Assistance Act (STAA) Trucks: This act required states to allow larger trucks on the National Network (NN) which is comprised of the Interstate State plus the non-Interstate System Federal-aid Primary System. "Larger trucks" includes (1) doubles with 28.5-foot trailers, (2) singles with 48-foot semi-trailers and unlimited kingpin-to-rear axle (KRPA) distance, (3) unlimited length for both vehicle combinations, and (3) width up to 102 inches.

Tt

Telecommuting: The substitution, either partially or completely, of transportation to a conventional office through the use of computer and telecommunications technologies (telephones, personal computers, modems, facsimile machines, electronic mail, etc.)

Terminal Access (TA) Routes: Terminal Access routes are portions of State routes, local roads, that can accommodate STAA trucks. TA route allow STAA trucks to (1) travel between NN routes, (2) reach a truck's operating facility, or (3) reach a facility where freight originates, terminates, or is handled in the transportation process.

Topography: The surface features of the land that a highway passes through (i.e. the topographic features of the surrounding land). For the purposes of a Transportation Concept Report, terrain is classified into one of three categories: flat, rolling or mountainous. The terms "terrain" and "grade" are not interchangeable (see "Grade").

- **Flat:** The land surrounding the highway is level or nearly level. The most typical example of flat terrain is a valley.
- **Rolling:** Land in the vicinity of the highway is composed of low hills, dips and rolls, or other types of undulations. Rolling terrain is found in many locations, including the foothills surrounding the Central Valley of California.
- **Mountainous:** Terrain with extensive, steep slopes (often in excess of 6 percent) that may rise sharply on one side of the highway while dropping away rapidly on the other.

Traffic Accident Surveillance and Analysis System (TASAS): A system that provides a detailed list and/or summary of accidents that have occurred on highways, ramps, or intersections in the State Highway System, Accidents can be selected by location, highway characteristics, accidents data codes or any combinations of these.

Traffic Conditions: Any characteristics of the traffic stream that may affect capacity or operation, including the percentage composition of the traffic stream by vehicle type and driver characteristics (such as the differences between weekday commutes and recreational drivers).

Traffic Lane: The portion of the traveled way for the movement of a single line of vehicles.

Traffic Sign: A device mounted on a fixed or portable support, conveying a message or symbol to regulate, warn, or guide traffic.

Traffic Signal: A traffic control device regulating the flow of traffic with green, yellow and red phases.

Transit: Generally refers to passenger service provided to the general public along established routes with fixed or variable schedules at published fares. Relate terms include: public transit, mass transit, public transportation, urban transit and paratransit.

Transportation Concept Report (TCR): Planning document that identifies current operating conditions, future deficiencies, route concept, concept level of service (LOS) and conceptual improvements for a route or corridor.

Transportation Demand Management (TDM): "Demand-based" techniques for reducing traffic congestion, such as ridesharing programs and flexible work schedules enabling employees to commute to and from work outside of the peak hours.

Transportation Management Center (TMC): A focal point that can monitor traffic and road conditions, as well as train and transit schedules, and airports and shipping advisories. From here, information about accidents, road closures and emergency notification is relayed to travelers.

Transportation Stakeholder: In transportation, stakeholders include FHWA, CTC, RTPAs, transportation departments, transportation commissions, cities and counties, Native American Tribal Governments, economic development and business interests, resource agencies, transportation interest groups, the public and the Legislature.

Transportation System Development Program (TSDP): A TSDP identifies a reasonable, comprehensive and effective range of transportation improvements on state highways. It is the Department's statement of priorities for improvements in negotiating and joint planning with regional agencies.

Transportation System Management (TSM): TSM is 1) a process oriented approach to solving transportation problems considering both long and short range implications; and 2) a services and operations process oriented in which low capital, environmentally-responsive, efficiency-maximizing improvements are implemented on existing facilities.

Uu

US Department of Transportation: The principal direct Federal funding agency for transportation facilities and programs. Includes the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), and the Federal Railroad Administration (FRA), and other.

US Route: A network of highways of statewide and national importance. These highways can be freeways, expressways or conventional highways.

Vv

Vehicle Miles Traveled (VMT): Used in trend analysis and forecasts. (1) On highways, a measurement of the total miles traveled in all vehicles in the area for a specific time period. It is calculated by the number of vehicles multiplied by the miles traveled in a given area or on a given highway during the time period. (2) In transit, the number of vehicle miles operated on a given router or line or network during a specific time period.

Vehicle Occupancy: The number of people aboard a vehicle at a given time; also known as auto or automobile occupancy when the reference is to automobile travel only.

Vista Point: A paved area beyond the shoulder, which permits travelers to safely exit the highway to stop and view a scenic area. In addition to parking areas, trash receptacles, interpretive displays, and in some cases rest rooms, drinking water and telephones may be provided.

Volume: The number of vehicles passing a given point during a specified period of time.

Volume/Capacity Ratio (V/C Ratio): The ratio of flow rate to capacity for a transportation facility.

Ww

Weaving: The crossing of traffic streams, moving in the same general direction, accomplished by merging and diverging.