

Draft

ROUTE 46 EAST COMPREHENSIVE CORRIDOR STUDY IN THE CITY OF PASO ROBLES, SAN LUIS OBISPO COUNTY



DRAFT



Department of Transportation
District 5

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ACKNOWLEDGMENTS

Steering Committee

Richard Krumholz, District Director, Caltrans District 5
Ron DeCarli, Executive Director, San Luis Obispo Council of Governments
Paavo Ogren, Public Works Director, San Luis Obispo County
James App, City Manager, City of Paso Robles

City of Paso Robles Staff

Ron Whisenand, Community Development Director
Doug Monn, Public Works Director
Ditas Esperanza, City Engineer
John Falkenstien, City Engineer

San Luis Obispo Council of Government Staff

Ron DeCarli, Executive Director
Richard Murphy, Program Director
Geiska Velasquez, Transportation Planner

County of San Luis Obispo Staff

David Flynn, Deputy Director
Frank Honeycutt, Transportation Division Manager
James Lopes, County Planner
Michelle Olmsted, County Engineer

Caltrans Staff

Aileen Loe, Deputy District Director of Local Assistance & Transportation Planning
Lawrence C. Newland, Senior Transportation Planner
Claudia Espino, Senior Transportation Engineer
Steve Milton, Senior Transportation Engineer
Dan Herron, Associate Transportation Planner
Brandy Rider, Associate Transportation Planner
Brian Graham, Transportation Planner
Melissa Cole, Transportation Planner

Consultation from – Moore, Iacofano, & Goltsman, Inc



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EXECUTIVE SUMMARY

A measure of success in transportation planning is providing efficient and effective mobility options. An essential component of success is ensuring that the relationship between land-use and transportation planning is integrated into long-range planning efforts. Mobility, stewardship, safety, delivery and service are the main components of the California Department of Transportation’s (Caltrans) mission. In demonstrating a commitment to safety and mobility, Caltrans has embarked on the *Route 46 East Comprehensive Corridor Study (CCS)*, to ensure good customer service to the public and our partners. This study identifies regional goals that reflect a balanced approach to transportation planning and decision-making. Caltrans commitment to demonstrate delivery relies on performance measures that identify the most beneficial investments for the corridor. Finally, as stewards, Caltrans is actively striving to preserve and enhance the resources and assets of California. This collective effort was able to elicit community interests and input for future planning of their community.

The four agency partners, Caltrans, San Luis Obispo Council of Governments, the City of Paso Robles, and San Luis Obispo County, developed strategies and identified transportation related priorities within the corridor. The CCS is a planning tool that will be an asset for planners and decision makers for transportation investment decisions. These are the objectives of the CCS:

- Assist in CEQA review and in the assignment of mitigation measures by illuminating a clear nexus between project specific impacts and a particular set of improvements;
- Develop priority locations for long-term improvement and right-of-way needs;
- Enable local agencies to better compete for future transportation funding;
- Provide assistance to other agencies when developing transportation and land use plans such as the City’s Circulation Element, Regional Transportation Plan (RTP), etc.

Study Area

The study area of the CCS consists of a five-mile section of SR 46E within the urbanized area of the City of Paso Robles. The segment of highway extends from the US 101/SR 46E interchange (PM 29.7) to Jardine Road (PM 34.6). The study also considers adjacent land uses and local transportation systems and their impacts on SR 46E.



Figure E.1 Comprehensive Corridor Study Area

Draft Comprehensive Corridor Study

Projected growth statewide and locally over the next 20 years in San Luis Obispo County and throughout California is expected to place an even greater demand on the existing transportation system. The State Route 46 East (SR 46E) corridor is part of a transportation network that accommodates all aspects of travel in the region, including: commuters, tourists, shoppers, public transit patrons, trucks and other emergency personnel. Because 46E is a major goods movement facility, approximately 20% of the vehicles in this corridor are trucks. A great portion of the goods movement demand is driven by the large agricultural industry in the Central and Salinas Valleys. Additionally, the Central Coast provides recreational opportunities for travelers throughout the State. As growth continues on a statewide and regional basis, the need for more efficient transportation will increase.

Environmental Context

Federal and California law requires environmental documentation for any discretionary action (i.e., project). The environmental documentation evaluates the environmental impacts that would result from transportation improvements. As stewards of the resources within the state transportation system, Caltrans must balance the state resources within the overall context of community concerns and environmental resources. Technical analysis is prepared to identify impacts and appropriate mitigations.

- Environmental Resources**
- Air Quality & Climate Change
 - Energy
 - Visual Resources
 - Biological
 - Cultural
 - Farmland
 - Open Space
 - Geology, Soil, Seismicity
 - Water Resources
 - Hazardous Materials
 - Noise
 - Traffic

Through the preliminary planning process, the stakeholders identified areas of particular importance for additional analysis, such as visual resources, water quality, air quality & climate change, farmland, and biological resources. Of particular interest to the community of Paso Robles are visual resources. The City of Paso Robles has recently prepared a Gateway Plan¹ for the City, which shows strong interest in how the traveling public perceives the City as they enter the SR 46E Corridor. The context of the SR 46E corridor will need to be defined in such a way that it balances the mobility interests of its users with the surrounding land use and natural resources. Project proposals will need to consider the aesthetic concerns of the community as well as providing design features that are appropriate in scope and need in the corridor.

Additionally, air quality and climate change are of particular interest on both a national and statewide basis. The entire region currently meets the State and Federal standards for air quality. The recently documented health impacts of air pollution on people living in areas with poor air quality have created a heightened awareness to maintain and perhaps enhance our existing air quality. The State has become a national leader in addressing climate change requiring the reduction of greenhouse gases (GHG) on a statewide basis (Assembly Bill 32 and State Bill 375). The challenges to meet these GHG thresholds will be tremendous on transportation sector. San Luis Obispo Council of Governments

¹ Paso Robles Gateway Plan: Design Standards, City of Paso Robles, March 2008

(SLOCOG) has undertaken a blue print planning effort², *Community 2050*, which will take the first steps to develop a plan and/or policies that address the relationship between land use and transportation uses. Performance measures will focus on greenhouse gas emissions, climate change, and the land use/transportation planning nexus.

Performance Measures

To adequately identify the current and projected deficiencies within the corridor, prioritize locations for investment, and develop a range of solutions, Caltrans and the partners identified and analyzed a set of performance measures. Performance measures provide a means to quantify and review the deficiencies within the corridor and the efficiency & effectiveness for a transportation facility to operate. The following performance measures were used to quantify the deficiency and priority within the corridor:

- **Collision Rates/Concentrations**: Areas of higher than average collision rates/concentrations indicated locations that need to be of focus to improve the safety at that location. Through analysis of the collisions and the concentrations of the collisions, the source of the collisions can be identified and solutions suggested that improve the existing situation.
- **Delay**: Delay is a performance measure that indicates if a transportation facility is operating well to move traffic, either along the mainline or through an intersection. This takes into account the traffic volumes, the queues created due to congestion, and the time & money lost due to delay within the system.
- **Life-cycle Cost**: The objective of a life cycle cost analysis is to translate the effects of an investment into monetary terms and to account for the fact that benefits generally accrue over a long period of time while capital costs are incurred primarily in the initial years. In addition to capital costs life-cycle costs can be quantified by travel time costs, vehicle-operating costs, safety costs, ongoing maintenance costs, pavement rehabilitation, energy costs, and emissions. Using life-cycle cost as a measure ensures that the investments in the corridor are sustained.

Performance Assessment

Based on existing traffic studies deficiencies where identified within the corridor, data demonstrates higher than average collision rates at the signalized intersections (Buena Vista Drive, Golden Hill Road and the US 101/SR 46 E junction) and delay occurring during the Friday afternoon summertime peak. Traffic projections based on anticipated statewide growth and potential new land use changes would result in a continued deterioration within the corridor should nothing be done.

Increasing mainline capacity along SR 46E cannot take place until such time that capacity and operational improvements are made to the US 101 mainline. Considering that a six-lane facility is not viable, focus was narrowed to operational improvements at the existing

² *San Luis Obispo Region, Draft Community 2050*, SLOCOG, September 2008

intersections and along the corridor. The analysis concludes the need to improve the SR 46E facility with grade-separated access points, a plan to address the failing at-grade signalized intersections, and improvement of the local road network within the corridor.

Corridor Management Strategy

Maintaining and improving mobility will no longer depend solely on expanding the transportation system. Instead, an integrated approach is needed to maximize mobility. The corridor management strategy has three key elements; transportation, land use, and funding. Transportation as a component will study four strategies; reduce travel demand (Travel Demand Management),

increase efficiency with technology (Intelligent Transportation Systems), improve connectivity on the local road network, and improve efficiency on the highway. Land use takes into account the type, scale and location of development adjacent to the transportation system and how to analyze impact to the existing system as well as future needs associated with growth. Funding as a component refers to wise use of currently available funds, appropriate exploration of new revenue sources, and readiness to act when new funds become available.

Comprehensive Corridor Study Goals

- *Increasing safety & efficiency*
- *Fostering connectivity in all directions*
- *Separating local, regional and interregional traffic*
- *Promoting multi-modal movement*
- *Providing a acceptable Level of Service*
- *Ensuring goods movement*
- *Enhancing community cohesion, character & quality of life*

Transportation Strategy

Travel Demand Management

Travel Demand Management (TDM) strategies are designed to influence an individual's travel behavior by making alternatives to the single-occupant automobile more attractive, especially during peak commute periods. Some examples of TDM strategies are carpools or vanpools, public transit, non-motorized modes, congestion pricing, and providing the public with reliable and timely traveler information. In an effort to address travel demand, early public planning during the development of this document has identified some areas where additional TDM strategies could be implemented. As part of the implementation plan, existing TDM strategies and future needs will require identification. Potential new strategies will also need to be proposed. Coordination with Cuesta College has resulted in a desire for additional bus service for the college, as well as new or enhanced service to the community of Shandon east of the study limits. Public comment during the public meetings also indicated a desire for new park and ride lots, bicycle and pedestrian facilities, and enhanced bus service. Various employers in the Airport Business Area have expressed interest in developing new or expanded Rideshare programs and flexible work schedules to help decrease vehicle trips during peak hours.

Intelligent Transportation Systems (ITS)

Intelligent Transportation Systems (ITS) refer to a range of diverse technologies which, when applied to our current transportation system, can help improve safety, reduce congestion, enhance mobility, minimize environmental impacts, save energy, and promote economic productivity. ITS technologies include information processing, communications, control, and electronics. Examples of ITS technologies include Changeable Message Signs and Close-circuit Television. Currently there are plans to apply ITS solutions with the corridor such as 511 Interactive Traveler Information, Smart Call Boxes, Road Weather Information Systems, and an improved Changeable Message Sign plan.

Local Road Extensions and Connections

Land use development within the corridor is creating a greater demand on the highway facility. For this reason local road connections and extensions are a high priority. Emphasis on the ability of these connections to improve circulation and reduce demand on SR 46E was studied in the City of Paso Robles Parallel Route Study. Improving local road circulation through the study area not only enhances local connectivity, but it also takes pressure off the SR 46 E mainline, which can relieve congestion along this stretch of the highway. Both the CCS and the Parallel Route Study identified local road extensions and connections as a strategy to improve circulation and alleviate congestion on SR 46E.

State System Priorities

In order to achieve a high degree of utility from an expanded local network, it must be developed in concert with future highway improvements. Locations for possible grade separations such as, interchanges, undercrossing, and overcrossing were studied. Priority locations were identified based on known constraints, public input and partner objectives. To reduce the overall points of conflict on the mainline and improve local connectivity, Buena Vista Drive, Golden Hill Road, Union Road, Airport Road, Mill Road and Jardine Road were studied. The team focused on long-term investments revolving around the Union Road area and completing the local circulation system; the other locations were not viable based on constraints and objectives, such as proximity to US 101, adjacent local businesses, and an ability to achieve mobility interests.

Funding Strategy

There is broad recognition of the looming set of challenges related to funding transportation infrastructure and programs throughout the State and the impact of demand on the existing transportation system. The question of, “How will investments be funded?” is not easily answered.

Revenues from gasoline and other fuel taxes appear insufficient to meet the current use and the projected growth. After years of steady growth, federal tax revenues have reached a plateau; additionally state gas tax revenues are slowing down while the tax rates for the federal and state have remained stagnant. As federal and state revenues slow, local and regional governments have been asked to bear an ever-increasing burden of funding new infrastructure.

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This region has the creativity and resolve to develop innovative solutions to our transportation needs. Establishing priorities and developing a funding framework are critical to implementing a successful and competitive plan for the corridor. Funding partners paying their fair share will be an essential component to the successful implementation of projects and programs in the SR 46E corridor. The lack of funding commitments in the future could slow implementation of this study and result in continual deterioration of corridor mobility.

Land Use Strategy

The land use agencies of City of Paso Robles and San Luis Obispo County will strengthen the nexus between land use and transportation by adopting the recommendations of this Study into the City's Traffic Circulation Element and the County's Salinas River Area Plan. This consistency between the long-range vision of the SR 46 E corridor and the land use planning documents will be a tool for CEQA analysis when determining impacts and mitigations. Incorporation of right-of-way preservation plan lines into the City's Circulation Element for the Union Road area and local road extensions/connections identified in the Parallel Route Study will assist in land use decisions.

Recommendations

This document will implement a plan that improves and enhances mobility interests in the corridor. Throughout the Study process, the team has identified values that the mobility improvements in the corridor should be consistent with:

- Be context sensitive
- Moderate speeds both for safety and to indicate arrival through a community, or passage through a place worthy of note
- Provide access to, across, and along the highway

This study identifies the need to preserve right-of-way for the priority location at the Union Road area. To ensure that the corridor preservation plan is implemented, the local land use plans would need to be updated to reflect the agreements between the partners. To demonstrate the desire for consistency among local, regional and state government planning documents, it is recommended that incorporation of the recommendations would be reflected in the following local planning documents:

- Caltrans Corridor System Management Plan for SR 46
- SLOCOG Regional Transportation Plan
- SLOCOG Community 2050
- San Luis Obispo County Salinas River Area Plan
- City of Paso Robles General Plan Update: Circulation Element

Caltrans, SLOCOG, San Luis Obispo County and the City of Paso Robles are funding partners for the corridor improvements along SR 46 East. Developing funding strategies is



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essential to the success of any infrastructure improvements and, continued coordination will be required of the partners. *Table E.1* summarizes the recommendations of the CCS and the expected next steps to implement the Study.

As proposed improvements are funded, projects that include improvements to State Route 46E would follow the Caltran's Project Development Process. This process would incorporate a detailed study of traffic operations & geometric configurations to confirm design options and mobility needs identified in this document. Development and enhancement of existing TDM strategies/programs are recommended to encourage a mode shift that can alleviate some of the local demand within the corridor. The right-of-way preservation plan provides the nexus between land use and transportation planning in the corridor. Providing connectivity and a sense of place for the community, reducing congestion, enhancing goods movements, and enhancing safety will improve the state and local transportation network.

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Table E.1 Summary of Recommendations & Implementation

Recommendations	Implementation
Right-of-way preservation at the Union Road area and local road connections and extensions	Develop plan lines that delineate right-of-way preservation at Union Road area and incorporate into the City's Circulation Element and the County's Salinas River Area Plan.
Develop a funding strategy for the long-term vision	Interagency coordination will be required to develop a funding strategy.
Develop a funding strategy for construction of individual improvements, then initiate the Caltran's project development process and prepare a Project Study Report for projects on the State Highways	An interagency coordinated process should be initiated locally.
<p>Local Road Extensions/Connections:</p> <ul style="list-style-type: none"> • Golden Hill Road extension to Dry Creek Road, via a bridge at Huerhuero Creek • Wisteria Lane extension to Airport Road • Union Road to Airport Road, via a bridge at Huerhuero Creek 	Adopt these local road improvements into the City's Circulation Element.
<p>Transit: Expanded and/or new transit service within the corridor should be considered for the following locations:</p> <ul style="list-style-type: none"> • Cuesta College – North County Campus • Airport Road Business Park • Chandler Ranch Area Specific Plan • Jardine Road • Shandon <p>Additional transit locations should be developed in close coordination with the Regional Transportation Agency, the City of Paso Robles transit authority, and the Study partners to identify those locations that would best reduce single-occupant-vehicle demand on the SR 46E corridor.</p>	Update the Paso Robles Short-range Transit Plan to reflect expanded or new transit service.

Table E.1 Summary of Recommendations & Implementation (Continued)

Recommendations	Implementation
<p>Commuter Programs: It is recommended that employers served by the corridor participate in a Transportation Demand Management Program. Currently, there is one such program in San Luis Obispo County that integrates all commute modes, the Transportation Choices Program.</p>	<p>Trip Reduction Plan & Employee Commuter Survey: Encourage employers surrounding the coordinator to adopt a Trip Reduction Plan and execute a Commuter Survey.</p> <p>Carpool: Invest in the further development and marketing of Rideshare’s online carpool system.</p> <p>Vanpool: Provide grant funds to help subsidize new vanpools and vanpool users during their first year.</p> <p>Guaranteed Ride Home (GRH): Provide GRH funding to accommodate increased program participation.</p> <p>Mid-day Shuttles: Initiate a similar program for the City of Paso Robles and North County.</p> <p>Incentive Program & Employer Trip Reduction Tracking: Encourage participation in the Lucky Bucks program by businesses in North County for commuters who live and work in this area.</p>
<p>Bike and Pedestrian Facilities: It is recommended that locations for bicycle and pedestrian facilities be identified in the corridor.</p>	<p>Update the City’s Bicycle Master Plan.</p>

Table E.1 Summary of Recommendations & Implementation (Continued)

Recommendations	Implementation
<p>Park and Ride Lots: New and expanded park and ride facilities should be considered at the following locations:</p> <ul style="list-style-type: none"> • Cuesta College – North County Campus • Airport Road Business Park • Chandler Ranch Area Specific Plan • Jardine Road • Shandon • Mid-State Fair Parking Lot <p>Additional locations should be pursued that would best reduce single-occupant-vehicle demand on the SR 46E corridor. It may be the case, locations for park and ride lots outside of the corridor may be effective for reducing trips within the corridor. Therefore, park and ride facilities within the corridor as well as outside of the corridor should be considered as mitigation for project specific traffic impacts.</p>	<p>Interagency coordination to identify appropriate locations for park and ride facilities.</p>

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Comprehensive Corridor Study

1.0 INTRODUCTION

1.1 The SR 46E Comprehensive Corridor Study

The primary purpose of this Corridor Study is to assist the four key partner agencies, Caltrans, SLOCOG, City of Paso Robles, and San Luis Obispo County, in addressing mobility and safety concerns and develop a long term vision for the State Route 46 East (SR 46E) corridor. Currently, there is a need to strengthen a planning nexus between transportation and land use planning. Due to growing demand on SR 46E, the corridor has not had a coordinated long-range vision. This lack of an updated and coordinated long-range vision has made it more challenging to conduct reviews of local private development within the corridor.

SR 46E is a major east/west interregional route that runs between State Route 1 along the Central Coast, near Cambria in San Luis Obispo County, and State Route 99 in the Central Valley, near Wasco in Kern County. The highway is the busiest connection from California's coastal regions to the Central Valley, between the Pacheco Pass east of Gilroy in Santa Clara County and the Grapevine (I-5) in Los Angeles County. The segment of the highway west of US Route 101 to the coast (Highway 1) is commonly referred to as State Route 46 West (SR 46W). The segment east of US 101 to the San Luis Obispo/Kern County line is referred to as State Route 46 East (SR 46E).

Demand on SR 46E comes from interregional mobility and goods movement, travel within the region, as well as locally generated trips. The demand for goods movement is evidenced by relatively heavy truck traffic that accounts for a higher percentage compared to other routes; on SR46E trucks account for approximately 20% of vehicles within the corridor. While travel demands continue to increase throughout the corridor, infrastructure improvements have not kept pace for the facility to operate at an acceptable level of service. Congestion at the US 101/46 East interchange and along SR 46E as it enters Paso Robles has resulted in excessive delays during the Friday summertime afternoon peak periods.

Jurisdictions working together to limit rising costs by identifying priorities is an important strategy. Transportation plans by their nature lack specificity and detail, but this Study will provide a vision of the corridor's priorities and the needs related to new improvements.

1.2 Relationship to Other Plans

Transportation planning occurs at three essential levels: state; regional; and local. At the State level, Caltrans’ Transportation Concept Report (TCR) identifies a baseline for existing conditions along the facility and what projected traffic would be if no highway major improvements were constructed over a 20-year period. The TCR identifies areas of deficiency within a facility and gives basic recommendations to achieve an acceptable future Level of Service (LOS). For SR 46E, the TCR identifies the concept for a future facility as a multi-lane, access-controlled facility. The TCR also references the CCS and indicates that the recommendations of the CCS will be incorporated or amended into the TCR.

In addition, the CCS will be integrated into the Corridor System Management Plan (CSMP) for the entire State Route 46 corridor within Caltrans District 5 (San Luis Obispo County). The CSMP is a requirement for all projects funded through the Corridor Mobility Improvement Account (CMIA) and the 2006 California 1B Bond Act. Approximately \$67 million of Proposition 1B funds have been allocated for the widening of SR 46E from 2 lanes to 4 lanes from Geneseo Road (PM 36.6) to Almond Drive (PM 41.2), a project that is known as “Whitley 1” (see *Figure 1.1* below).

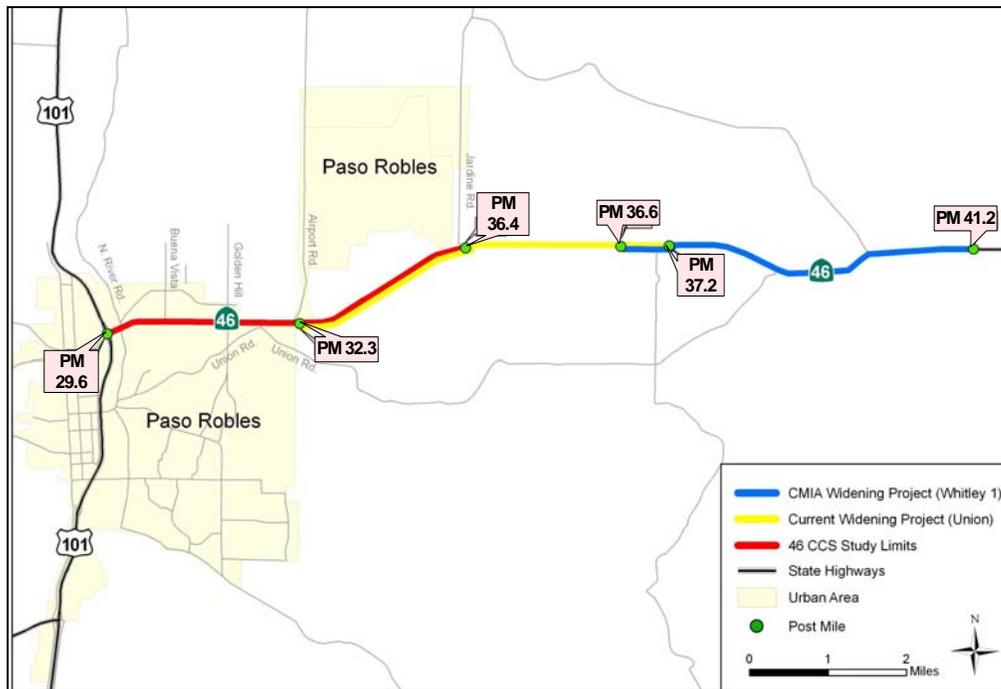


Figure 1.1 SR 46 E Widening Projects Map



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Comprehensive Corridor Study

The main objective of the CSMP is to provide a tool to help sustain the benefit of transportation investments. The plan will be used as an integral tool for managing the corridor to achieve the highest mobility, which benefits across all jurisdictions and modes, for both regional and interregional travelers. While the CCS focuses on the five-mile section within the City of Paso Robles, the CSMP studies the entire SR 46 corridor, from the Kern/San Luis Obispo County Line to the Junction with SR 1, near Cambria. Once complete, the CCS recommendations will be incorporated into the SR 46 CSMP.

At the regional level, the San Luis Obispo Council of Governments (SLOCOG) Regional Transportation Plan calls for SR 46E to be a four-lane expressway in the 20 year planning horizon. *Vision 2050*, the Regional Transportation Plan (RTP) adopted in 2005, identifies how the corridor has been a matter of consideration for many years. Planned improvements for the corridor include: construction of grade-separated interchanges where feasible; improvements of the US 101/SR 46E Interchange; local frontage road improvements and alternate routes to the highway; acceleration and deceleration lanes; left and right-turn channelization; and access control. Specific projects in the RTP include: Widen to 4-lanes SR 46E from Airport Road easterly to the 41 Junction; US 101/SR 46E Interchange Improvements; and Airport Road Interchange.

Locally, the Circulation Element (2003) of the City of Paso Robles' General Plan identifies the future of SR 46E as either a four-lane freeway or six-lane expressway from SR 101 to Golden Hill Road. While widening is discussed as a feasible improvement, the General Plan indicates that the lack of interchange capacity requires alternative corridor solutions. The City's plan also makes reference to the outcome of this Corridor Study to refine this determination. In addition, the City has concluded the State Route (SR 46E) Parallel Routes Study. This Study considers possible local road connections that could relieve congestion and improve connectivity of the local street network, as well as SR 46E through Paso Robles. Study findings will be used in guiding the update of the City's Circulation Element, which is expected to be complete in 2009.

1.2 Corridor Study Process

The following outline details the general approach used in this process for raising issues, sharing information, problem solving, and decision-making during the development of the corridor study:

Steering Committee

Comprised of representatives with decision-making authority from the four key partners:

- City of Paso Robles
- County of San Luis Obispo
- San Luis Obispo Council of Governments
- California Department of Transportation (District 5)

The Steering Committee provided essential guidance on the development of the CCS at key decision points. The CCS would not have advanced through milestones without definitive guidance from the Steering Committee. The Steering Committee established a role statement, agreed to by all partners, to address:

The Steering Committee provided essential guidance.

- Member responsibilities and expectations
- Authority for decisions and empowering delegates, as appropriate
- Interfacing with governing (elected) boards
- Approval authority for final product and intermediate decision points
- Group decision-making and conflict resolution
- Logistical elements such as frequency of meetings, representation, meeting agendas, read-ahead material, and meeting summaries

Study Team

The Study Team consisted of a multi-disciplinary group of staff representatives of each of the four partner organizations. This team was responsible in raising issues, considering technical information, discussion, problem solving, and making recommendations to the Steering Committee. The Study Team was the primary collaborative “work center” for the CCS. Each of the four partner organizations appointed one member of the Study

The Study Team was the primary collaborative “work center” for the CCS.

Team as their single point of contact. This contact was responsible for coordinating appropriate staff from their organization for meetings, disseminating information within the organization and keeping their managers informed.

Technical Advisory Committee (TAC)

A smaller technical work group was formed and meetings held on an as-needed basis to investigate certain issues at a greater level of detail. Each agency partner identified staff with special expertise to participate in specific discussions. The methodology for data collection and analysis, for example, was discussed in detail with the TAC before it was carried forward to the Study Team or Steering Committee.

Stakeholder Outreach

One task of the Study Team was to develop an appropriate outreach plan to all other interested stakeholders. The strategy identified the appropriate milestones for engaging broader participation and identified the most effective ways to solicit and manage input from:

- Public
- Elected Officials
- Resource Agencies
- Media
- Community Groups

Additional information on the stakeholder outreach can be found in *Section 4.0*.

Documentation of Recommendations & Decisions

All recommendations by the Study Team to the Steering Committee, and subsequent decisions, were carefully documented. Documentation establishes integrity and efficiency in the process, and promotes accountability and transparency among the key partners.

2.0 CORRIDOR DEFINITION AND DESCRIPTION

2.1 Study Area Limits and Overview

This Comprehensive Corridor Study for SR 46E in northern San Luis Obispo County considers travel demand and future improvement options along SR 46E. The study limits include the 5-mile segment of SR 46E between the north junction with US 101 (PM 29.7) and Jardine Road (PM 34.6). The team concentrated on improving traffic flow and relieving congestion by analyzing the local road connections, the local circulation network, and alternate modes of transportation, and Rideshare programs, without expansion of the highway system alone.

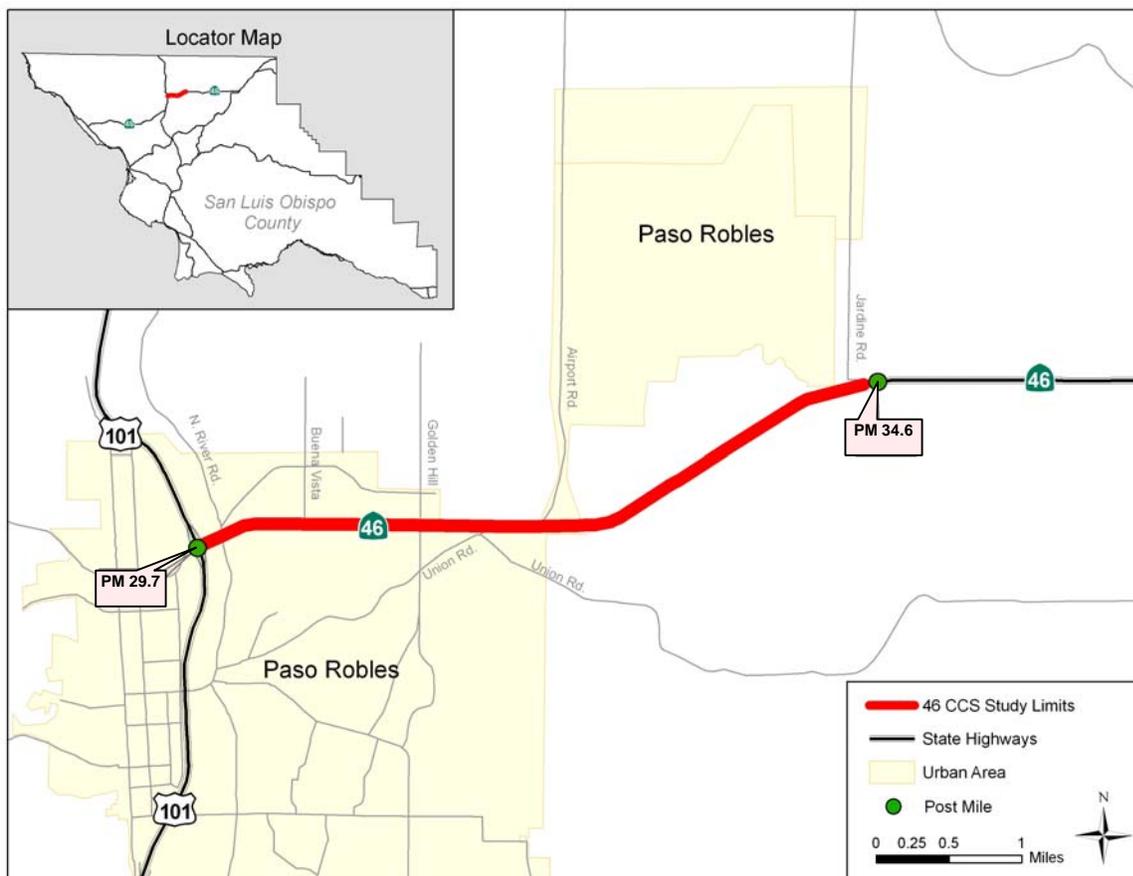


Figure 2.1 SR 46E CCS Study Limits

SR 46 within District 5 is currently a 2 to 4-lane highway for its entire length. SR 46 West begins at the junction with SR 1, just south of Cambria, and continues easterly to the junction with US Route 101, just south of Paso Robles (see *Figure 2.2*). This section of the highway passes over the Santa Lucia mountain range, grazing land, vineyards, and wineries located in the hills west of Paso Robles. SR 46 east of SR 101 serves as a major goods movement route for produce and other products coming out of the Salinas Valley to other areas throughout California.

Conversely, goods from the interior valley come into the Central Coast. SR 46E provides access between US 101 and the rural Central Coast, including several communities and major tourist destinations such as coastal beach areas, Hearst Castle and the Big Sur Coast (see *Figure 2.2*). In addition, county residents use the route for business, commuter travel, and personal trips. The west portion of SR 46 provides access between coastal communities such as Cayucos and Cambria and inland communities along US 101 including Paso Robles, Templeton, and Atascadero. At the south end of Paso Robles, SR 46 runs contiguously with US 101 for 3.8-miles north to the 24th Street alignment in central Paso Robles.

East of SR 101, SR 46 then continues passing commercial, light industrial, low-density residential, agricultural, and open space parcels in the City of Paso Robles. This section of SR 46 (US 101 to Airport Road) is the only section that is currently a 4-lane divided highway, but construction is underway to widen SR 46E to a 4-lane facility, from Airport Road to Almond Drive. From the Paso Robles east city limit, through Whitley Gardens, and on to Shandon, SR 46 cuts a relatively straight path through open agricultural (vineyards) and ranch land. SR 46 is contiguous with SR 41 from their junction east of Shandon to a point 6.5 miles east near Cholame, where the two routes diverge. SR 41 heads northeast while SR 46 continues easterly to the San Luis Obispo/Kern County line.



Figure 2.2 SR 46E CCS Overview Map

Importance of Route

At the statewide level, the route’s significance can be characterized in part with a review of its various designations (refer to the Glossary for detailed description of route designations). Of the 249 California State Routes, only 10 are designated as Focus Routes, which is a subset of the Interregional Road System and High Emphasis Routes (see *Figure 2.3* below). Due to their interregional significance of moving both goods and people, the State has identified these Focus Routes as corridors that should be of highest priority for completion to minimum facility standards in the 20-year period.

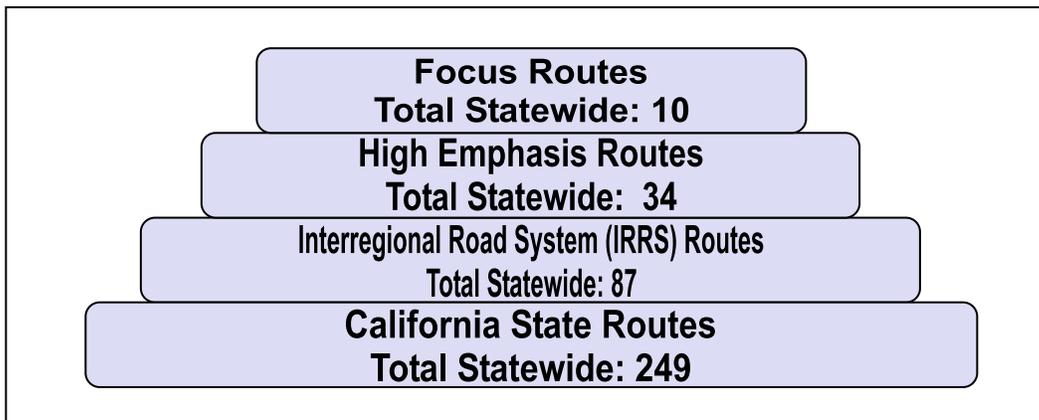


Figure 2.3 Hierarchy of Route Designations

SR 46East has the following designations:

- Interregional Road System (IRRS)
- High Emphasis Route
- Focus Route
- State Highway Extra Legal Load (SHELL) Route
- Strategic Highway Network Corridor (STRAHNET) Route
- Terminal Access Route to the National Truck Network
- National Highway System
- Freeway and Expressway System

SR 46 provides a vital link between the coastal and inland parts of the county, providing a conduit for goods movement and tourism important to the regional and state economy. Due to the statewide significance of this route, a recent bond measure (Proposition 1B) allocated funds to construct the widening of SR 46E from two-lanes to four-lanes in the second segment, Whitley 1, as shown in *Figure 1.1*. Locally, the SR 46E corridor, together with US 101, provides important access for businesses, residents, visitors and commerce in the City of Paso Robles.

Local Road Connections to the State Highway

Establishing and managing connections between local roads and state transportation facilities is an important aspect of highway management. US 101 is an established access-controlled freeway. SR 46E through Paso Robles is currently an expressway with partial access control and is part of the State's Freeway & Expressway System.

In 1948, a Freeway Agreement was developed and revised in 1964 between Caltrans and the County of San Luis Obispo for SR 46E within the limits of the Corridor Study. The freeway agreement specifies the following local road connections:

- Buena Vista Road (north side of SR 46E)
- Golden Hill Road (south side and north side)
- Union Road (south side)/Paso Robles Boulevard (north side)
- Airport Road (north side)
- Mill Road (south side)
- Jardine Road (north side)

In September 2008, the Freeway Agreement was revised for the section of State Route 46 between the City of Paso Robles city limit lines to county limit lines of San Luis Obispo & Kern Counties.

The Circulation Element of the City's General Plan (2003) identifies the need to improve local arterial and collector roads. The City will update the Circulation Element of the City's General Plan, incorporating the findings of the Parallel Route Study and the CCS.

Intersection Characteristics and Context

Within the five-mile study segment, the existing SR 46E facility is a four-lane divided expressway, with 12-foot lanes, 10-foot outside shoulders, 5-foot inside shoulders, and a 46-foot unpaved median with no barrier. From Airport Road to Jardine Road (PM 34.6), SR 46E is a two-lane undivided expressway with 12-foot lanes and 8-foot outside shoulders. The current widening project (Airport Road to Whitely Gardens –Union & Whitely 1 Segments) will change this two-lane undivided expressway to a four-lane divided expressway.

Signalized intersections exist along SR 46E at the following locations:

- US 101 southbound ramps (PM 29.7)
- US 101 northbound ramps (PM 29.7)
- Buena Vista Drive (PM 30.5)
- Golden Hill Road (PM 31.3)

Unsignalized intersections with side-street stop controls exist along SR 46E at:

- Union Road (PM 31.8)
- Airport Road (PM 32.1)
- Mill Road (PM 32.6)
- Private winery entrance (PM 33.3)
- Dry Creek Road (PM 34.1)
- Jardine Road (PM 34.6)

Several local roads (Union Road on the south side of SR 46E and Dallons Drive and Dry Creek Road on the north side) comprise a partial system of east-west routes within the city limits.

Projects Proposed & Under Construction

Currently there are numerous ongoing projects along SR 46E as identified in *Table 2.1*.

Table 2.1 Planned Projects on SR 46E

Location	Project Description	Phase	Projected Begin Construction
US 101/SR 46 E Interchange	Construct dual left-turn lanes and other operational improvements	Project Design/ Environmental Review	2012
Golden Hill Road	Construct dual left-turn lanes	Project Design/ Environmental Review	2009
SR 46 E Union Rd. to Geneseo Road	Widen SR 46E to four lanes (Union Segment)	Construction	Under construction
SR 46 E Geneseo Road to Almond Drive	Widen SR 46E to four lanes (Whitley 1 Segment)	Final Project Design/ Construction 2011	2011
SR 46 E Almond Drive to SR 46/SR 41 Junction	Widen SR 46E to four lanes (Whitley 2 Segment)	Final Project Design	> 10 years

The City of Paso Robles has initiated a Project Study Report (PSR) for a signal and eventual interchange at Airport Road. In the process of evaluating this new interchange, the project development team found complications at Airport Road and is considering Union Road area as a possible alternative location for an interchange.

2.2 Transportation Funding

There is a broad recognition of the looming set of challenges related to funding transportation infrastructure and programs throughout the State and the impact of demand on the existing transportation system. The question of, “How will investments be funded?” is not easily answered. Establishing priorities and developing a funding framework are critical to implementing a successful and competitive plan for the corridor.

Available funds are insufficient to address all transportation needs in the region. A variety of funding sources are available for an overall strategy to pay for transportation improvements. Developing an effective funding strategy requires cooperative partnerships at the local, regional and state levels and must ensure equitable fair-share contributions. It should be noted that traditional sources account for less than half of the transportation expenditures in California. Since traditional sources have not kept pace with the demand for funding improvements, local and regional agencies have been raising more funds locally to meet their needs and to have greater control over how and where the funds are spent.

The Regional Transportation Plan (RTP) is the regional transportation-planning document that outlines goals and priorities, identifying needs and revenue resources. Within the RTP, projects are separated into two main categories,

Programming priorities for SR 46E within the urban areas are made at the local and regional levels.

financially constrained and financially unconstrained. The financially constrained is a planned list of projects that identifies the project needs of the region and does not exceed the funding revenues projected over the 20-year period. The financially unconstrained list of projects exceeds reasonably anticipated funding revenue. The existing SLOCOG Regional Transportation Plan, *Vision 2025* (April 2005) identifies a shortfall of regional needs totaling \$399 million. This situation requires that planned projects be deferred beyond the 20-year horizon of the RTP. The financially unconstrained scenario assumes additional revenue to fund the desired list of projects past 2025. This scenario assumes a local option sales tax and other potential revenue sources. SLOCOG is currently updating the RTP, which is expected for completion in winter 2010.

Expansion and major modifications to the infrastructure have traditionally been funded from the State Transportation Improvement Program (STIP). The California Transportation Commission is the decision-making body that allocates funds from the STIP. A large portion of the STIP (75%) is allocated by formula to the Regional Transportation Planning Agencies (SLOCOG for SLO County), who nominate projects for what is referred to as the Regional Transportation Improvement Program (RTIP) and the remaining 25% is set aside for Caltrans to nominate projects subject to statewide competition. The STIP portion for San Luis Obispo County equates to approximately \$6 million per year, countywide. In 2006, SLOCOG and Caltrans were able to secure \$67 million of Proposition 1B funds for the SR 46E corridor. Proposition 1B was State Legislation that when approved by California voters in 2006 set aside \$19.9 billion for transportation infrastructure improvements. The regional significance of SR 46E allowed for an opportunity to compete favorably statewide for these funding dollars.

It has been increasingly difficult to rely on traditional funding sources to meet transportation needs. As exhibited by many local jurisdictions and regional agencies around the State, more funds are being generated and spent locally on and off the State Highway System. These funds have been used or are planned for various infrastructure and program improvements, such as:

- Capacity and operational improvements to local roads and highways
- Local street improvements, such as pothole repairs and synchronized traffic signals
- Increasing accessibility to public transit
- Building safer walking and bike routes to schools
- Providing increased opportunities for carpool and vanpool programs

Developing an improvement concept and funding plan that includes a commitment of funding from local jurisdictions and agreement between agency partners will allow an opportunity for the local entities to compete favorably in future state funding cycles. In addition to federal & state funding sources, there are a variety of local funding mechanisms that can be used to match state & federal funding sources for transportation improvements, such as development impact fees and local sales tax. Development impact fee programs, such as those set forth through Assembly Bill (AB) 1600 legislation, can be used to fund various transportation and public works projects. For example, within the City of Paso Robles, the City has funded or partially funded projects through local traffic impact fees, such as:

- Niblick Bridge
- Golden Hill Road Signal Improvements
- Buena Vista Road Signal Improvements
- 101/46W Interchange Improvements – Right-of-way acquisition

Regional impact fee programs are a funding mechanism to address congestion regionally and compensate for projected congestion. Generally, regional impact fee programs work on a larger scale and are more intended to address more cumulative impacts than local impact fee programs. For this reason, a distinction should be drawn between addressing near-term vs. long-term and cumulative impacts. These fees are generated based on identifying impacts and developing appropriate mitigation to address near-term and long-term impacts. Recently the Transportation Agency for Monterey County developed a Regional Impact Fee program that identified 17 proposed improvement projects within Monterey County and will raise \$350 million through a regional impact fee program by developing a cost per vehicle trip based on a particular sub-area/zone for cumulative impacts. This program will not address all the traffic concerns of the County, however it does provide critical funding for projects that are of critical need for projected development within the region. Near-term project specific impacts and mitigation measures are developed on a project-by-project basis. The funds raised by this program will contribute significantly on and off the state highway system and are controlled at the local level.

In contrast, the neighboring county south of San Luis Obispo County, Santa Barbara County, implemented a local sales tax in 1989 – Measure D. The measure was a ½ cent transportation sales tax for 20 years that generated over \$300 million for local and

regional projects and is expected to generate \$500 million before it sunsets in 2010. In the recent 2008 election, the voters of Santa Barbara County passed Measure A, which is an extension of the sun setting Measure D. Measure A is anticipated to generate an estimated 1.05 billion for Santa Barbara County transportation & transit related projects/programs. These local option sales tax measures require a 2/3 majority by local or county wide voters.

2.3 Demographics and Land Use

Demographics

The City of Paso Robles, comprising almost 20 square miles, is the fastest growing city in San Luis Obispo County. According to the Paso Robles 2004 General Plan Housing Element Revision, Paso Robles population in 2000 was 24,300 and projected to increase to 30,700 by year 2010; the 2010 projection is based on the assumption that growth will increase at a steady rate of 620 persons per year. This is a 26.3% change between 2000 and 2010; approximately triple the growth of San Luis Obispo County and double the growth of California, refer to *Table 2.2 2000 & 2010 Growth Projection Comparison* below. In comparison the Counties of Kern, Kings, and Fresno have experienced a 26.5% change between 2000 and 2010. Much of the interregional traffic is coming from areas in the Central Valley. As the population centers to the east of the corridor grow, it can be expected that the traffic will increase for interregional users.

Table 2.2 2000 & 2010 Growth Projection Comparison

Paso Robles Area of Influence Population Growth Projection 2000-2010			
Year	2000	2010	2000-2010 % Change
Paso Robles	24,300	30,700	26.3%
San Luis Obispo County	248,332	269,734	8.6%
California	34,105,437	39,135,676	14.7%

2000 U.S. Census data also displays that young adults (ages 25-44) compose 27.7% of the 24,300 populations in Paso Robles. This is the largest demographic age group followed closely by school age (ages 5-19) individuals that compose 27.0% of the population. College age (ages 20-24) make up the smallest percentage of the population at 6.1%. When comparing the Paso Robles age group trends to those of the greater San Luis Obispo County and California, it can be determined that Paso Robles most closely reflects the trends of California. In fact, Paso Robles and California share identical ranking of age groups from lowest to highest: College age (ages 20-24), preschool (ages <5), seniors (ages 65+), older adults (ages 45-64), school age (5-19), and young adults (25-44). Paso

Robles and San Luis Obispo County only share ranking order with the seniors (ages 65+) and young adults (ages 25-44).

Data from the 2000 U.S. Census shows Paso Robles, San Luis Obispo County and California share the “Non-Hispanic or Latino-White Alone” group as the majority of the overall population, with “Hispanic or Latino” placing second. These two groups compose approximately 92% of the total population in both Paso Robles and San Luis Obispo County, where in California together they only total 79% of the population. However, the proportionality of race/cultural groups in Paso Robles is more similar to San Luis Obispo County than California.

2000 U.S. Census data also indicates that Paso Robles, San Luis Obispo County, and California identically rank in categories of occupation, but show more proportional variations. They rank from highest to lowest is as follows:

- Management, Professional, and related Occupations
- Service Occupations; Sales and Office Occupations
- Farming, Fishing and Forestry
- Construction, Extraction, and Maintenance
- Production, Transportation, and Material Moving

For California, San Luis Obispo County, and Paso Robles, the occupation categories “Management, Professional, and related Occupations” and “Service Occupations, and Sales and Office Occupations” weigh highest. These two groups comprise 68% - 78% of the occupational total for each group, with Paso Robles having 68%. Paso Robles also maintains a higher percentage of the population in “Production, Transportation and Material Moving” and a lower portion in “Management, Professional and related Occupation” compared to San Luis Obispo County and California.

The 1999 median income according to the 2000 U.S. Census in Paso Robles was \$39,217. This is 92% of the median income of San Luis Obispo County and 83% of California’s median income.

Land Use & Zoning

Land use immediately adjacent to SR 46E consists of residential, commercial, agricultural, and public park/open space. Public facilities served within the corridor include the Paso Robles Airport, Cuesta College, an elementary school, and a 1000 bed State penitentiary. The corridor can be broken into four main segments; between the US 101/SR 46 East Interchange and Golden Hill Road, the primary zoning is single family residential with a smaller percentage of multi-family residential, public schools, and agricultural. Surrounding the Golden Hill Road Intersection, the primary zoning is commercial/light industrial. At Union Road there is a fairly even split between residential agriculture and commercial zonings. Finally, between Union Road and Jardine Road the zoning is general

agriculture and public park/open space (for additional details please refer to *Figure 2.4 Zoning Along or Near SR 46 East Corridor*).

Residential development has been proposed along or near the SR 46E corridor. The following Specific Plans are detailed in the City's General Plan (2003), Land Use Element. These residential developments located in the southeastern portion of the City, and south of SR 46E, could change the intensity of use with the SR 46E corridor; employment centers, and/or local destinations would be located on the north side of SR 46E serving the new residents on the south side of SR 46E (*Table 2.3* and *Figure 2.5* summarize the proposed and planned development within the corridor).

Specific Plans

- Chandler Ranch Area Specific Plan
- Olsen Ranch Specific Plan
- Beechwood Area Specific Plan
- River Oaks II Specific Plan

Based on foreseeable land use decisions, as identified in *Table 2.3*, a change in intensity of use along the SR 46E transportation network is anticipated. As local private development continues within the corridor, the need to provide local connectivity, through local road improvements and grade separations on the mainline, will become an even higher priority. Individual projects will have both project-specific and cumulative impacts. This Study will strengthen California Environmental Quality Act (CEQA) review for consideration of mitigation measures for cumulative impacts.

Zoning Along or Near the SR 46 East Corridor

January 2009

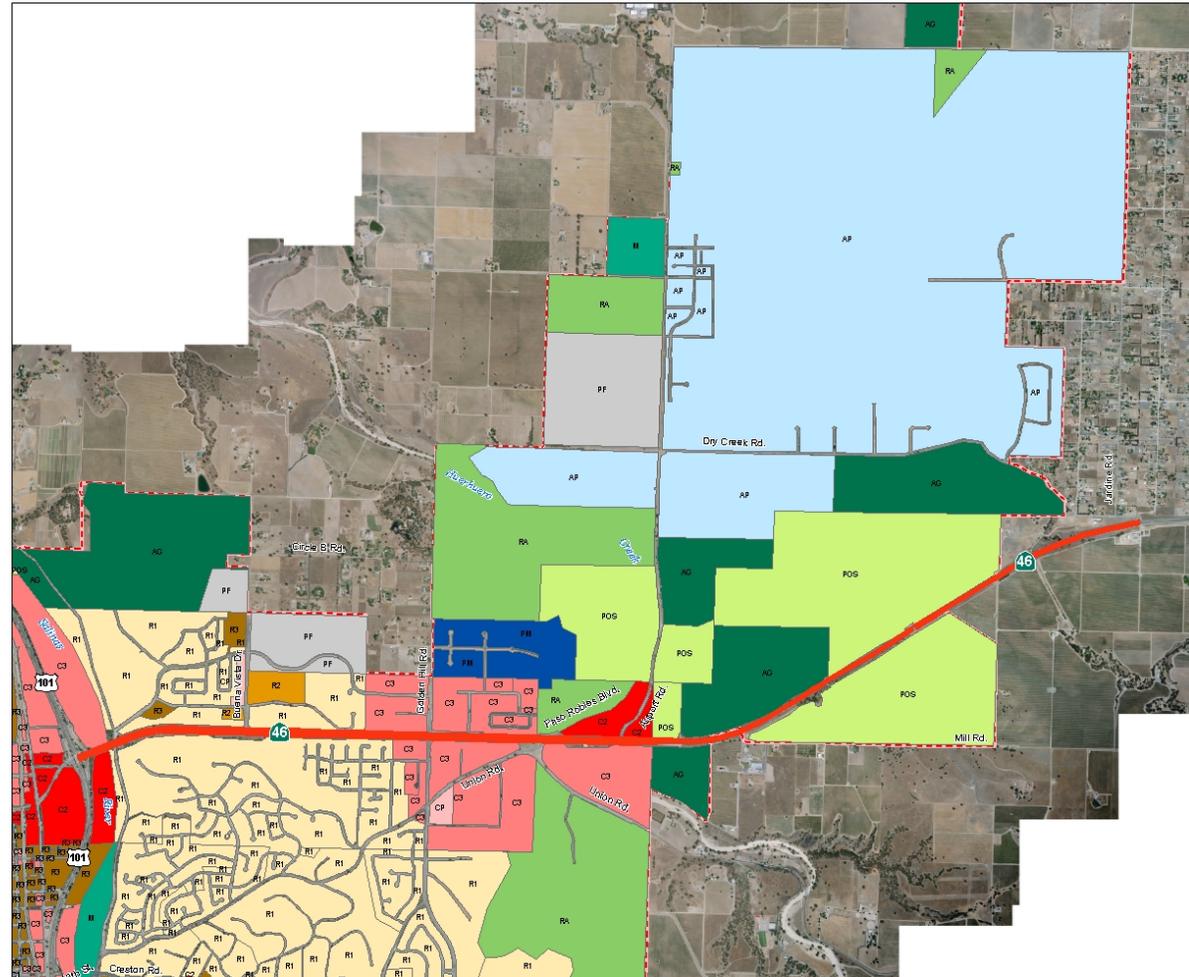


Figure 2.4 Zoning Along or Near the SR 46E Corridor

Table 2.3 Planned Development in the City of Paso Robles

MAP ID #	Development Name/ Property Owner	Proposed Use	Proposed Size	Development/ Planning Stage
1	Little ETAL	Residential	30 Units	Undefined
2	River Oaks	Residential	1900+ Units	Undefined
3	Cuesta College	Institutional	2,000 Students	Undefined
4	Estrella Associates	Mixed Use	19,500 ft ²	Under Construction
5	Estrella Associates	Retail/Commercial	21,000 ft ²	Have Received Zoning Approval
6	Beatrice & Dider Corp	Residential	131,400 ft ²	Have Received Zoning Approval
7	Arciero & Sons	Retail/Commercial	5,000 ft ²	Have Received Zoning Approval
8	Arciero & Sons	Resort/Hotel	15,700 ft ²	Have Received Zoning Approval
9	Windmill Ranch	Residential	8 Units	Undefined
10	Regency	Retail/Commercial	289,000 ft ²	Undefined
11	Nanometer	Light Industrial	56,100 ft ²	Have Received Zoning Approval
12	Weyrick	Retail/Commercial	72,000 ft ²	Undefined
13	Dan Schultze/Eagle Energy	Mixed Use	9,300 ft ²	Have Received Zoning Approval
14	TR 2598	Light Industrial	87,500 ft ²	Undefined
15	Erskine	Light Industrial	631,620 ft ²	Undefined
16	Justin Vineyard & Winery	Winery	33,000 ft ²	Have Received Zoning Approval
17	Mundee	RV Park	390 Spaces	Undefined
18	Airport Road Business Park	Manufacturing/Warehouse	4,800 ft ²	Applications for Zoning Approval not Complete
19	Airport Road Business Park	Business Park	Undefined	Have Received Zoning Approval
20	Boys School	Prison	1,000 Beds	Undefined
21	Gearhart	Light Industrial	115,500 ft ²	Undefined
22	Miller	Manufacturing/Warehouse	121,200 ft ²	Applications for Zoning Approval not Complete
23	Airport Lease Sites	Manufacturing/Warehouse	50,000 ft ²	Undefined
24	Nunno Corp	Light Industrial	52,500 ft ²	Complete
25	Mullin/Santa Cruz Biotechnology	Light Industrial	54,000 ft ²	Have Received Zoning Approval
26	Matt Masia/Black Ranch	Resort/Hotel	280 Units	Undefined
27	Handley Destino	Resort/Hotel	291 Units	Undefined
28	Vina Robles	Resort/Hotel	56,900 ft ²	Have Received Zoning Approval
29	Firestone	Winery	10,000 ft ²	Undefined
30	Butterfield/Ravine Waterpark LLC	Retail/Commercial	3,900+ ft ²	Undefined
31	Walker	Recreation	11,000 ft ²	Under Construction
32	Chandler	Residential	1400+ Units	Undefined
33	Roger Sharp	Mixed Use	11,100 ft ²	Under Construction

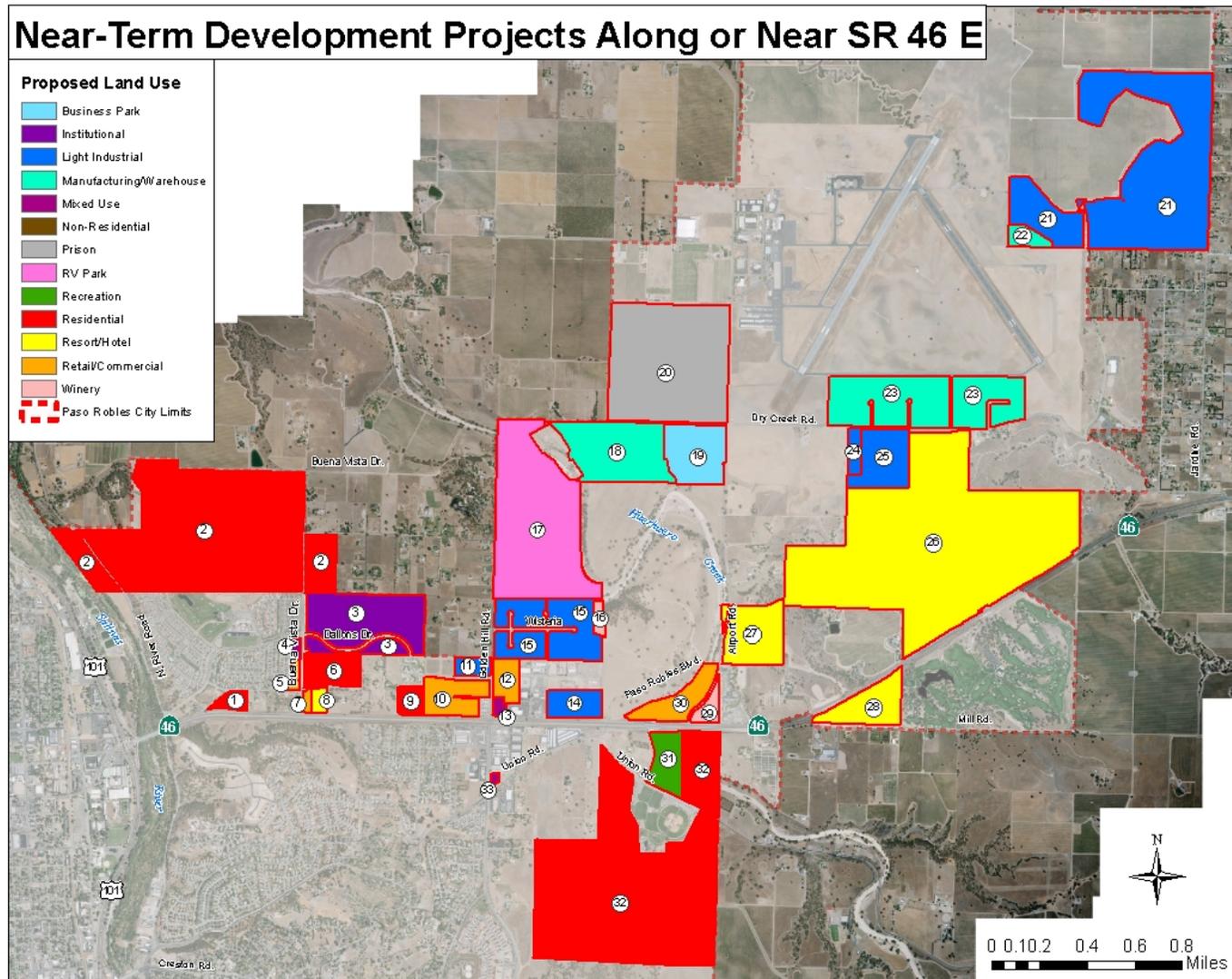


Figure 2.5 Near-term Development Projects Along or Near SR 46E

3.0 PERFORMANCE ASSESSMENT

Interregional traffic on SR 46E has increased in tandem with California's population growth, especially along the Central Coast and in the San Joaquin Valley. Regional traffic has grown, as well, with new or expanded regional facilities developed along the corridor: wineries and wine storage facilities, the North County campus of Cuesta College, and an expanded employment base in the Paso Robles Municipal Airport area.

The partner agencies agree that something must be done in the near-term that does not preclude the long-term vision.

The primary traffic concerns include mainline congestion and delay and impacts to the local road system that occur during peak periods. The four partner agencies and the public have acknowledged that something must be done in the near-term that does not preclude the long-term vision. Development of solutions will require an analysis of the performance of the existing facility, areas of deficiency, and future projects. The programmed projects identified in Section 2.1, such as those intended to widen SR 46E between Airport and the "Wye," are proposed to accommodate the interregional travel demands in this segment of SR 46E, east of Airport Road. However, addressing interregional demand in the 5-mile section within the City of Paso Robles requires coordination between all the agencies and incorporation of their values and goals in this Study.

Traffic Analysis Methodology

The Traffic Study consists of describing year 2005 "existing" traffic conditions and then evaluating 2030 "future year" conditions by reviewing completed traffic studies prepared by consultants for proposed development. The length of queue, delay, and diversion within the corridor study area were also analyzed by the Study Team.

In order to enhance the traffic analysis, the traffic study area limits were extended 20 miles east to the junction of State Route 41 and 46. For existing conditions, Caltrans and partner agency staff conducted comprehensive traffic counts in April, June, July, and August of 2005. The Fehr and Peers April 2007 Golden Hill Retail Center Transportation Impact Analysis was used to project future year conditions.

Various traffic studies were analyzed as a part of the CCS, forming the basis of this Existing and Future Travel Demand analysis. These traffic studies analyze existing and future traffic conditions on the five-mile segment of SR 46 East, between the junction with US 101 (PM 29.7) and the intersection with Jardine Road (PM 34.7). These studies include:

- Fehr and Peers Golden Hill Retail Center Transportation Impact Analysis, April 2007
- Caltrans Traffic Operations Review of Existing Traffic Studies, February 2007
- Omni Means Airport Road Traffic Study, June 2006
- City of Paso Robles Commercial/Industrial Status Report, June 2006

For purposes of this traffic study, the Friday June PM peak was used in the evaluation of the baseline condition (existing condition). The Friday peak hour was determined to be between 3:00 p.m. and 4:00 p.m. The Thursday peak hour was determined to be between 4:30 p.m. and 5:30 p.m.

Future Traffic Analysis Methodology

The Study Team agreed to use existing traffic studies to analyze the future conditions. The Fehr and Peers Golden Hill Retail Center Transportation Impact Analysis, April 2007 was used extensively. This study was not available when the Caltrans Traffic Operations branch completed their review of this corridor.

3.1 Existing & Future Travel Demand Characteristics

Primary traffic concerns include mainline congestion and delay, and impacts to the local road system. During the most heavily traveled times (Friday afternoon summertime peak hour, when interregional traffic is at its peak), the intersections at the 101/46E operate poorly and westbound traffic approaching US Route 101 forms a queue nearly two miles long. This congestion results in a pattern of diversion onto the Buena Vista Drive, Golden Hill Road and Union Road intersections. The current Annual Average Daily Traffic (AADT) on SR 46E between Airport Road and US 101 is approximately 25,000 cars, while traffic between Airport Road and Jardine road is 16,700 to 21,000 cars (see *Table 3.1* below). The Annual ADT is the total traffic volume for the year divided by 365 days. The ADT is useful for estimating the amount of congestion projected to occur.

Table 3.1 Existing & Future Average Daily Traffic on SR 46

SR 46E - AVERAGE DAILY TRAFFIC (ADT)			
	US 101 to Airport Rd.	Airport Rd. to Jardine Rd.	Jardine Rd. to State Route 41
Yr. 2006	25,000	21,000	12,000
Yr. 2030	51,000	38,000	21,000
% Increase 2006 to 2030	49%	55%	57%

Traffic Operations

Traffic conditions on a non-freeway facility such as SR 46E are typically analyzed by evaluating traffic flow on the mainline and control delay at intersections. In some settings, signalized intersections fail to clear during individual cycles causing queues that control the flow of mainline traffic between intersections.

The Caltrans Traffic Operations branch completed a review and analysis of various traffic data for SR 46E within the Corridor Study Limits. This review covers the segment of SR 46E between US Route 101 (05-SLO-46-PM 29.761) and Jardine Road (05-SLO-46-PM 34.641). Documents reviewed included the Omni-Means June 29, 2006 Airport Road Traffic Study, City of Paso Robles June 2006 Commercial/Industrial Status Report, and the City of Paso Robles City Council/Planning Commission Agenda's and Minutes (for a detailed summary of the traffic analysis, refer to *Appendix D*).

Existing Mainline Traffic Operations

Operations in the SR 46 segment between US 101 and Airport Road are controlled by the signal operation. The Golden Hill Retail Center Transportation Impact Analysis included unconstrained mainline analysis for SR46 and displayed operation at LOS C (see *Table D12*). Additionally, it showed that intersections are causing the mainline to function poorly in the PM peak hour.

The segment from Airport Road to the SR 46E/41N junction is a two-lane undivided highway with side street intersections under stop control. This segment is currently operating at peak hour LOS C to LOS E conditions, as shown in *Table D.2*, with all sections of this segment currently operating at or below LOS C/D during the PM peak, Caltrans standard for acceptable operations.

Existing Intersection Traffic Operations

From west to east, the major intersections from US Route 101 to the SR 41 junction include:

- Buena Vista Drive
- Golden Hills Road
- Union Road
- Airport Road
- Jardine Road
- Geneseo Road
- McMillan Road
- SR 46E/41S Junction

As *Table 3.2* displays, the majority of intersections in the study area (intersections with US 101, Golden Hill Road, Union Road, Airport Road and Jardine Road) operate below LOS C in the PM peak periods. The intersection of SR 46E and US 101 is especially problematic at the southbound on-ramp, which operates at LOS F during the Friday PM peak period. As mentioned before, the demand for the left-turn movement from SR 46E

exceeds capacity, resulting in upstream queuing (“backs up”) ultimately affecting operations of the intersections all the way to the intersection with Golden Hill Road and setting up a pattern of diversion back to Airport Road intersection. As can be seen in *Figure 3.1* and *3.2* there are a number of intersections that operate in the PM peak hour below LOS C as the existing condition. For the future Friday PM peak hour, refer to *Figure 3.3*. For the segment between Airport and Jardine Intersections the mainline operates at a Level of Service (LOS) F for the pm peak. The LOS F was based on projected proposed development in the Airport and Jardine areas, future developments and transportation improvements would need to address the mainline LOS.

A currently programmed project, Operational Improvements Route 101/46E, (EA 36150) proposes dual westbound left turn lanes at the intersection of SR 46E and Route 101 southbound on-ramp.



Figure 3.1 Existing Friday PM peak hour LOS

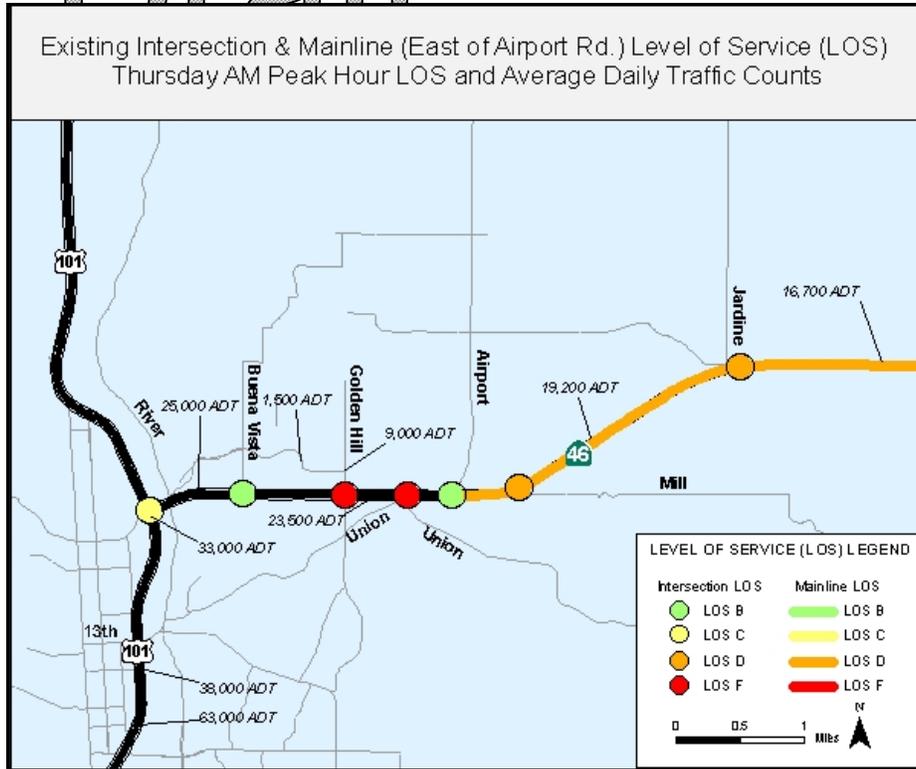


Figure 3.2 Existing Thursday AM Peak Hour LOS

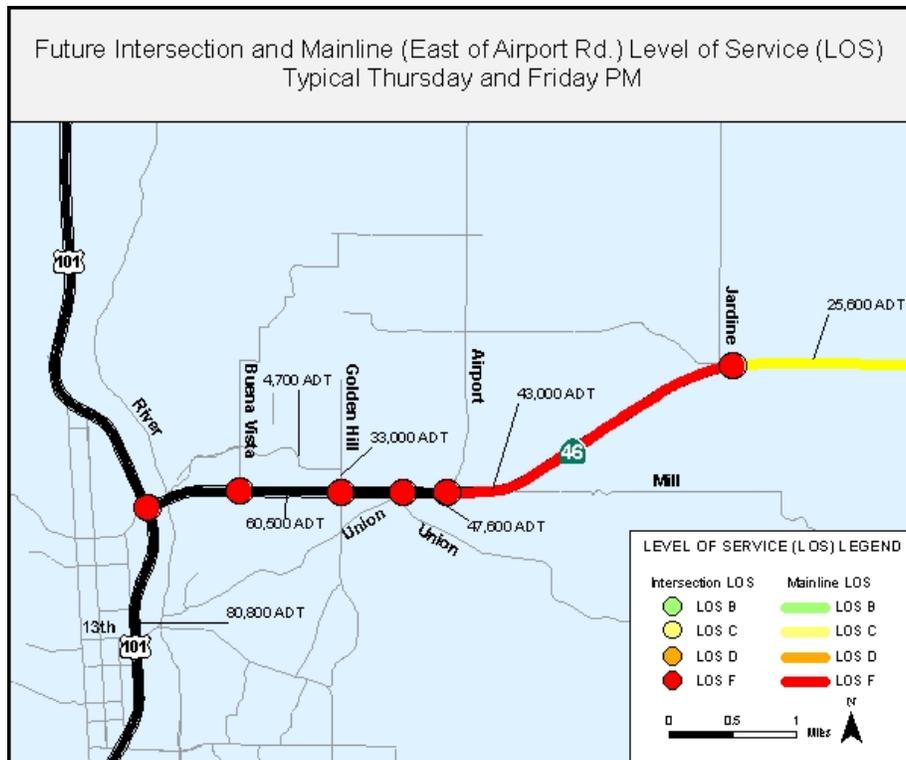


Figure 3.3 Future Thursday & Friday PM peak LOS

Existing Diversion Patterns

A diversion pattern occurs when a vehicle that would otherwise use a primary facility chooses to use a lesser route due to problems on the primary route. Field observations of traffic flow within the corridor displayed traffic diverting to other routes to avoid the queuing at the US Route 101/SR 46E interchange. Observations show Golden Hill Road, the US Route 101/SR 46E interchange, and to a lesser degree Union Road, as diversion points (refer to *Figure D.4* in *Appendix D*).

Table 3.2 Existing & Near-term (2010) Cumulative Roadway- Level of Service

EXISTING AND CUMULATIVE (2010) INTERSECTIONS LEVELS OF SERVICE *						
Roadway Intersection	Peak Hour	Intersection control	Exist Delay	Exist LOS	2010 Delay	2010 LOS
1. SR 46E/US 101 SB Ramps	AM	Signal	23.4	C	32.6	C
	PM		30.5	C	97.7	F
	Friday PM		119.8	F	>150	F
2. SR 46E/US 101 NB Ramps	AM	Signal	31.1	C	>150	F
	PM		31.3	C	>150	F
	Friday PM		72.7	E	>150	F
3. SR 46E/Buena Vista Drive	AM	Signal	18.1	B	20.5	C
	PM		14.6	B	80.4	F
	Friday PM		15.8	B	130.5	F
4. SR 46 E/Golden Hill Road	AM	Signal	>150	F	>150	F
	PM		90.3	F	>150	F
	Friday PM		>150	F	>150	F
5. SR 46E/Union Road	AM	Side-Street Stop	71.9	F	>150	F
	PM		>150	F	>150	F
	Friday PM		>150	F	>150	F
6. SR 46E/Airport Road	AM	Side-Street Stop	14.3	B	>150	F
	PM		74.8	F	>150	F
	Friday PM		>150	F	>150	F

Notes:
 * Average daily traffic. Note volume reported is the maximum volume on the given roadway segment within the project study area.
 ** LOS = Level of Service

(It should be noted that the LOS data at Union Road and Golden Hill Road was collected prior to new development adjacent to Golden Hill Road was in operation. Vehicle trips generated by the new service stations were captured in the study produced in by Fehr & Peers and not available at the time of the Caltrans study.)

3.2 Existing Collision Data

Collisions

Collision data was retrieved for a 3-year period between Jan 1, 2005 and Dec 30, 2007. A summary of this data is presented in *Tables 3.3* and *3.4*. At the locations summarized, these areas have a higher than statewide average for collisions.

Collision concentrations have been identified in several locations within the study limits. Most of these collisions are due to traffic congestion, speeding and improper lane changes or turning movements. However, several locations have been identified with higher than statewide average collision concentrations: the US 101 southbound on-ramps and off-ramps; Buena Vista Road; Golden Hill Road; Union Road; Airport Road; Jardine Road; and McMillan Canyon Road. The collision concentrations identified in *Tables 3.3* and *3.4* currently exceed the Statewide average for similar facilities. Southbound US 101 on-ramps and off-ramps, major connectors with heavy congestion, contribute to the overall collision count at this location.

As evidence of the types of collisions (rear-end and sideswipe collisions) for this section of SR 46E, congestion and poor operations at the intersections are the primary cause. The proposed improvements to add dual left turn channelization could reduce collisions related to congestion and operations. These accidents are often related to driver frustration and reckless driving.

Table 3.3 Collision Data on the Mainline

MAINLINE COLLISIONS								
Segment		Number of Collisions	Actual Collision Rate			Statewide Average		
From	To		Fatalities	Fatalities + Injuries	Total	Fatalities	Fatalities + Injuries	Total
US Route 101	Buena Vista	60	.047	0.94	2.81	0.018	0.62	1.35
Buena Vista	Golden Hill	34	0.00	0.27	1.55	0.018	0.62	1.35
Golden Hill	Union	20	0.00	0.38	1.51	0.018	0.62	1.35
Union	Airport	6	0.00	0.33	0.65	0.017	0.59	1.29
Airport	Jardine	13	0.00	0.02	0.25	0.023	0.29	0.62
Jardine	McMillan Canyon	64	0.021	0.10	0.34	0.023	0.28	0.60
McMillan Canyon	SR 41 Jct.	12	0.022	0.09	0.26	0.023	0.28	0.60

Summary of Collision Data from Jan 2005- Dec 2007							
Intersection	Number of Collisions	Actual Collision Rate			Statewide Average		
		Fatalities	Fatalities + Injuries	Total	Fatalities	Fatalities + Injuries	Total
Route 101 SB On Ramp	1	0.00	0.00	0.08	0.002	0.32	0.80
Route 101 NB Off Ramp	5	0.00	0.23	0.39	0.005	0.61	1.50
Route 101 NB On Ramp	1	0.00	0.00	0.22	0.003	0.22	0.60
Route 101 SB off Ramp	10	0.00	0.56	1.88	0.005	0.61	1.50
Route 46/Rte 101 NB ramps	32	0.00	0.28	1.00	0.002	0.19	0.43
Buena Vista	15	0.00	0.04	0.53	0.001	0.06	0.14
Golden Hill	34	0.00	0.29	1.23	0.002	0.19	0.43
Union	13	0.00	0.11	0.47	0.002	0.10	0.22
Airport	9	0.00	0.20	0.36	0.001	0.06	0.14
Jardine	11	0.00	0.18	0.49	0.004	0.10	0.22
McMillan Canyon	8	0.00	0.33	0.52	0.008	0.16	0.33
JCT Rte 46W	2	0.00	0.00	0.13	0.004	0.10	0.22

Table 3.4 Summary of Intersection Collision Data

3.3 Deficiency Assessment

The City of Paso Robles is currently in the process of conducting a Parallel Route Study, which looks at possible local road connections that could relieve congestion and improve connectivity of the local street network, as well as SR 46E through Paso Robles. Study findings will be used in guiding the update of the City’s Circulation Element, which is expected to be complete in 2009.

Existing traffic studies do not address local circulation improvements, which could affect the level of service at some intersections.

Existing traffic studies indicate the need for future expansion of the SR 46E facility. Caltrans evaluated this corridor and concluded that a six-lane expressway on State SR 46E (Between Hwy 101 and Jardine Road) cannot sustain adequate performance within a twenty-year time frame following construction. Consequently, a six-lane expressway concept is not considered a feasible alternative (levels of service analysis results are

provided in *Tables D.10 and D.11 of Appendix D*). The Caltrans Traffic Operation Department and the City's lead traffic studies conclude the need for a future expanded SR 46E facility. This will include grade-separated access points and a plan to address the failing at-grade signalized intersections.

The demand for this corridor will only continue to increase over time and performance will deteriorate. The recreational opportunities, goods movement needs, local needs and numerous other opportunities in North County will continue to draw travelers to the Central Coast. SR 46E as a main route for travelers from all over California will require that improvement be made to this corridor. Central California is a region rich in agriculture land uses; SR 46 provides a critical path for the nationwide distribution of agricultural goods. The deficiencies are known, and the implementation of corridor preservation would ensure that SR 46 is sustained as a route of significance to this region.

Based on the data presented in this section, there are both existing and projected deficiencies within the corridor. Located west to east on the SR 46E corridor, these deficiencies are the identified:

US 101/SR46 East Interchange

This interchange displays inadequate storage capacity for SR 46E westbound travelers making a connection to southbound 101. The existing left-turn lane pocket does not accommodate all the vehicles at this signal. Multiple signal cycles are required to move vehicles through the intersection, primarily due to the limited green-time of each signal cycle and the number of vehicles making this movement. This essentially causes a bottleneck at the interchange, resulting in a chain reaction of delay, and causes a queue that during summertime Friday afternoon peak periods can extend on the westbound lanes through the Buena Vista and Golden Hill Road intersections. This queue ultimately creates deficiency at the Buena Vista and Golden Hill Road intersections.

Buena Vista Drive (Half Signal Intersection)

Inadequate merging and weaving distance between Buena Vista Drive and Golden Hill Road create the existing deficiency at Buena Vista Drive. For travelers making a left-turn movement onto eastbound SR 46, they must first merge into the number one lane (i.e. fast lane) using the existing acceleration lane. For those that wish to make a right-hand turn onto Golden Hill Road, they must quickly switch lanes and enter the number two lane (i.e., slow lane). This deficiency is complicated further during times of heavy congestion and provides less opportunity to switch lanes. In addition, the queue that is created from the SR101/SR 46 Interchange extends through the Buena Vista Drive intersection which contributes to driver frustration and collision rates for both vehicles leaving Buena Vista Drive to connect to SR 46 as well as travelers using SR 46E to make connections at the interchange.

Golden Hill Road (Full Signal Intersection)

The existing signal at Golden Hill Road is causing queues to back up on all four legs of the signal. The existing left-turn lanes on all four legs cannot accommodate the number of vehicles making these movements. Multiple signal cycles are required to clear the

intersection; the green time is not adequate. This delay at the intersection has created a queue that extends on the local road system south on Golden Hill Road and through the Union Road/Golden Hill Road intersection. There is also a queue on SR 46E for westbound and eastbound users making left-turns onto Golden Hill Road. Development adjacent to the intersection (the Golden Hill Retail Center) has secured funding to improve the intersection by providing dual-left turn lanes on all four legs and update the signal phasing. According to the Golden Hill Retail Center's traffic analysis, by the near-term (2010) the LOS for this intersections during the weekday and Friday PM peak will be F with the proposed improvements.

Union Road, Airport Road, Mill Road, & Jardine Road (Unsignalized Intersections)

The existing unsignalized intersections have operational and delay issues with gap acceptance. A gap is when a vehicle must find an opening in the traffic to make a traffic movement, such as the vehicle that is entering or exiting SR 46. Gap acceptance creates driver frustration that would result in situations that a driver would take a risk. Collision concentrations indicate drivers' willingness to take risks when delayed. A delay is created for vehicles entering or existing SR 46, which results in queues developing on the local roads and in the SR 46 left-turn lane. These movements are commonly referred to as "unprotected" movements, which means that the SR 46 through lanes continue through the intersection without stopping. Three movements affected in this instance at each intersection include:

- The traveler wishing to make left-turn onto the local road must wait until there is a gap in the traffic to make the turn
- The traveler in the left-turn lane on the local road that wishes to connect to SR 46
- The traveler in the right-turn lane on the local road that wishes to connect to SR 46

Additionally, for the right-turn movement of travelers entering SR 46, there is less than adequate merging distance for vehicles that need to merge onto SR 46; this situation creates driver confusion. Finally, topography and geometrics at these intersections has impacted sight distance, contributing to deficiencies in turning movements at this location. Currently at Airport Road, a Project Study Report has been initiated to address deficiencies within the corridor.

Travel Demand Management (TDM) Programs

There are numerous TDM programs within San Luis Obispo County. The Rideshare programs and others have developed over the years with a main focus of getting commuters into the City of San Luis Obispo. Currently, lack of mobility choices exist in this corridor. It will be necessary to both propose new TDM programs and enhance existing programs, such as, transit facilities, ride-sharing program and park and ride lots to reduce the demand on the facility and provide choices for commuters.

4.0 PUBLIC OUTREACH

Good planning exists through an open exchange of information. Through stakeholder engagement, information on state and local plans, programs and projects can be distributed to the public. As users of the transportation system, residents, adjacent business owners, and all users are familiar with their transportation needs. This consideration is important for developing a successful planning study that will meet the needs of the County's diverse communities. The partners are seeking to develop a long-term vision that considers the built environment, natural environment, purpose of the facility, and needs and values of local stakeholders. There is a broad understanding that residents have interest in maintaining quality of life in their community. Actively involving the public in the planning process and development, highlights issues, strategies, and solutions that otherwise might not be considered. The following sections will detail how the Stakeholder Engagement Plan was implemented as well as the results of that outreach effort.

4.1 Public Engagement Findings

Through their participation in the Steering Committee, Study Team, and Technical Advisory Committees (as described above in *Section 1.2*), the partner agencies developed strategies for identifying areas of study, engaging other interested parties (i.e., "stakeholders") in the planning process, and arriving at solutions that were community driven. The partners began this collaborative process by delineating the issues and constraints affecting the corridor (see the "Issues, Goals, and Problem Statement," in *Appendix C*).

Once the stakeholders and constraints were identified, it was necessary to understand the various stakeholder uses of the corridor. "Mobility interests" was a concept used to identify the various stakeholder uses. The following are the mobility interests that were developed:

- Connections across SR 46E
- Connections to and from SR 46E
- Travel on SR 46E
- Travel on the local road network

For each of these mobility interests, the Study Team identified possible concepts for improvements. The complexity of the overall task of identifying improvements for a long-range vision of the corridor led the Study Team to divide the task into manageable subcategories: mainline improvements; intersection improvements; ITS improvements; and TDM improvements. This process allowed the Study Team and the public to look at the corridor from both a corridor-wide and a location-specific perspective. Priority locations were established for planned improvements that would address specific mobility interest.

For the purposes of the Comprehensive Corridor Study, the intersections along 46E discussed in this Study were those at Buena Vista Road, Golden Hill Road, Union Road, Airport Road, Mill Road, and Jardine Road. To develop improvements for connections to, from, and across SR 46E, it was first necessary to identify the constraints within the corridor and develop priorities (*Table 4.1* identifies the mobility interests and the improvement options that were considered).

Table 4.1 Summary of Improvement Options/Mobility Interests

Improvement Option	Travel on SR 46E (Mainline)	Connections across SR 46E	Connections to/from SR 46E	Local Road Network
Undercrossing	N/A*	Applicable**	N/A	Applicable
Overcrossing	N/A	Applicable	N/A	Applicable
Interchange	Applicable	Applicable	Applicable	Applicable
Signalized Intersection	Applicable	Applicable	Applicable	Applicable
Roundabout	Applicable	Applicable	Applicable	Applicable
Merge Lanes	Applicable	N/A	N/A	Applicable
4 through lanes	Applicable	N/A	N/A	Applicable
6 through lanes	Applicable	N/A	N/A	Applicable
Local Road Connections	N/A	N/A	N/A	Applicable

*N/A = does not satisfy the mobility interest.

**Applicable = satisfies the mobility interest, is subject to final traffic analysis

4.2 Public Workshops

Public input in the Comprehensive Corridor Study process helped identify key issues affecting land use, economic development, historic preservation, and tourism in the SR 46E corridor. The fundamental component of this public outreach process was to identify the values of the community and meet throughout the planning process.

Two public workshops were held in the City of Paso Robles to engage the public in the development of the Comprehensive Corridor Study:

- March 5, 2008 at the City of Paso Robles Library Conference Center
- May 29, 2008 at the Park Ballroom, Paso Robles

A third public workshop is scheduled for March 11, 2009.

The goal of the March 5, 2008 workshop was to introduce the public to the Comprehensive Corridor Study process, and the desired Study objectives to solicit



community-based ideas about the SR 46E corridor. The public was asked to participate in both a large-group and a small-group format to discuss how they used SR 46E and the local transportation network. The March 5 meeting identified the following community-based interests: improving safety; protecting businesses; providing local road connectivity; improving the level of service/traffic flow; incorporating aesthetics/a gateway; and maintaining the character of Paso Robles (for a detailed look at each of the

public meetings, see *Appendix B*).

The goal of the May 29, 2008 workshop was to take the results of the March 5 workshop one step further towards innovative solutions in the corridor. The format of this workshop was an open house that summarized the outcomes of the previous workshop with an interactive scenario component that asked the public to participate in “designing” a 20-year plan for the corridor. During this breakout session, small groups gathered around

The May 29 workshop identified the following community priorities:

- *Local road connectivity*
- *Protection of existing businesses*
- *Maintaining rural character of the community*

large aerial maps and were asked to choose from various possible improvement options for the corridor, keeping their mobility interests in mind. The participants were also requested to design with the various corridor constraints in mind: such as (but not limited to) design standard constraints, funding constraints, and business impacts. The outcome of the May 29 meeting was a strong interest in seeing additional local road connectivity, maintaining existing businesses/protecting right-of-way, and preserving character of the surrounding community. Following the public workshop these improvement concepts were used to identify a community acceptability criterion for further analysis.

The local road network was studied for its potential to provide an alternate route and/or improve local road circulation to and from the City of Paso Robles without requiring local residents to use SR 46E. Increased use of an improved local road network would not only lessen demand on the highway corridor but also provide relief to the existing highway intersections within the study area. The local road connections identified in the May 29, 2008 workshop are summarized in *Table 4.2* and shown in *Figure 4.1*, the road



connections are those identified by participants in the May workshop and do not reflect the local road connections currently under review in the Parallel Route Study being completed by the City of Paso Robles.

Table 4.2 Local Road Connections Identified in Public Workshop

DESIRED LOCAL ROAD CONNECTIONS
• Golden Hill Road to Dry Creek Road via bridge connection
• Buena Vista Drive to Golden Hill Road extension
• Paso Robles Boulevard to Airport Road via bridge connection
• Wisteria Lane to Airport Road via bridge connection
• Union Road extension to Dry Creek Road via bridge connection
• Buena Vista Drive to North River Road
• Mill Road to Union Road
• Dallons Drive to Wisteria Lane
• Dry Creek Road to Mill Road
• Union Road extension to realigned Airport Road

Potential improvements to the mainline (SR 46E) were discussed and analyzed separately from the intersections, focusing on operational and capacity improvement options such as merge lanes, additional through lanes, and acceleration/deceleration lanes. The improvement options that were initially considered are listed in *Table 4.1*.

The March 11, 2009 final public workshop will have an Open House format and will present the results of the previous two workshops and other planning efforts, as summarized in the Draft Comprehensive Corridor Study. This document is intended to be a 20-year planning document outlining a long-term collaborative effort between the partner agencies with input from the public. The Study Team’s ultimate goal is to create a strong sense of ownership for the plan within the entire community. Participants at the workshop will be able to see how their input has been incorporated into the planning process, and they will also be asked to provide comment on this draft report. Finally, the workshop will outline the “Next Steps” of this collaborative process.

The 20-year Comprehensive Corridor Study documents extensive public outreach and collaboration between the partner agencies. The Study Team’s ultimate goal is to produce a plan with wide community acceptance and ownership.

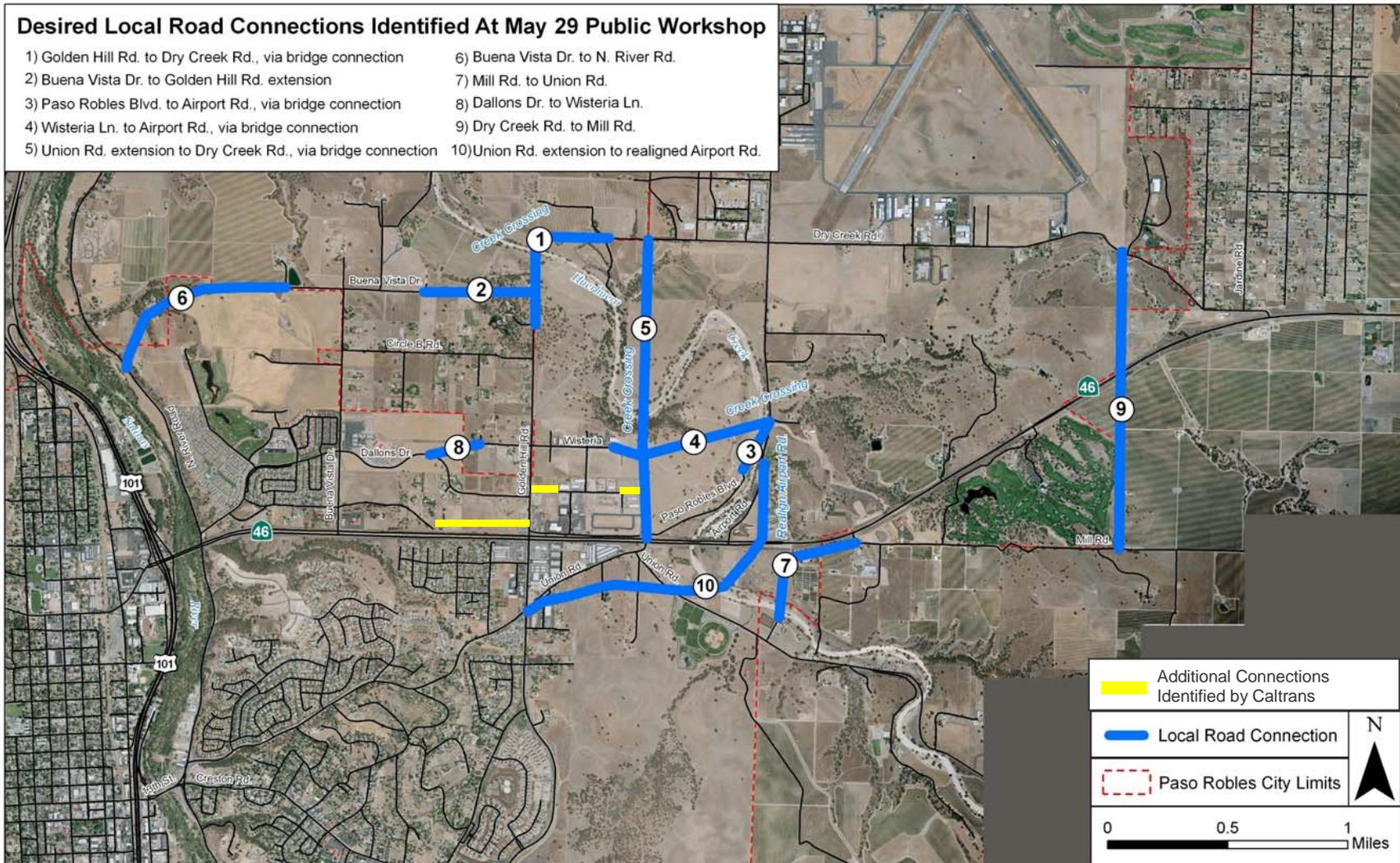


Figure 4.1 Local Road Connections Identified in Public Workshop

5.0 CORRIDOR MANAGEMENT STRATEGY

The following discussion presents the most current collaborative planning effort results of the Comprehensive Corridor Study Partners, Steering Committee, Study Team, Technical Advisory Committees, and Stakeholders, including the Public.

5.1 Corridor Deficiencies

Multiple stakeholder values were identified, prioritized and incorporated into the decision making process for this Study. Existing operational deficiencies within the corridor were similarly identified in *Section 3.0*. Specific locations were then prioritized for improvement strategies and a plan was developed to achieve the long-range planning goals for SR 46E. This methodology can be broken down into four main steps.

- Step 1: Identify Deficiencies
- Step 2: Develop Evaluation Criteria
- Step 3: Identify Priority Locations for Improvement
- Step 4: Develop an Implementation Plan (refer to *Section 6.0*)

Step 1: Identify Deficiencies

Three major transportation systems comprise the total transportation network within the corridor: the local road network; the state highway network; and travel demand management programs. Each of these systems represents an opportunity to improve the corridor through comprehensive identification of their respective deficiencies (*Section 3.0, Performance Assessments*, outlines the deficiencies identified within the corridor).

Step 2: Develop Evaluation Criteria

Evaluation criteria were developed to objectively establish priorities for selecting the improvement locations. These criteria focused on ways to reduce points of conflict, relieve congestion, and improve local circulation. They also looked at ways to protect adjacent local businesses, provide short-term improvement options that would not preclude future plans, and offer cost effective solutions and long-term utility. For example, improvements to the local road network and Union Road will provide solutions in the short term that also support the long-term sustainability of the corridor.

Evaluation Criteria

- *Reducing Points of Conflict/ Maintenance Worker Exposure*
- *Congestion Relief (SR 46E)*
- *Protecting Adjacent Businesses*
- *Local Circulation and Connectivity*
- *Phaseability*
- *Cost*
- *Stakeholder Acceptance*
- *Long-term Performance*

Step 3: Identify Priority Locations for Improvement

Specific locations within the corridor have a high priority based on their ability to improve mobility in the corridor. As discussed in *Section 5.2*, the highest priorities for future improvement included the local road network and intersection improvements at Union Road.

Step 4: Develop an Implementation Plan

As the next step in developing a reasonable range of improvement alternatives for study, including detailed traffic analyses and environmental review, the Comprehensive Corridor Study partners would need to initiate the formal project development process. A funding plan to implement the design and construction of the project would also need to be in place. The funding and study of specific projects are essential components of the implementation of any SR 46E corridor improvement plan (for a detailed discussion on the implementation plan see *Section 6.0*).

5.2 Recommendations

5.2.1 Local Road Extensions & Connections

Improving local road circulation throughout the study area not only enhances local connectivity, but it also relieves pressure off the SR 46E mainline, which can reduce

Improved local circulation, which avoids travel on SR 46E, will create a more sustainable interregional transportation network throughout this corridor.

congestion along this stretch of the highway. The ability for local residents to travel to local destinations without having to traverse the State Highway will ultimately create a more sustainable transportation network throughout this corridor.

City of Paso Robles Road Connections

The following desired local road connections are located completely within the City of Paso Robles jurisdictional limits:

- Golden Hill Road extension to Dry Creek Road, via a Huerhuero Creek bridge
- Wisteria Lane extension to Airport Road
- Union Road to Airport Road, via a Huerhuero Creek bridge

Comprehensive Corridor Study Recommendation: *Local road improvements are a high priority within the corridor.* Update the City of Paso Robles' General Plan Traffic Circulation Element to reflect the above road connections as outlined in the City's Parallel Route Study. In addition, initiate study in the City and County to examine all possible alternative routes, as identified in *Figure 4.1*.

Road Connections outside the City of Paso Robles

During the public workshops the public identified numerous local road connections as possible opportunities to improve local road circulation. Currently the local road connections identified in the City of Paso Robles Parallel Route Study are those referenced above. For those additional connections within and outside the limits of City should be explored, however, for purposes of this Study the connections that have been considered are those discussed in the Parallel Route Study.

5.2.2 State System Priorities

With regard to connections and crossings, state priorities are to maintain east/west movement along SR 46E and to facilitate north/south movement on US 101, in addition to accommodating traffic that crosses and connects to SR 46E. The following section will describe the priorities for each of the intersections along SR 46E, arranged by the major intersections within the corridor, which include:

- State Route 46 Mainline
- US 101/ SR 46E Interchange
- Buena Vista Drive
- Golden Hill Road
- Union Road
- Airport Road
- Mill Road
- Jardine Road

US 101/SR 46E Interchange

The interchange configuration at SR101/SR46E currently does not have enough queuing capacity for vehicles traveling westbound on SR 46 and vehicles making left-turn connections to southbound US 101. An already programmed project will construct dual left-turn lanes on SR 46E for the southbound US 101 ramps and will provide additional capacity at this location.

Comprehensive Corridor Study Recommendation:

Since a separate project is currently in place to address the deficiencies at this location, it is a ***low priority*** under the Study. The successful functioning of the US 101/SR 46E interchange, however, is critical for SR 46. Future funding to extend the dual left-turn lanes farther east along SR 46 and to construct other ramp improvements should also be considered.

It should be noted that as the Level of Service for US 101 begins to fail as we approach 2010, and as projects to widen US 101 start to emerge, additional analysis to examine direct connector options would be required. Additionally, the mainline of SR 46 has been identified as needing a six-lane freeway past the 2030 planning horizon of this Study. Opportunities for SR 46 mainline capacity improvements are limited, however, due to the

proximity of US 101, and it will remain so until a plan is in place that would provide capacity improvement to US 101.

In general, the types of SR 46E mainline improvements that would be considered would include additional through lanes, auxiliary lanes, intersection improvements, etc. Due to the existing limitations associated with adjacent land use, the challenge has been to propose transportation improvements that integrate with land uses, while also focusing on specific locations in the corridor. Project recommendations will not preclude future widening of SR 46 or limit the connection to the US 101/SR 46E Interchange.

Buena Vista Drive

Buena Vista Drive is approximately 0.75 mile from the SR101/SR 46E Interchange. Due to the proximity of this intersection to the interchange, any improvements to the interchange will impact the access at Buena Vista Drive. Should operations and safety deteriorate due to increased congestion at the intersection, Buena Vista Drive would require that access be limited.

Comprehensive Corridor Study Recommendation: Buena Vista Drive is a ***low priority***. Leave Buena Vista Drive as a signalized intersection until such time as major improvements are made to the US 101/SR 46E Interchange.

Golden Hill Road

Development adjacent to the intersection (the Golden Hill Retail Center) has secured funding to improve the intersection by providing dual left-turn lanes on all four legs and updating the signal phasing.

Comprehensive Corridor Study Recommendation: Golden Hill Road remains a ***low-priority*** for location improvement since some intersection improvements are already funded for construction. It should be noted that as improvements are made to Union Road, there are situations where access may require modification at Golden Hill Road.

Union Road

There were three main reasons that Union Road was chosen as a high priority for the overall development within the corridor:

- 1) Gap acceptance deficiencies and higher than average collision rates
- 2) Union Road has no existing business/residential development adjacent to the highway
- 3) Union Road is centrally located to services within the corridor (such as residential neighborhoods, the airport business complex, and businesses west of Union Road).

Introducing an improvement at Union Road would require evaluation of that improvement and how it integrates into the corridor's transportation network. The Union

Road area would need to be evaluated further in the Project Development Process to identify both short-term and long-term improvements. Improvements made at Union Road, coupled with an improved local road network, could divert traffic to Union Road and away from adjacent intersections, which could extend the lifetime of adjacent intersections.

Comprehensive Corridor Study Recommendation: Union Road is a *high priority* location for improvement. Planning development of infrastructure within the Study limits required focus on areas with deficiencies and potential solutions that would benefit the other intersections within the corridor. Right-of-way should be dedicated for a grade-separated structure at the Union Road area.

Airport Road, Mill Road and Jardine Road

Similar to the deficiencies identified at Union Road, the existing unsignalized intersections at Airport Road, Jardine Road, and Mill Road have operational and delay issues with gap acceptance. Three turning movements are affected at the intersections:

- Vehicles turning left from SR 46E onto the local road
- Vehicles in the left-turn lane on the local road connecting to SR 46E
- Vehicles in the right-turn lane on the local road connecting to SR 46E

Additionally, at Airport Road, vehicles making right-turn and left-turn movements to enter SR 46E have less than adequate merging distance, creating driver confusion. Finally, topography and geometrics at these intersections have resulted in limited site distance, contributing to the deficiencies of the turning movements at these locations.

Comprehensive Corridor Study Recommendation: Airport Road, Mill Road and Jardine Road are a *low priority* for long-term improvement. Should zoning land uses or intensities change at or near these intersections, future long-range planning documentation would need to consider this. During the community outreach process and throughout the Study process, a goal was to limit the impacts to adjacent business and to maintain the values identified by the local community.

Range of Improvements to Consider in the Project Development Process

A variety of traffic improvements can be implemented in the corridor to address the deficiencies identified above at each of the intersections. The following is a summary of some (though not all) possible solutions available for consideration when initiating the Project Development Process:

- Local Road Extensions & Connections: An effective local road system that serves as an alternative transportation network to the SR 46E highway system would reduce overall demand on the highway and local road system. Congestion-related collisions would potentially be reduced as the demand on SR 46E decreases in the corridor.

- Dual left-turn lane pockets: This type of improvement would provide additional capacity for vehicles making left-turning movements at signalized intersections. This would allow drivers to wait in dedicated turn-lanes rather than stopping in a through lane prior to turning left. Providing dual turn lanes provides a second movement, and moves vehicles more efficiently through the signal cycle’s “green-time.” This option also has the potential to reduce congestion-related, rear-end collisions.
- Dedicated right-turn only lanes: This type of improvement allows turning movements to occur outside the through lanes.
- Grade-separated structures:
 - Under/overcrossings: These types of improvements would reduce the number of points of conflict by separating local road traffic from SR 46E traffic. These options do not provide direct access to the highway system.
 - Interchanges: would provide a separation of local road traffic from highway traffic, while providing access to the highway system. Providing on-ramps/off-ramps will reduce driver confusion caused by merging vehicles, by improving egress and ingress.
- Modify Access at Intersections: Modifying access at intersections (such as right-in/right-out only) would potentially result in fewer collisions due to driver confusion, by reducing the number of points of conflict. However, maintaining access to existing businesses could be affected and will need to be addressed with any intersection modification proposal.
- Acceleration/Deceleration lanes: This type of improvement would potentially equalize speed differentials for vehicles that need to merge or weave on the highway system.

The improvements identified above are only some of the possibilities for future study. These improvements, in combination with local road improvements, have the potential to correct many of the operational and safety-related deficiencies that have been identified in the corridor’s transportation network. Programs such as Transportation Demand Management strategies would also need to be considered, however, to further improve the corridor and to sustain the infrastructure improvements past the 20-year planning horizon of this Study (refer to *Section 5.2.3* for a discussion on recommended TDM strategies for the corridor).

As mentioned in other sections of this document, the purpose of this Study is to provide a 20-year planning tool – vetted at both the local and regional planning level – that identifies a group of priorities within the corridor and develops a corridor right-of-way dedication plan. This Study is a “first step”; the next steps will include:

- Right-of-way preservation at the Union Road area and integration into local land use planning documents
- Develop a funding strategy for the long-term vision

- Develop a funding strategy for construction of individual improvements, then initiate the Caltran’s project development process and prepare a Project Study Report
- Local road extensions at the Golden Hill Road extension to Dry Creek Road, Wisteria Lane extension to Airport Road, and Union Road extension to Airport Road
- Enhance and integrate new travel demand strategies in transit, commuter programs, bike and pedestrian facilities, and park & ride lots

Providing connectivity for the community, reducing congestion, and improving safety will improve the state and local transportation network. Relocation and consolidation of access points along SR 46E with an interchange system will reduce the points of conflict and minimize congestion-related delay for both local and regional users of the network.

5.2.3 Traffic Demand Management (TDM) Strategies

It will be necessary to both propose new TDM programs and enhance existing programs, such as transit facilities, ridesharing programs, and park and ride lots, to reduce demand on SR 46E. New TDM elements such as bike/pedestrian facilities and employer-based programs would need to be developed along with identified funding sources. All proposed improvements would include TDM components, such as (but not limited to) the following:

- Enhanced bus service, through the purchase of additional buses, to provide both expanded and new service
- Development of flexible work programs
- Expansion and development of rideshare programs
- Expansion of existing park and ride lots and construction of new facilities, with transit systems incorporated
- Development of bike/pedestrian facilities that integrate with employer-based programs, transit facilities, and park and ride facilities

Transit

There are a variety of options when considering new and expanded transit service in the corridor. The goal is to develop service that is convenient, easy to use and timely for the commuter.

Comprehensive Corridor Study Recommendation: Expanded and/or new transit service within the corridor should be considered for the following locations:

- Cuesta College – North County Campus
- Airport Road Business Park
- Chandler Ranch Area Specific Plan
- Jardine Road
- Shandon

Additional locations should be developed in close coordination with the Regional Transportation Agency, the City of Paso Robles transit authority, and the Study partners to identify those locations that would best reduce single-occupant-vehicle demand on the SR 46E corridor.

Comprehensive Corridor Study Recommendation: Update the Paso Robles Short-range Transit Plan to reflect expanded or new transit service.

Commuter Programs

It is recommended that employers served by the corridor participate in a Transportation Demand Management Program. Currently, there is one such program in San Luis Obispo County that integrates all commute modes. The Transportation Choices Program is managed by the San Luis Obispo Regional Rideshare (SLO Rideshare) and is directed by a Steering Committee that includes the Air Pollution Control District, Regional Transit Authority, Ride-On Transportation and the SLO Bike Coalition.

- **Trip Reduction Plan & Employee Commuter Survey:** As a part of Transportation Choices Program, Rideshare works with the employer to administer a company wide 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 makes measurable recommendations.

Recommendation: Encourage employers surrounding the coordinator to adopt a Trip Reduction Plan and execute a Commuter Survey.

- **Carpool:** Carpool is an effective and inexpensive way to reduce vehicle trips. The SLO Rideshare has a free online carpool matching system that allows commuters traveling on the same corridor at the same time to share the ride. As of February 2009, the system has 2800 users.

Recommendation: Invest in the further development and marketing of Rideshare's online carpool system.

- **Vanpool:** Currently there are three active vanpool operators in the County (VPSI, Enterprise Vanpool and Ride-On Transportation). The three operators are also partners of Rideshare's Transportation Choices Program. Rideshare and the vanpool operators assist employers and commuters with interoffice and countywide vanpool matching.

Recommendation: Provide grant funds to help subsidize new vanpools and vanpool users during their first year.

- Guaranteed Ride Home (GRH): This program allows users of Rideshare's TripLink system to receive four free rides per year during emergencies.

Recommendation: Provide GRH funding to accommodate increased program participation.

- 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.

Recommendation: Initiate a similar program for the City of Paso Robles and North County.

- Incentive Program & Employer Trip Reduction Tracking: Lucky Bucks, 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 TripLink online, they can record the days they ride the bus, vanpool, carpool, ride a bike, or walk to work in a personal online commute calendar. Each day they do not drive alone earns them "Lucky Bucks" that can be redeemed for movie tickets, gift certificates to local businesses and donations to local charities. The employer to determine the organizations monthly reduction in trips, vehicle miles, and emissions can then use the data from the commute calendars.

Comprehensive Corridor Study Recommendation: Encourage participation in the "Lucky Bucks" program by businesses in North County for commuters who live and work in this area.

Bike and Pedestrian Facilities

During the public workshops, bike and pedestrian facilities were identified as a desired outcome of the Study. In 2001, the City of Paso Robles developed a Bicycle Master Plan that would need to be reviewed and amended to incorporate bicycle facilities for the City within the corridor.

Comprehensive Corridor Study Recommendation: Complete an update to the City's Bicycle Master Plan, which would include new/enhanced bike facilities at all new and expanded park and ride lots. There are numerous large and small employers in the corridor, by implementing a program that would encourage new bike facilities for workers and customers; it would provide another mobility choice. Currently, the City of Paso Robles does not have a bicycle parking policy tied to the Circulation Element or a City ordinance. To establish a bike parking requirement per car parking spaces would be a recommendation of this Study, which would integrate other modes of transportation for new development. Finally, study the addition of new bicycle connections for across the

highway. During the community workshops there was interest in providing a bike/pedestrian crossing at the following locations:

- Between Golden Hill Road and Buena Vista Road and
- At or near Union Road to serve the park facilities on the South side of highway.

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. Currently there are three park and ride lots in and around the Paso Robles area: Paso Robles Multi-modal Station (40 car spaces), Wal-Mart (28 car spaces), and Las Tablas in Templeton (42 car spaces). There are currently plans to increase the Las Tablas park and ride lot by an additional 26 spaces.

Comprehensive Corridor Study Recommendation: New and expanded park and ride facilities should be considered at the following locations:

- Cuesta College – North County Campus
- Airport Road Business Park
- Chandler Ranch Area Specific Plan
- Jardine Road
- Shandon
- Mid-State Fair Parking Lot

Additional locations should be pursued that would best reduce single-occupant-vehicle demand on the SR 46E corridor. It may be determined that park and ride locations outside the corridor would also serve commuters who work in the corridor, rather than the residents who commute to work through and outside the corridor.

5.2.4 Intelligent Transportation System (ITS) Strategies

Intelligent Transportation Systems (ITS) are a broad range of diverse technologies which, when applied to our current 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 information processing, communications, control, and electronics. Examples of ITS technologies include Changeable Message Signs and Close-circuit Television.

Planned *future* ITS applications expected in the Corridor include:

Interactive Traveler Information, 511 telephones, web-based traveler information service
 Allow travelers to obtain more targeted information that will assist them in travel decisions. Applications include interactive kiosks at selected sites and ultimately the Internet. Travelers will have direct access to route information and real time information on traffic and transit conditions, enabling better decisions.

Smart Call Boxes

Smart call boxes are integrated into existing call boxes and modified/enhanced to provide data/information of roadway or meteorological conditions. This feature allows for improved incident identification (location, type, severity, etc.) and a reduction in emergency service response times. It also provides information to the traveling public by linking roadway conditions with the regional Transportation Management Centers which can then disseminate the information to the traveling public.

Changeable Message Signs

Changeable Message Signs (CMS) allow travelers to obtain targeted information that will assist them in travel decisions. CMS will alert travelers to potential road closures, collision data, potential delay, etc., at key travel points.

Road Weather Information System (RWIS)

An environmental detection system would utilize planned “smart” call boxes in conjunction with a roadway weather information system to remotely sense environmental conditions, weather hazards, or low visibility conditions (e.g., high winds, fog, blowing dust, wet pavement, etc.).

Smart call box sites can host different types of RWIS sensors for these environmental conditions and send alerts to the CHP’s computer aid dispatch (CAD) system and transmitted remotely via CMS. An environmental detection system can provide high wind and fog detection, as well as monitor air quality along streets and highways where visibility and high levels of pollutant emissions are known to occur. RWIS can improve safety by providing traveler information in a timely manner.

5.2.5 Right – of –Way Preservation Plan

Right-of-way preservation is a broad strategy for the long-term planning and management of important roadways. “Right-of-way preservation” refers to techniques that state and local governments use to protect existing transportation corridors or planned corridors from inconsistent development.

A corridor preservation plan, collaboratively developed, will produce compatible transportation and land use systems.

This Comprehensive Corridor Study details a Right-of-way preservation plan that will ultimately accommodate a long-term vision for the corridor by officially designating, mapping, and dedicating right-of-way in areas of future infrastructure development along SR 46E. This long-term highway access plan will allow the partnership agencies to collectively plan for compatible transportation and land use systems. Several strategies may be utilized for transportation right-of-way preservation:

1) **Land use – City and/or County**

City Council and/or Board of Supervisor measures that have been employed in preserving corridors include access control programs, mapping, exaction from developers, and specific preservation ordinances.

- Access management: Access management techniques may be applied to existing corridors. Techniques include minimum spacing between driveways, use of frontage roads, and decreasing the number of driveways.
- Setbacks: Setbacks prohibit construction of buildings within a certain distance of a landowner's property line.
- Exaction: An exaction is a contribution by a developer to the government in return for subdivision approval, a special or conditional use permit, amendment to a zoning map, or other permit necessary to a developer.

2) **Acquisition of real property rights**

- Early/Strategic Acquisition/Purchase: Outright (direct fee) purchase is the most commonly used form of right-of-way acquisition. The municipal government acquires full title to the land and all rights associated with it. Full control of the property is granted and future protection is assured. The outright purchase of land is perhaps the simplest means of corridor preservation. Purchased lands can be leased back to former owners until they are needed for project construction. A drawback of this technique is that it requires an outlay of limited funds to preserve land for a future project instead of for a more immediate need.
- Easements: An easement can be purchased to preserve right-of-way without taking actual ownership of the property. Development would be restricted within the easement. This is typically done when a right-of-way is being purchased by a private entity and the easement price can be negotiated lower than the purchase price. The advantages of easements are that the property remains on the tax rolls, the cost is considerably less, and the easements can simply be allowed to expire if the corridor is not needed in the future. A disadvantage is that easements are not necessarily permanent and may expire prematurely.
- Land Banking: Property can be purchased or acquired through land swaps or other means and held for future use.
- Option to Purchase: A voluntary contract between a property owner and a buyer, in which the property owner agrees to reserve the property at a given price for a specified period of time, may be entered into an exchange for a deposit payment on the land.

3) **Planning Activities**

- Identify important highway corridors in a comprehensive plan or long-range plan.
- Map important corridors to communicate with local governments, utilities, and the public.
- Apply appropriate zoning through subdivision regulations.
- Coordinate planning efforts between local governments and utilities.

- Employ incentive zoning by offering density transfers to landowners or developers whose interests are impacted through right-of-way acquisition on their land. Density transfers allow landowners or developers to achieve the same overall density in a site, and therefore the same economic benefit, by concentrating development on land not acquired for the right-of-way.
- Establish a Transportation Corridor Overlay District (TCOD): A TCOD is designed to manage emerging development along transportation corridors. This type of district can preserve future opportunities for desired development.

While several strategies and options are available for corridor preservation, some options may be more feasible than others for SR 46E. Development of these strategies require a great deal of coordination with the local jurisdictions, since land use planning is the primary role and responsibility of the City or County rather than the State Transportation agency. To date, coordination between the partner agencies has resulted in a “first step” by identifying land that needs to be preserved within the corridor. At the intersection of Union Road and SR 46E, for example, the short-term project, discussed in *Section 5.4.1*, could propose a signalized intersection; the long-term vision for this intersection, however, would be to construct a grade-separated structure.

Land use planning in this segment of SR 46E requires that the responsible agencies (i.e., City of Paso Robles and County of San Luis Obispo) take into account the right-of-way preservation identified by the Comprehensive Corridor Study. There are a variety of ways that the City and County can proceed (as described above) so that land use decisions can be consistent with the preservation plan of the Study.

It is imperative that the transportation partners work to establish mapping to preserve right-of-way and develop a funding plan that can implement the long-term vision at Union Road. Long-term improvement scenarios identify grade-separation improvements (undercrossing, overcrossing or interchange) at Union Road, while short-term improvement scenarios can include a wide range of improvement options, such as a signal. However, all improvements are performance based and would under go detailed traffic analysis to determine short-term and long-term solutions. Modification to existing signals, such as limited access or closure, would be analyzed for Golden Hill Road and Airport Road. Buena Vista Road, Mill Road, and Jardine Road will remain the same for the purposes of the 20-year vision. The collaborative effort that establishes the priorities would ensure that short-term solutions do not preclude the long-term vision.

In addition to the analysis of improvements for Union Road, this Study recommends the following actions:

- Adopt and Enforce Access Restriction
- Establish Setbacks
- Request offers of dedication and road maintenance
- Conduct studies to identify future right-of-way needs and interchange location
- Secure right-of-way preservation

Comprehensive Corridor Study Recommendation: The Comprehensive Corridor Study should continue to be updated in a collaborative effort by the partners to include new data and propose solutions past the 20-year planning horizon of this Study. Integration into the Corridor System Management Plan (CSMP) for SR 46 will be essential to improving the sustainability of the corridor. To ensure that the right-of-way preservation plan is consistent with local planning documents, the following documents will need to be updated:

- Caltrans Corridor System Management Plan for SR 46
- SLOCOG Community 2050
- SLOCOG Regional Transportation Plan
- San Luis Obispo County Salinas River Area Plan
- City of Paso Robles General Plan Update: Traffic Circulation Element

6.0 Implementation Plan

The Comprehensive Corridor Study makes recommendations for long-term improvements to SR 46E. As a result, the expectation will be for Caltrans and the partners to work together to implement these actions.

Corridor Preservation

With the general right-of-way needs identified in the corridor (Union Road, Mill Road, and Jardine Road), the “first step” of corridor preservation will be to update local land use and transportation planning documents for the City of Paso, County of San Luis Obispo, and San Luis Obispo Council of Governments. These planning documents assure the team that partner agencies have made the commitment to ensure that development of future highway infrastructure is not precluded by interim land use decisions.

Integration with Planning Documents

The intention of the Comprehensive Corridor Study is to provide a 20-year vision for the SR 46E corridor. Part of that vision will be to ensure that local planning documents are consistent with the recommendations, goals and implementation strategies outlined in the Study.

The Comprehensive Corridor Study will maintain consistency with local planning documents and will create a strong nexus between land use and transportation planning along this corridor.

Four major planning documents would require updating to provide consistency between the Study and local jurisdictions’ land use and transportation planning efforts:

- Caltrans: Corridor System Management Plan – slated to be adopted Summer 2009
- SLOCOG: Regional Transportation Plan – update planned for Spring 2009
- County of San Luis Obispo: General Plan, Infrastructure Strategy – update planned for Summer 2009
- City of Paso Robles: General Plan, Traffic Circulation Element – update planned for Winter 2009

Funding Plan

As the local planning documents are updated, a strategy will need to be developed that closely evaluates how interregional growth on SR 46E and adjacent land development impacts the SR 46E corridor and/or adjacent local road system. Traffic impacts associated with development will need to be managed so

Developing an improvement concept and solid funding plan, with committed partner funding, gives local jurisdictions a competitive advantage in future funding cycles.

that local land use authorities have the opportunity to seek local funds while Caltrans and SLOCOG seek federal, state and regional funds to address interregional needs.

Developing an improvement concept and a solid funding plan that includes a commitment from agencies who sponsor and are responsible for project implementation. Agreement between agency partners will allow for discretionary funds when they become available.

Travel Demand Management (TDM) Strategies

Within San Luis Obispo County there are numerous TDM strategies and programs set up to encourage alternative modes of transportation. As demand increases on the existing transportation system it will be necessary to add to and enhance the TDM strategies and programs within the County. The partner agreement will work to identify areas that can be enhanced (such as existing rideshare services, transit, bike and pedestrian facilities and park and ride lot locations). It will also be necessary to have local agencies coordinate with major employers to encourage telecommuting, time-shift changes, and other programs to lessen the demand on the transportation system. As funding becomes limited and demand on the existing system can no longer be addressed through infrastructure alone, it will be necessary to develop strategies that address the demand and encourage mode shifts. Short-term and long-term priorities will need to include TDM as an essential element.

Short-term and Long-term Improvements

Given the current lack of funding, short-term improvements would need to be identified and studied to accommodate the growing traffic demands and to address safety issues that arise. Based on existing and projected traffic data, it will be necessary to have future major infrastructure improvements to SR 46E. The long-term vision will potentially include interchanges, over-crossings/under-crossings, and capacity, increasing improvements to the mainline. Future traffic studies will include a more refined operational analysis of this corridor, including adjacent local streets and intersections. It will recommend configurations of any new signal improvements, improvements to existing signals, and improvements to the SR 46E mainline. Informed decision-making will require consideration of technical information together with environmental and economic impacts, as well as social, political and community values. Various types of technical information will be required as part of the Project Development Process to support decision-making and will include, but not be limited to, the following:

- Traffic analysis, modeling and forecasting
- Travel demand characteristics (origin-destination analysis and opportunities for reducing number of vehicles through alternative transportation modes)
- Engineering concepts
- Right-of-way requirements and corridor preservation
- Environmental constraints
- Land use constraints
- Preliminary cost estimates
- Mechanisms for transportation financing
- Sources of funding

In summary, the purpose of this document is to provide a 20-year planning tool that identifies a group of priorities that have been vetted at a local and regional planning level. The recommendations of this Study include:

- Right-of-way preservation at the Union Road area and integration into local land use planning documents
- Develop a funding strategy for the long-term vision
- Develop a funding strategy for construction of individual improvements, then initiate the Caltran's project development process and prepare a Project Study Report
- Local road extensions at the Golden Hill Road to Dry Creek Road, Wisteria Lane extension to Airport Road, and Union Road extension to Airport Road
- Enhance and integrate new travel demand strategies in transit, commuter programs, bike and pedestrian facilities and park & ride lots

The Comprehensive Corridor Study has provided a road map of the “next steps” that will promote continued collaboration between the partnership agencies. The items identified above will strengthen the nexus between land use and transportation planning in the corridor. Providing connectivity for the community, reducing congestion, and improving safety will improve the state and local transportation network. Relocation and consolidation of access points along SR 46E with an interchange system will reduce the points of conflict and reduce congestion-related delay for both local and regional uses of the network.

LIST OF PREPARERS

The following people contributed directly and significantly to the production of this document and the plan in general and were instrumental in managing the plan through to the preparation of this document.

COLE, MELISSA –TRANSPORTATION PLANNER

1 year experience City & Regional Planning

B.S. Degree City & Regional Planning

Assisted in research and preparation of the Comprehensive Corridor Study

ESPINO, CLAUDIA – SENIOR TRANSPORTATION ENGINEER

25 years experience in highway design & construction

B.S. Degree Civil Engineering, Registered Civil Engineer

Prepared traffic analysis for the Comprehensive Corridor Study

GRAHAM, BRIAN. – ASSISTANT TRANSPORTATION PLANNER

3 years experience in system & community planning and documentation

B.S. Degree in Urban & Regional Planning

Prepared Comprehensive Corridor Study

MILTON, STEVE – SENIOR TRANSPORTATION ENGINEER

18 years experience in highway design & construction

B.S. Degree Civil Engineering, Registered Civil Engineer, Project Management Professional (PMP)

Transportation Design Liaison

NEWLAND, LAWRENCE C. – PROJECT MANAGER

18 years experience in system & community planning, environmental analysis and documentation

B.A. Degree in History, AICP

Oversaw preparation of the Comprehensive Corridor Study

RIDER, BRANDY K. – ASSOCIATE TRANSPORTATION PLANNER

10 years experience in system & community planning, environmental analysis and documentation

B.S. Degree in Wildlife Biology & Environmental Law

Prepared Comprehensive Corridor Study

The following people contributed to the preparation of this planning study through preparation of supporting technical analysis, sections of this plan, or through review of the document and/or mentoring of the staff working on the project.

BARNES, ROGER – TRANSPORTATION ENGINEER

10 years of experience in traffic safety & operational analysis and documentation
B.S. Degree in Civil Engineering & Traffic Engineering, Registered Engineer
Prepared the traffic analysis for SR 46

BERKMAN, JEFF – TRANSPORTATION ENGINEER

9 years of experience in traffic analysis and documentation
B.S. Degree in Civil Engineering
Assisted in the data collection for the traffic analysis

Di GRAZIA, KATHY – TRANSPORTATION ENGINEER

20 years of experience in highway design, construction & programming
B.S. Degree in Civil Engineering, Registered Engineer
Assisted in the early coordination and development of the project/plan team

HERRON, DAN – ASSOCIATE TRANSPORTATION PLANNER

22 years of experience in system & community planning, transit, and documentation
B.S. Degree Psychology
Assisted in the preparation of sections of the CCS and provided document peer review

LOE, AILEEN – DEPUTY DISTRICT DIRECTOR OF TRANSPORTATION PLANNING

22 years of experience in environmental and transportation planning
B.S. Degree, Natural Resource Management
Oversaw the management and preparation of the Comprehensive Corridor Study

MURPHY, DARRYLE –TRANSPORTATION ENGINEER

29 years of experience in highway design, construction & traffic analysis and documentation
Preparation of traffic analysis and data collection

PRICE, STEVE – DEPUTY DISTRICT DIRECTOR OF TRAFFIC OPERATIONS & MAINTENENCE

30 years of experience in highway design, maintenance, construction, safety & operational analysis
B.S. Degree Civil Engineering, Registered Engineer
Document Peer reviewer and management input

SHIVERS, JIM – PUBLIC INFORMATION OFFICER

10 years of experience as a public information officer and in broadcast media
B.S. Degree in History
Assisted in the public engagement and outreach for the planning process

UTTER, CINDY – ASSOCIATE TRANSPORTATION PLANNER

10 years of experience in regional planning and documentation
B.S. Degree Journalism
Document peer reviewer

Appendix A Glossary & Acronyms

AADT: is the average 24-hour volume, being the total number during a stated period divided by the number of days in that period. Unless otherwise stated, the period is a year. The term is commonly abbreviated as ADT or AADT.

Acceleration Lane: is a lane which begins at an on-ramp, to allow entering vehicles to match the freeway speed, then merges into the freeway lanes.

Acquisition. The process of obtaining right of way.

Air Pollution Control District (APCD): A county agency with authority to regulate stationary, indirect, and area sources of air pollution (e.g., power plants, highway construction, and housing developments) within a given county, and governed by a district air pollution control board composed of the elected county supervisors.

Alternative: One of the construction plans considered for the project.

Arterial: A highway primarily for through traffic, usually on a continuous route.

Auxiliary Lane: is a lane that begins at an on-ramp and ends at an off-ramp, for weaving traffic between ramps.

Capacity: (1) The maximum number of vehicles which has a reasonable expectation of passing over a given section of a lane or a roadway in one direction, or in both directions for a two-lane or three-lane highway, during a given time period under prevailing roadway and traffic conditions. (2) The number of passengers that can be transported over a given section of a transit line in one direction during a given time period (usually one hour) under prevailing traffic conditions.

Circulation Element: A section of the general plan dealing with traffic and transportation concerns predicted traffic growth etc.

Construction Year: is the year in which a construction project is planned for completion.

California Transportation Commission CTC: The CTC is responsible for programming and allocating funds for the construction of highway, passenger rail, and transit improvements throughout California.

The “Department”: is the California Department of Transportation.

Design Year: is normally 20 years after the construction year.

FHWA: is the Federal Highway Administration.

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.

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.

Functional Classification: is the process by which streets and highways are grouped into classes, or systems, according to the character of the service they are intended to provide. Basic to this process is the recognition that individual roads and streets do not serve travel independently in any major way. It becomes necessary then to determine how this travel can be channelized within the network in a logical and efficient manner. Functional classification defines the nature of this channelization process by defining the part that any particular road or street should play in serving the flow of trips through a highway network.

High Emphasis Routes: High Emphasis routes 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.

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

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.

Intersection: Where two or more roads intersect.

Kiloposts: refers to the specific location on a highway, measured in kiloposts from the county line. Kiloposts start at zero and increase as the highway goes from south to north or from east to west.

Level of Service (LOS) describes the quality of operation of a highway facility. It is a measure of prevailing speed and travel time, traffic interruptions, freedom to maneuver, driving comfort, convenience, safety, and operating cost. It is based on peak traffic hours when traffic volumes are generally highest. An LOS of “A” describes a condition of uncongested operations, free traffic flow, and short cycle lengths with minimal or nonexistent vehicle delays; LOS “F” describes extremely congested operations, over saturation of intersections, and stop-and-go traffic with typical vehicle delays exceeding 60 seconds.

Loop ramp: a ramp requiring vehicles to execute a left turn by turning right, accomplishing a 90-degree left turn by making a 270-degree right turn.

Mainline: the primary through roadway as distinct from ramps, auxiliary lanes and collector-distributor roads.

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

Merge: A movement in which two separate lanes of traffic combine to form a single lane without the aid of traffic signals or other right-of-way controls.

National Highway System (NHS): ISTEA established a 155,000-mile NHS to provide an interconnected system of principle arterial routes to 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.

Overcrossing: is a structure that carries a local street over a State highway.

Peak Hour: is the one-hour period of the day having the greatest traffic volume.

Postmile: refers to the specific location on a highway, measured in miles from the county line. Postmiles start at zero and increase as the highway goes from south to north or from east to west.

Ramp: A connecting roadway between a freeway or expressway and another highway or roadway.

Right of Way (ROW) is the land on which a project is located or construction.

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.

State Highway Extra Legal Load (SHELL) Route: A network of State Highways designated where overweight and/or extra-large vehicles may be permitted to travel under certain limited conditions.

State Implementation Plan (SIP): is a plan required by the Federal Clean Air Act of 1970 to attain and maintain national ambient air quality standards. The 1998 Clean Air Plan is the applicable EPA approved SIP for Santa Barbara County.

State Transportation Improvement Program (STIP) is an annual 5-year document providing a schedule of projects for development over the upcoming five years including all funds to be allocated by the CTC.

Study Team: A working team that analyzed the alternatives prepared the need and purpose and reviewed the CCS.

Undercrossing: is a structure that carries a local street under a state highway.

Vehicle Miles Traveled (VMT): The miles traveled by motor vehicles over a specified length of time (e.g., daily, monthly, or yearly) or over a specified road or transportation corridor.

Weaving: The crossing of two or more traffic streams traveling in the same direction along a significant length of highway, without the aid of traffic control devices (except for guide signs).

Weaving Section: A length of one-way roadway designed to accommodate weaving, at one end of which two one-way roadways merge and at the other end of which they separate.



Draft

Comprehensive Corridor Study

Appendix B

Public Participation



Draft

Comprehensive Corridor Study

Appendix C Issues, Goals & Problem Statement

Issues, Goals and Problem Statement

STUDY PURPOSE

The primary purpose of this Study is for the four key partner agencies (Caltrans, SLOCOG, City of Paso Robles, County of San Luis Obispo) to develop an agreed upon 20-year improvement strategy for Highway 46 East Corridor from US 101 to Jardine Road.

GOALS FOR THE CORRIDOR

- Separating local, regional and interregional traffic
- Ensuring goods movement
- Fostering connectivity to, across and along 46E
- Increasing safety and efficiency
- Providing a decent level of service
- Promoting multi-modal movement
- Enhancing community cohesion, character and quality of life

STUDY GOALS

- Ensuring coordination with existing planning processes and current projects
- Providing guidance for near-term decisions
- Developing sustainable agreements over time
- Ensuring flexibility
- Creating a fundable, feasible and phaseable project for the short, medium and long term
- Ensuring environmental enhancement, preservation and stewardship
- Gaining stakeholder acceptance
- Developing a well-designed solution

PROBLEM STATEMENT

The Highway 46 East Corridor needs to be upgraded to meet current and future travel demands. Previous failure to reach agreement on an improvement strategy between Caltrans, SLOCOG, the City of Paso Robles and the County of San Luis Obispo has resulted in lost funding and corridor preservation opportunities. Absent a strategy to reach agreement on complex issues and complete a required corridor study, negotiations between the four partner agencies have been stalled and the future of the Highway 46 East Corridor remains unclear.

STUDY ISSUES

Consistency/Certainty

There is a lack of consistency in the planning documents and visions of the various transportation agencies, thus a lack of agreement on identifying problems and solutions. This has led to difficulties in reaching concurrence on specific capital improvement needs. This lack of an identified improvement strategy has led to uncertainty for developers and has inhibited their willingness to participate financially. Developers have difficulty incorporating these uncertainties into their planning strategies. City and County staff have difficulty identifying, requiring or enforcing fair share contributions from developers.

Funding/Financing

Available and projected funds are insufficient to address all transportation needs in the corridor. Lack of defined problems and solutions may limit potential funding options. Therefore, all partner agencies will need to cooperate in efforts to prioritize transportation needs and develop appropriate funding strategies to address those needs.

Delay/Diversion

Highway 46 East is congested during peak periods resulting in traveler delay. During the most heavily traveled times, traffic can back up from US 101 to beyond Golden Hill Road. To avoid the congestion, some travelers divert off of the highway causing a burden to the local road system.

Safety

The actual collision rate on Highway 46E from Route 101 to Buena Vista Drive is higher than the statewide average for a comparable facility. The actual collision rates at the intersections of Highway 46 East with the US 101 southbound ramps, Buena Vista Drive, Golden Hill Road, Union Road, Airport Road, Jardine Road, and McMillan Canyon Road are higher than statewide averages for comparable facilities.

Growth

Population growth, both locally and statewide, has led to increased travel demand and congestion on Highway 46E.

The statewide population growth rate is 1.5% per year. (2000-2007 DOF Projections).
The County of San Luis Obispo has a growth rate of 1.0% per year.

Population growth within the City of Paso Robles has an approximate growth rate of 2.8% per year citywide.

The annual rate of growth of Average Annual Daily Traffic is 3.8% per year, measured just west of Airport Boulevard. In the latest ten-year period, this meant an overall increase of traffic of 145%.

Continued travel demand will only worsen the congestion, and continued local development along the corridor has potential to limit future opportunities for both highway and interchange improvements unless steps are taken now to preserve needed right of way for future improvements.

Level of Service (Operations)

The Caltrans acceptable level of service (LOS) threshold for Highway 46E is the “C/D” cusp. SLOCOG, SLO County and the City of Paso Robles support LOS D as the minimum threshold. SLO County supports LOS C in rural areas of the County. The acceptable LOS on the local road system within this corridor may differ. Currently, the intersections at the 101/46E interchange operate at LOS D during the weekday peak period and LOS F on the Friday peak period throughout the year. This condition results in upstream queuing that backs up traffic for nearly two miles two miles on many Friday afternoons, to approximately ¼ mile beyond Golden Hill Road. Additionally, the intersection at:

- Golden Hill Road operates at LOS D throughout the year;
- Union Road operates at LOS C during weekday peaks and LOS D during the Friday Afternoon peak
- Airport Road operates at LOS D during weekday and Friday afternoon peak periods
- Jardine Road operates at LOS C & D during weekday the afternoon peak, and LOS F during the Friday afternoon peak

Highway Daily Traffic Volumes and Peak Hour

Existing Average Daily Traffic (ADT) on Highway 46E east of Airport Road is 19,400 during non-summer months and increases approximately 18% to 22,900 during summer months.

“Peak hour” is defined as the interval of time during which the average daily traffic is heaviest. Over 6,000 hours of data were recorded on Highway 46 East between Airport Road and Jardine Road during the spring and summer of 2005. There is a lack of agreement among the four key partner agencies on selection of the Peak Hour Design Volume to be used for analysis.

For westbound travel, of the highest 200 hours recorded:

- 58% occurred on Friday afternoons (116 peak hours)
- 21.5% on Saturdays (43 peak hours)
- 13% on Sundays (26 peak hours)
- 7.5 % on Weekdays (15 peak hours)

For eastbound travel, of the highest 200 hours recorded:

- 60% occurred on Sundays (120 peak hours)
- 22% on Weekdays (44 peak hours)
- 16.5% on Fridays (33 peak hours)
- 1.5% on Saturdays (3 peak hours)

For Bi-Directional travel, of the highest 200 hours recorded:

41% occurred on Friday afternoons (82 peak hours)

36% on Sundays (72 peak hours)

17% on Weekdays (34 peak hours)

6% on Weekdays (12 peak hours)

Trucks comprise approximately 20% of the Annual Average Daily Traffic.

Design Standards

The current Highway 46 facility has non-standard features such as access spacing. The design standards differ based on facility type. The facility is currently an expressway, however, a Freeway Agreement executed in 1948 and modified in 1964, identifies the segment of Highway 46 within the Study limits as a future freeway. Within these limits, access rights are granted at eight public road connections: Buena Vista Drive (N), Golden Hill Road (N & S), Union Road (N & S), Airport Road (N), Mill Road (S), and Jardine Road (N). Any new access rights would require CTC approval.

Additional access points – not documented in previous Freeway Agreements - currently exist at 10 private roads or drives. These access points will also need to be addressed with the Study.

Current design standards for interchange spacing call for a one-mile separation of local street interchanges, with a two-mile separation required between a freeway-freeway connection and a local street interchange. Many of the access locations identified in the Freeway Agreement will not meet the spacing requirements for either freeway or expressway interchanges. As a result, this study will need to delineate between freeway and expressway standards where appropriate, and identify how and where design exceptions may need to be pursued if standards can not be met.

Appendix D Traffic Data Summary

D.1 Traffic Analysis Methodology

The Traffic Study consists of describing year 2005 “existing” traffic conditions and then evaluating year 2030 “future year” conditions by reviewing completed traffic studies done by consultants for proposed developments. The length of queue, delay, and diversion within the corridor study area were also analyzed. These characteristics were determined by the Study Team to be major concerns within the corridor.

In order to enhance the traffic analysis, the traffic study area limits were extended 20 miles east to the junction of State Route 41 and 46. For existing conditions, Caltrans and partner agency staff conducted comprehensive traffic counts in April, June, July, and August of 2005. The Fehr and Peers April 2007 *Golden Hill Retail Center Transportation Impact Analysis* was used for future year conditions. The study applied a 4.1% annual growth rate to the SR 46 corridor as requested by Caltrans, it should be noted that the terminology “annual growth rate” is incorrect. Describing the 4.1% as an annual growth gives the impression that 4.1% was compounded annually to the existing volume. This is not the case. It is a straight-line projection applied to the existing year and the amount is then added to each consecutive year. For example, the existing ADT for SR 46 north of Mill Road is 19,200 and the future ADT is 38,900. This number is calculated by multiplying the existing year (19,200) by 4.1% and then multiplying the product by 25 years and adding that amount to the existing year equals the future year $\{(19,200 \times 4.1\%)(25) + 19,200 = 38,880\}$. At this location, the 4.1% is equivalent to a growth of 790 vehicles per year.

The Friday peak hour was determined to be between 3:00 p.m. and 4:00 p.m. The Thursday peak hour was determined to be between 4:30 p.m. and 5:30 p.m. As can be seen in *Table D-3* there are a number of intersections that operate in the PM peak hour below LOS C. For purposes of this traffic study, the Friday June PM peak was used in the evaluation of the Baseline condition.

The ease with which a vehicle can travel in a given segment of highway is called the Level of Service (LOS). The operational conditions along a traffic corridor are measured based on factors such as speed, travel time, freedom to maneuver and traffic interruptions. The Highway Capacity Manual software (1994) bases the primary factor on the number of vehicles using a lane during the peak hour. There are six LOS ratings (A through F) with LOS A representing the best-case scenario and LOS F signifying congestion and forced flow (see *Figure D-1*). The LOS within the project area is based on the morning rush hour (AM Peak Period) northbound and the evening rush hour (PM Peak Period) southbound. The LOS decreased from 1989 to 2000, and is expected to deteriorate as the number of vehicles on the road increases. The performance of roadway sections and intersections was rated using Level of Service (LOS) methodology.



Draft

To document and evaluate existing traffic conditions, Caltrans and partner agency staff collected extensive traffic data using traffic counts, TACH (for tachometer) runs, field observations, and the Traffic Accident Surveillance and Analysis System (TASAS).

Mainline and turning movement counts were recorded on Hi-Star card counters on four dates in 2005: a Thursday and Friday in April and a Thursday and Friday in June. The April Thursday represented a typical day, while the June Friday included the peak hour period: late afternoon on a summer Friday. These counts were supplemented with additional counts of trucks, freeway ramp traffic, and side street volumes using a combination of card counters, hoses and manual counts. These data were used for level of service analyses of mainline conditions and operations at selected intersections between US 101 and the Wye (SR 46E/SR 41 Jct.). The data also provided for documentation of traffic diversion from the primary corridor.

TACH runs using the floating car method were conducted concurrent with the traffic volume counts in April and June 2005. The timed traffic runs provided for travel time analysis and, in combination with aerial photographs, for queue length measurements.

TASAS data were used to compare recent collision history on the SR 46E corridor with the average collision rates experienced during the same time period on facilities of the same type throughout the state.

LEVELS OF SERVICE
for Freeways

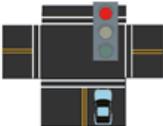
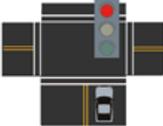
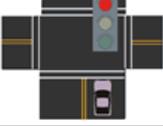
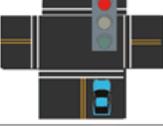
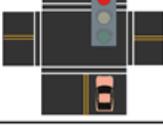
Level of Service	Flow Conditions	Operating Speed (mph)	Technical Descriptions
A		70	Highest quality of service. Traffic flows freely with little or no restrictions on speed or maneuverability. No delays
B		70	Traffic is stable and flows freely. The ability to maneuver in traffic is only slightly restricted. No delays
C		67	Few restrictions on speed. Freedom to maneuver is restricted. Drivers must be more careful making lane changes. Minimal delays
D		62	Speeds decline slightly and density increases. Freedom to maneuver is noticeably limited. Minimal delays
E		53	Vehicles are closely spaced, with little room to maneuver. Driver comfort is poor. Significant delays
F		<53	Very congested traffic with traffic jams, especially in areas where vehicles have to merge. Considerable delays

Figure D.1 Pictorial of the six levels of service (Mainline)

The Level of Service for an intersection is described in terms of delay per vehicle. As the delay increases, the number of vehicles stopping to wait for traffic increases. Eventually the LOS will decrease to a point where vehicles will sit through more than one signal cycle. This cycle failure at LOS E and F is noticeable and produces driver frustration. Refer to *Figure D.2* and *D.3* for graphics that summarizes the different Level of Service descriptions associated with intersections.

LEVELS OF SERVICE

for Intersections with Traffic Signals

Level of Service	Delay per Vehicle (seconds)
A	 ≤ 10
B	 11-20
C	 21-35
D	 36-55
E	 56-80
F	 >80

- Factors Affecting LOS of Signalized Intersections**
- Traffic Signal Conditions:**
- Signal Coordination
 - Cycle Length
 - Protected left turn
 - Timing
 - Pre-timed or traffic activated signal
 - Etc.
- Geometric Conditions:**
- Left- and right-turn lanes
 - Number of lanes
 - Etc.
- Traffic Conditions:**
- Percent of truck traffic
 - Number of pedestrians
 - Etc.

Source: 2000 HCM, Exhibit 16-2, Level of Service Criteria for Signalized Intersections

Figure D.2 *Level of service for Intersections with Traffic Signals³*

³ Highway Capacity Manual, Transportation Research Board, National Research Council

LEVELS OF SERVICE
Unsignalized Intersections
Four-Way Stop

Level of Service	Flow Conditions	Delay per Vehicle (seconds)	Technical Descriptions
A		<10	Very short delays
B		10-15	Short delays
C		16-25	Minimal delays
D		26-35	Minimal delays
E		36-50	Significant delays
F		>50	Considerable delays

Source: 2000 HCM, Exhibit 17-22, Level of Service Criteria for AWSC Intersections

LEVELS OF SERVICE
for Two-Way Stop Intersections

Level of Service	Flow Conditions	Delay per Vehicle (seconds)	Technical Descriptions
A		≤10	Very short delays
B		11-15	Short delays
C		16-25	Minimal delays
D		26-35	Minimal delays
E		36-50	Significant delays
F		>50	Considerable delays

Source: 2000 HCM, Exhibit 17-2, Level of Service Criteria for TWSC Intersections

Figure D.3 Level of service for Intersections with Traffic Signals⁴

D.2 Existing Traffic Condition

The primary traffic concerns include mainline congestion, delay, and impacts to the local road system. During the most heavily traveled times, the demand for the left-turn movement at the intersection of the SR 46E/US101 southbound ramp exceeds capacity thus operating poorly and causing westbound traffic approaching US Route 101 to form a queue nearly two miles long. The upstream queuing ultimately affects the operations of the intersections along SR 46E all the way to Golden Hill Road, and sets up a pattern of diversion back to Airport Road. The signals at the intersections of SR46 with Golden Hill Road and Buena Vista Drive are causing an impact on the local road system since local movement is sharing green time with main through movement. The intersections of Union Road, Jardine Road and McMillian Road with SR 46E are operating poorly due to the decreased merging and crossing opportunities caused by the reduction in the number of acceptable gaps along SR 46E.

Trucks comprise approximately 20% of the Annual Average Daily Traffic.

⁴ Highway Capacity Manual, Transportation Research Board, National Research Council

Table D.1 Existing Average Daily Traffic on SR 46

SR 46E - AVERAGE DAILY TRAFFIC (ADT)			
	US 101 to Airport Rd.	Airport Rd. to Jardine Rd.	Jardine Rd. To SR 41 N "Y"
Yr. 2006	25,600	21,200	12,350

Traffic Operations

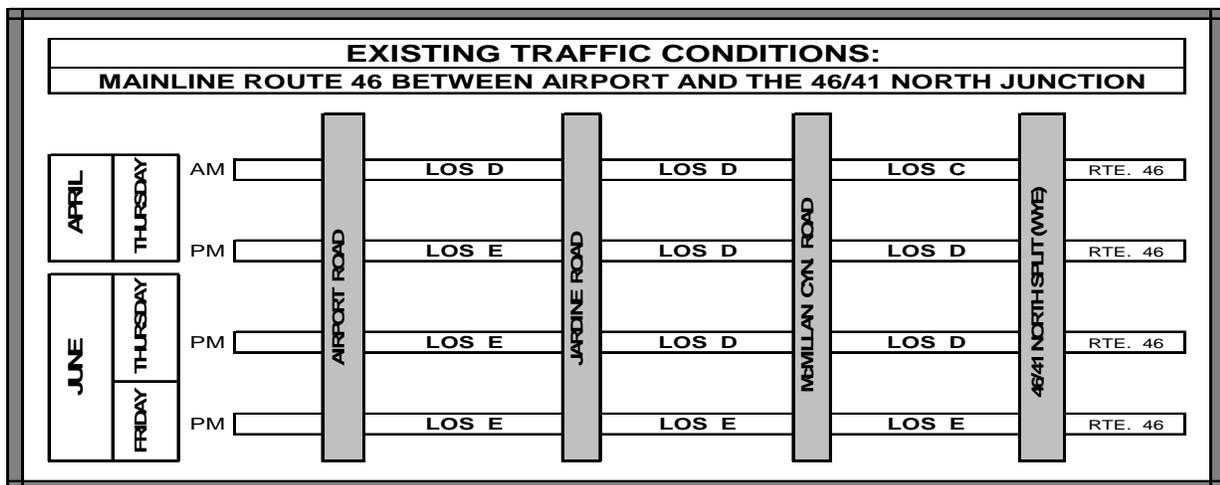
Traffic conditions on a non-freeway facility such as SR 46E are typically analyzed by evaluating traffic flow on the mainline and control delay at intersections. In some settings, signalized intersections fail to clear during individual cycles causing queues that control the flow of mainline traffic between intersections.

Existing Mainline Traffic Operations

Operations in the SR 46 segment between US 101 and Airport Road are controlled by the signal operation. See *Table D.3* for LOS conditions. The Golden Hill Retail Center Transportation Impact Analysis included unconstrained mainline analysis for SR46 and this segment would operate at LOS C (see *Table D12*). The intersections are causing the mainline to operate poorly in the PM peak hour.

The segment from Airport Road to the SR 46E/41N junction is a two-lane undivided highway with side street intersections under stop control. This segment is currently operating at peak hour LOS C to LOS E conditions, as shown in *Table D.2* and it should be noted that all sections of this segment currently operate at or below LOS C/D during the PM peak, Caltrans standard for acceptable operations.

Table D.2 Existing Mainline Traffic Conditions



Existing Intersection Traffic Operations

From west to east, the major intersections from US Route 101 to the SR 41 junction are:

- Buena Vista Drive
- Golden Hills Road
- Union Road
- Airport Road
- Jardine Road
- McMillan Road
- SR 46E/41S Junction

Table D.3 Existing intersection conditions

EXISTING CONDITIONS: INTERSECTION TRAFFIC OPERATION

Post Miles		30.51	31.31	31.8	32.15	34.64	45.48	48.62			
Distance Between Junctions (In Miles)			0.75	0.8	0.49	0.35	2.49	10.84	3.12		
ROUTE 46		S/B Off	N/B On	Vista	Hill	Union	Airport	Jardine			
Control Type		Signal	Signal	Signal	Signal	TWSC	TWSC	TWSC	TWSC		
APRIL	THURSDAY	AM	LOS	C	C	B	D	C	B	B	
		Average Delay (Sec/Veh)	23.1	31.8	15.4	54.0	16.7	12.0	23.2	13.6	10.4
	PM	LOS	C	C	C	D	C	D	C	C	B
		Average Delay (Sec/Veh)	27.5	21.1	24.4	36.3	17.8	25.1	22.3	16.7	10.9
JUNE	THURSDAY	PM	LOS	D	D	C	D	C	D	D	B
	Average Delay (Sec/Veh)	45.0	35.2	21.2	42.6	19.4	27.8	27.5	27.8	13.5	
	FRIDAY	PM	LOS	F	F	C	D	D	D	F	F
Average Delay (Sec/Veh)	130.9	99.5	33.5	51.5	28.6	26.5	165.5	127.6	19.7		

TWSC = Two way Stop Control

As Table D.3 shows, the majority of intersections in the study area (intersections with US 101, Golden Hill Road, Union Road, Airport Road and Jardine Road) operate below LOS C in the PM peak periods. The intersection of SR 46E and US 101 is especially problematic at the southbound on-ramp, which operates at LOS F during the Friday PM peak period. As mentioned before, the demand for the left-turn movement from SR 46E exceeds capacity, resulting in upstream queuing ultimately affecting operations of the intersections all the way to the intersection with Golden Hill Road and setting up a pattern of diversion back to Airport Road intersection. A currently programmed project, Operational Improvements Route 101/46E (EA 36150), proposes dual westbound left turn lanes at the intersection of SR 46E and the Route 101 southbound on-ramp.

Existing Diversion Patterns

A diversion pattern happens when a vehicle that would otherwise use a primary facility chooses to use a lesser route due to problems on the primary route. Field observations of traffic flow within the corridor showed that there is traffic diverting to other routes to avoid the queuing at the US Route 101/SR 46E interchange. Observations show Golden Hill Road, the US Route 101/SR 46E interchange, and to a lesser degree Union Road, are diversion points.

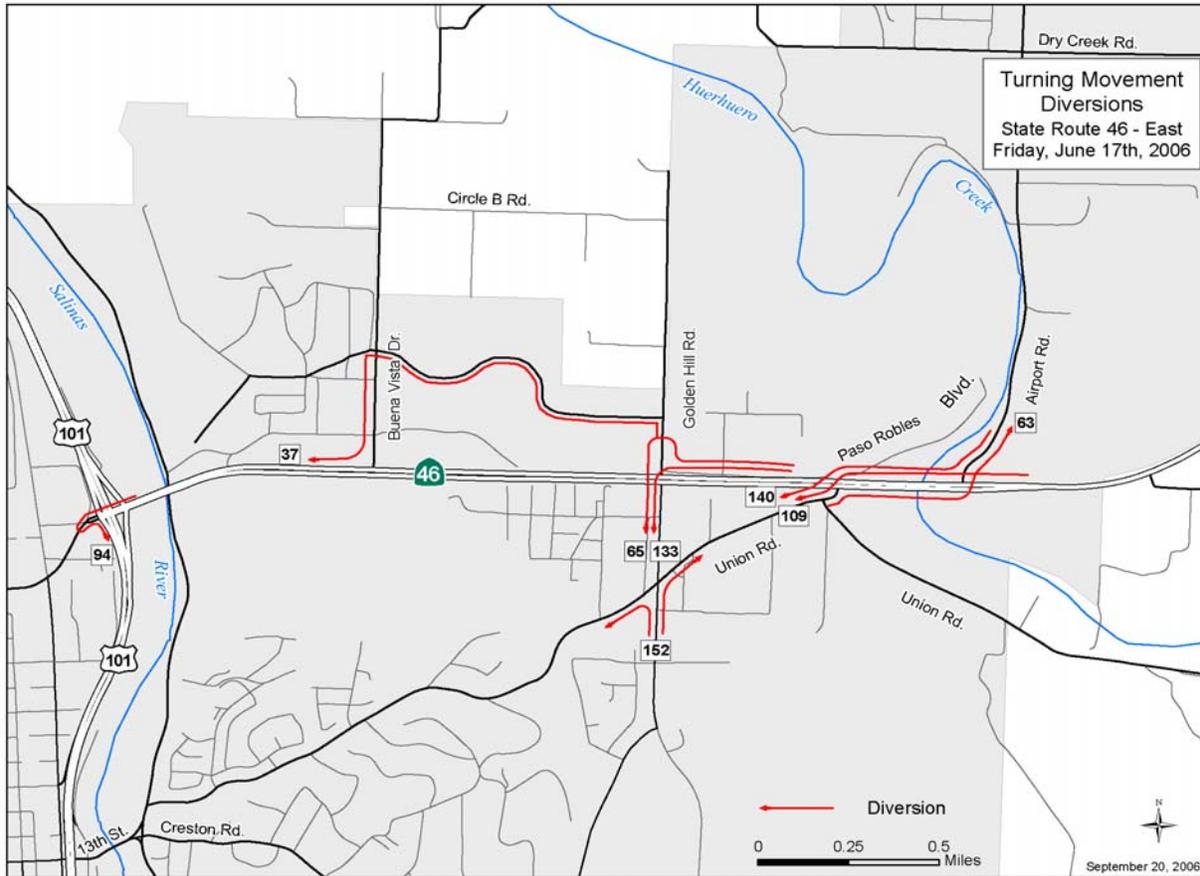
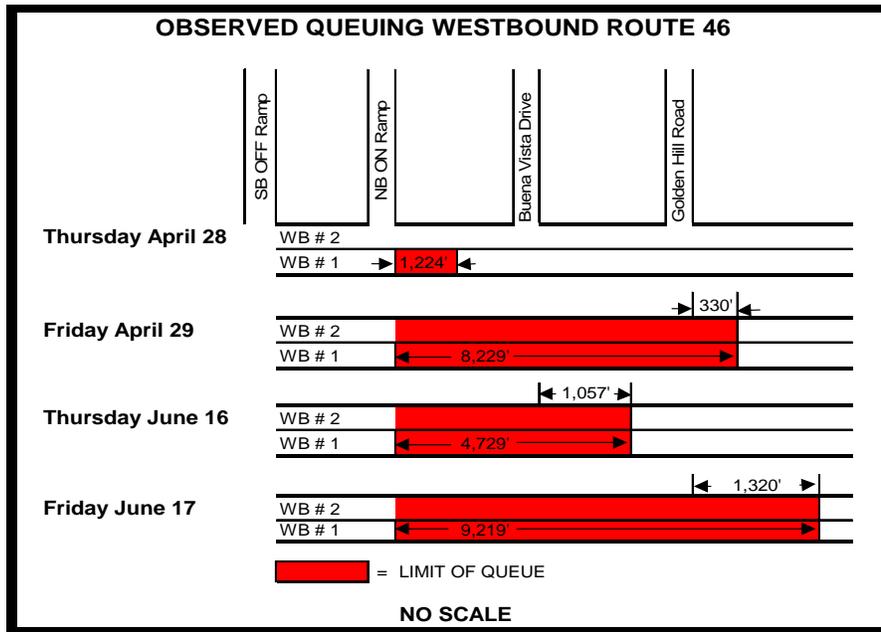


Figure D.4 Existing Diversion Patterns

Delay and Queuing

Field observations during data collection for the existing conditions analysis revealed westbound queuing during peak hours as well as traffic diversions to avoid queuing. Field observations and travel time data indicate that queuing in the westbound direction of SR 46E in the PM peak is a regular occurrence. The queuing observed in the field varies by day and time of year, but generally follows the pattern shown in Table D.4.

Table D.4 Observed queue on westbound SR 46



The analysis of the westbound queue made use of data collected in TACH runs. Staff calculated the average time it took a vehicle traveling westbound on SR 46E from the Airport Road intersection to reach the US 101 southbound on-ramp. Travel times and other observations describing westbound queues are displayed in Table D.5.

Table D.5 Queue Length & Travel

QUEUE LENGTH AND TRAVEL TIME				
Date of Observation	Travel Time (minutes)	Total Vehicles in Queue (feet)	Vehicles per Lane	Length of Queue (feet)
Thursday, April 28	6	33	33 *	1,224
Friday, April 29	25	444	222	8,229
Thursday, June 16	14	256	128	4,729
Friday, June 17	32	498	249	9,219

* The #1 lane only, #2 lane had no queue

The average distance between front bumpers of vehicles waiting in the queue was 37 feet. This distance was determined by using aerial photographs taken by the California Highway Patrol and manual counts.

D.3 Existing Collision Data

Collisions

Collision data was retrieved for a 3-year period between January 1, 2005 and December 31, 2007. A summary of this data is presented in *Tables D.6 and D.7*. At the locations summarized below these areas have a higher than statewide average for collisions.

Collision concentrations have been identified in several locations within the study limits. Most of these accidents are due to traffic congestion, speeding and improper lane changes or turning movements. The accident concentrations identified below currently exceed the state wide average for similar facilities.

As evidence of the types of collisions (rear-end and sideswipe collisions) for this section of SR 46E, congestion or poor operations at the intersections are the primary cause. These accidents are often related to driver frustration and reckless driving.

Table D.6 Collision Data on the Mainline

MAINLINE COLLISIONS								
Segment		Number of Collisions	Actual Collision Rate			Statewide Average		
From	To		Fatalities	Fatalities + Injuries	Total	Fatalities	Fatalities + Injuries	Total
US Route 101 PM 29.76	Buena Vista PM 30.51	60	.047	0.94	2.81	0.018	0.62	1.35
Buena Vista PM 30.51	Golden Hill PM 31.31	34	0.00	0.27	1.55	0.018	0.62	1.35
Golden Hill PM 31.31	Union PM 31.80	20	0.00	0.38	1.51	0.018	0.62	1.35
Union PM 31.80	Airport PM 32.15	6	0.00	0.33	0.65	0.017	0.59	1.29
Airport PM 32.15	Jardine PM 34.64	13	0.00	0.02	0.25	0.023	0.29	0.62
Jardine PM 34.64	McMillan Canyon PM 45.48	64	0.021	0.10	0.34	0.023	0.28	0.60
McMillan Canyon PM 45.48	SR 46 W Jct. PM 48.62	12	0.022	0.09	0.26	0.023	0.28	0.60

Table D.7 Summary of Intersection Collision Data

Summary of Collision Data from Jan 2005- Dec 2007							
Ramps and Intersection	Number of Collisions	Actual Collision Rate			Statewide Average		
		Fatalities	Fatalities + Injuries	Total	Fatalities	Fatalities + Injuries	Total
Along and Intersection Route 101 SB On Ramp	1	0.00	0.00	0.08	0.002	0.32	0.80
Along and Intersection Route 101 NB Off Ramp	5	0.00	0.23	0.39	0.005	0.61	1.50
Along Route 101 NB On Ramp	1	0.00	0.00	0.22	0.003	0.22	0.60
Along Route 101 SB off Ramp	10	0.00	0.56	1.88	0.005	0.61	1.50
Intersection Route 46/Rte 101 NB Ramps	32	0.00	0.28	1.00	0.002	0.19	0.43
Buena Vista PM 30.51	15	0.00	0.04	0.53	0.001	0.06	0.14
Golden Hill PM 31.31	34	0.00	0.29	1.23	0.002	0.19	0.43
Union PM 31.80	13	0.00	0.11	0.47	0.002	0.10	0.22
Airport PM 32.15	9	0.00	0.20	0.36	0.001	0.06	0.14
Jardine PM 34.64	11	0.00	0.18	0.49	0.004	0.10	0.22
McMillan Canyon PM 45.48	8	0.00	0.33	0.52	0.008	0.16	0.33
JCT Rte 46W PM 45.48	2	0.00	0.00	0.13	0.004	0.10	0.22

D.4 Future Traffic Conditions

Approved traffic studies show that without any improvements SR46 between US101 and Jardine Road will reach a LOS of F by 2010 in the PM peak hour.

Table D.8 Future Average Daily Traffic

SR 46E - AVERAGE DAILY TRAFFIC (ADT)			
	US 101 to Airport Rd.	Airport Rd. to Jardine Rd.	Jardine Rd. To SR 41 "Y"
Yr. 2030	50,980	37,700	21,200

Traffic Operation

The Caltrans Traffic Operations branch completed a review and analysis of various traffic data for SR 46E within the Corridor Study Limits. This review covers the segment of SR 46E between US Route 101 (05-SLO-46-PM 29.761) and Jardine Road (05-SLO-46-PM 34.641). Documents reviewed included the Omni-Means June 29, 2006 Airport Road Traffic Study, City of Paso Robles June 2006 Commercial/Industrial Status Report, and the City of Paso Robles City Council/Planning Commission Agenda's and Minutes. The results of the review are summarized below.

State SR 46E Corridor

The June 29, 2006 Airport Road Project Study Report (PSR) Final Traffic Study prepared by Omni-Means for the City of Paso Robles concludes that a six-lane freeway is needed by the Year 2040. Caltrans Traffic Operations branch concurs with this finding.

Airport Road

Page 30 of the Airport Road Project Study Report (PSR) June 29, 2006 Final Traffic Study states the following:

“The SR 46E/Airport Road connection, when constructed with shared through-right turn lanes at the north and southbound approaches, is projected to transition from LOS “C” to “D” by the Year 2016.”

Based on the revised counts, a revised level of service (LOS) analysis has been performed to determine if a signal would be practical at Airport Road assuming a new public road connection. The conclusion of the analysis is that the Department's level of service standard of “C/D” Cusp cannot be met at this location under a signal alternative. Under this analysis, opening day has been projected to occur by the Year 2010. In the Year 2010, the intersection would operate at LOS “D” (Delay = 45.7 sec/veh) during the Friday

PM peak hour and transition from LOS “C” to “D” (Delay = 34.9 sec/veh) by the Year 2011 during the Thursday PM peak hour. *Table D.9* lists the results of the analysis.

Table D.9 Level of Service Analysis SR46 East & Airport Road

SR 46E & AIRPORT RD. INTERSECTION LEVEL OF SERVICE (LOS) ANALYSIS

SR 46E & Airport Road	Omni Means 6/29/06 Friday PM Peak	Omni Means 6/29/06 Friday PM Peak	Caltrans Revised Friday PM Peak	Caltrans Revised Friday PM Peak	Caltrans Revised Thursday PM Peak	Caltrans Revised Thursday PM Peak
Year	LOS	Delay	LOS	Delay	LOS	Delay
2010	C	33.7	D	45.7	C	34.9
2011	C	34.0	D	46.7	C	35.6
2015	C	34.9	D	51.5	C	37.6
2016	D	36.9	D	53.4	C	38.5
2020	D	45.7	E	59.0	D	40.6

Six Lane Expressway

Geometric design of new facilities and reconstruction projects are based upon estimated traffic volumes derived for 20 years after completion of construction or a 20-Year design life. Caltrans Traffic Operations evaluated the concept of a six-lane expressway and have concluded that a six-lane expressway on State SR 46E (Between Hwy 101 and Jardine Road) cannot sustain a 20-Year design life. Consequently, a six-lane expressway concept is not considered a feasible alternative. Based upon the revised traffic, the level of service analysis indicates a six-lane expressway would fall below the Department’s level of service threshold of “C/D” Cusp by the Year 2020 assuming a Friday scenario. Under a typical weekday scenario, a six-lane expressway would fall below the Department’s level of service threshold of “C/D” Cusp by the Year 2026. The levels of service analysis results are provided in *Tables D.10* and *D.11*.

Table D.10 Level of Service SR 46East & Airport Road

SR 46E & AIRPORT ROAD INTERSECTION LEVEL OF SERVICE (LOS) ANALYSIS				
Six Lane Expressway Scenario				
SR 46E & Airport Road	Caltrans Revised Friday PM Peak	Caltrans Revised Friday PM Peak	Caltrans Revised Thursday PM Peak	Caltrans Revised Thursday PM Peak
Year	LOS	Delay	LOS	Delay
2020	D	35.3	C	29.3
2025	D	43.2	C	32.5
2030	E	73.1	D	49.3

Table D.11 Level of Service SR 46East & Golden Hill Road

SR 46E & GOLDEN HILL ROAD INTERSECTION LEVEL OF SERVICE (LOS) ANALYSIS				
Six Lane Expressway Scenario				
SR 46E & Golden Hill Road	Caltrans Revised Friday PM Peak	Caltrans Revised Friday PM Peak	Caltrans Revised Thursday PM Peak	Caltrans Revised Thursday PM Peak
Year	LOS	Delay	LOS	Delay
2020	D	37.7	C	30.7
2025	D	47.7	C	34.1
2030	E	71.2	D	43.9

GOLDEN HILL RETAIL CENTER TRANSPORTATION IMPACT ANALYSIS

APRIL 2007 (FEHR & PEERS)

In addition, data from the Traffic Study done for the Golden Hill Retail Center, an approved project within the City of Paso Robles along Golden Hill Road just north of SR 46E, was looked at. The following data and analysis in this section is taken from the Golden Hill Retail Center Transportation Impact Analysis, April 2007:

Table D.12 Existing Roadway LOS

EXISTING ROADWAY LEVELS OF SERVICE			
Roadway Segment	Roadway Type	Volume*	LOS**
1. SR 46E, between US 101 and Airport Road	4-Lane Divided Arterial	25,500	C
2. SR 46E, east of Airport Road	2-Lane Undivided Highway	19,200	D
3. US 101, north of SR 46E to south of SR 46W	4-Lane Divided Freeway	63,000	D
4. Golden Hill Road, between Dallons Road and SR 46	4-Lane Divided Arterial	9,000	B
5. Dallons Road, west of Golden Hill Road	2-Lane Collector (no left turn lane)	1,500	A

Notes:
 * Average daily traffic. Note volume reported is the maximum volume on the given roadway segment within the project study area.
 ** LOS = Level of Service

Table D.13 Cumulative Roadway LOS (2010)

NEAR-TERM (2010) CUMULATIVE ROADWAY LEVELS OF SERVICE			
Roadway Segment	Roadway Type	Volume*	LOS**
1. SR 46E, between US 101 and Airport Road	4-Lane Divided Arterial	37,800	F
2. SR 46E, east of Airport Road	2-Lane Undivided Highway	27,200	F
3. US 101, north of SR 46E to south of SR 46W	4-Lane Divided Freeway	72,500	D
4. Golden Hill Road, between Dallons Road and SR 46	4-Lane Divided Arterial	21,500	A
5. Dallons Road, west of Golden Hill Road	2-Lane Collector (no left turn lane)	4,000	A

Notes:
 * Average daily traffic. Note volume reported is the maximum volume on the given roadway segment within the project study area.
 ** LOS = Level of Service

Table D.14 Cumulative Roadway LOS (2030)

CUMULATIVE (2030) ROADWAY LEVELS OF SERVICE			
Roadway Segment	Roadway Type	Volume*	LOS**
1. SR 46E, between US 101 and Airport Road	4-Lane Divided Arterial	60,500	F
2. SR 46E, east of Airport Road	4-Lane Divided Arterial	43,000	F
3. US 101, north of SR 46E to south of SR 46W	4-Lane Divided Freeway	80,800	F
4. Golden Hill Road, between Dallons Road and SR 46	4-Lane Divided Arterial	33,000	E
5. Dallons Road, west of Golden Hill Road	2-Lane Collector (no left turn lane)	4,700	A

Notes:
 * Average daily traffic. Note volume reported is the maximum volume on the given roadway segment within the project study area.
 ** LOS = Level of Service

Table D.15 Existing Intersection LOS

EXISTING INTERSECTIONS LEVELS OF SERVICE *				
Roadway Intersection	Peak Hour	Intersection control	Exist Delay	Exist LOS
1. SR 46E/US 101 SB Ramps	AM	Signal	23.4	C
	PM		30.5	C
	Friday PM		119.8	F
2. SR 46E/US 101 NB Ramps	AM	Signal	31.1	C
	PM		31.3	C
	Friday PM		72.7	E
3. SR 46E/Buena Vista Drive	AM	Signal	18.1	B
	PM		14.6	B
	Friday PM		15.8	B
4. SR 46 E/Golden Hill Road	AM	Signal	>150	F
	PM		90.3	F
	Friday PM		>150	F
5. SR 46E/Union Road	AM	Side-Street Stop	71.9	F
	PM		>150	F
	Friday PM		>150	F
6. SR 46E/Airport Road	AM	Side-Street Stop	14.3	B
	PM		74.8	F
	Friday PM		>150	F
7. SR 46E/Mill Road	AM	Side-Street Stop	29.0	D
	PM		53.6	F
	Friday PM		120.9	F
6. SR 46E/Jardine Road	AM	Side-Street Stop	28.4	D
	PM		78.5	F
	Friday PM		>150	F

Notes:
 * Average daily traffic. Note volume reported is the maximum volume on the given roadway segment within the project study area.
 ** LOS = Level of Service

It should be noted, according to the Golden Hill Retail Center Transportation Impact Analysis, Existing Volumes and Lane Configurations that “Year 2005 summertime weekday morning (AM), weekday evening (PM), and Friday evening (Friday PM) peak-hour traffic volumes at the SR 46 study intersections were obtained from the Final SR 46 E/Airport Road PSR. The volumes on SR 46 represent unconstrained volumes on SR46 provided that sufficient capacity is available at Highway 101/SR46 interchange and traffic does not divert from SR46 to the side streets. The Year 2005 volumes turning to/from SR46 to Golden Hill and Airport Road were adjusted to reflect the more recent traffic counts that were higher.”

Table D.16 Near-Term (2010) Cumulative Intersection Level of Service (Part 1)

NEAR-TERM (2010) CUMULATIVE INTERSECTION LEVEL OF SERVICE										
Intersection	Peak Hour	Near-term Cumulative (Existing Roadway Geometry)		Mitigated Near-term Cumulative (with Existing Plus Project Mitigation)			Mitigated Near-term Cumulative (with Existing Project and Additional Mitigation)			% Of Project Traffic*
		Delay	LOS	Delay	LOS	Improvement	Delay	LOS	Improvement	
1. SR46E/ US 101 SB Ramps	AM	35.1	C	20.1	C	Add 2 nd westbound left-turn lane, re-stripe eastbound approach	21.6	C	Re-optimization of the signal timings	6
	PM	>150	F	36.8	D		25.1	C		7
	Friday Peak	>150	F	61.7	E		60.2	E		6
2. SR 46E/ US 101 NB Ramps	AM	>150	F	89.5	E	Add 3 rd and 4 th westbound through lane	27.1	C	Add dual northbound right-turn lanes	7
	PM	>150	F	63.7	E		25.7	C		8
	Friday Peak	>150	F	85.5	F		33.8	C		7
3. SR 46E/ Buena Vista Drive	AM	20.5	C	No Mitigation Required			12.7	B	Add westbound right-turn lane; Add 2 nd eastbound left-turn lane	6
	PM	80.4	F				20.7	C		7
	Friday Peak	130.5	F				31.3	C		8
4. SR 46E/ Golden Hill Rd.	AM	>150	F	51.6	D	Widen intersection and update signal phasing	42.3	D	Add 3 rd eastbound and westbound through lane	11
	PM	>150	F	93.6	F		57.6	E		14
	Friday Peak	>150	F	131.8	F		77.0	E		13
4a. SR 46E/ Union Rd.	AM	>150	F	>150	F	Prohibit northbound left-turn	16.5	C	Add eastbound acceleration lane for northbound right turn	5
	PM	>150	F	33.4	D		22.6	C		5
	Friday Peak	>150	F	63.2	F		32.9	D		5
4b. SR 46E/ Airport Rd.	AM	>150	F	>150	F	Widen SR 56 to 4 lanes and add southbound tight-turn lane				
	PM	>150	F	>150	F					
	Friday Peak	>150	F	>150	F					
5. SR 46EB Ramps/ Airport Rd.	AM						16.4	C	Grade Separation/ Interchange (stop sign controlled)	4
	PM						9.8	A		5
	Friday Peak						9.9	A		5

Table D.17 Near-Term (2010) Cumulative Intersection Level of Service (Part 2)

NEAR-TERM (2010) CUMULATIVE INTERSECTION LEVEL OF SERVICE											
Intersection	Peak Hour	Near-term Cumulative (Existing Roadway Geometry)		Mitigated Near-term Cumulative (with Existing Plus Project Mitigation)			Mitigated Near-term Cumulative (with Existing Project and Additional Mitigation)			% Of Project Traffic*	
		Delay	LOS	Delay	LOS	Improvement	Delay	LOS	Improvement		
6b. SR46 WB Ramps/ Airport Rd	AM						14.7	B	Grade Separation/ Interchange (stop-sign controlled)	4	
	PM						12.2	B		5	
	Friday Peak						12.4	B		5	
1. SR 46E/ Mill Rd	AM	72.4	F	No Mitigation Required							
	PM	>150	F								
	Friday Peak	>150	F								
2. SR 46E/ Jardine Rd	AM	72.4	F	19.9	C	Widen SR 46 to 4 lanes	N/A	N/A	No additional mitigation required	7	
	PM	80.4	F	27.5	D		N/A	N/A		7	
	Friday Peak	130.5	F	43.0	E		N/A	N/A		6	
3. Golden Hill Rd/ Union Rd. **	AM	>150	F	51.6	D	Construct Single-lane roundabout	4	A	Widen single-lane roundabout to two lanes	8	
	PM	>150	F	93.6	F		4	A		10	
	Friday Peak	N/A	N/A	131.8	F		N/A	N/A		N/A	
10. Buena Vista Dr/ Dallons Rd.	AM	No Mitigation Required									
PM											
Friday Peak											
11. Golden Hill Rd/ Dallons Rd	AM	25.7	D				No Mitigation Required				
	PM	13.9	B								
	Friday Peak	N/A	N/A								

**Percent of projected traffic was calculated by dividing the project trips over the total intersection volume.
 ** The analysis of Friday PM peak-hour is to evaluate the effects of regional through traffic for intersections on SR 46. Local city intersection were not evaluated for Friday PM conditions*

Table D.18 Cumulative Intersection (2030) Level of Service (Part 1)

CUMULATIVE INTERSECTION (2030) LEVEL OF SERVICE										
Intersection	Peak Hour	Near-term Cumulative (Existing Roadway Geometry)		Mitigated Near-term Cumulative (with Existing Plus Project Mitigation)			Mitigated Near-term Cumulative (with Existing Project and Additional Mitigation)			% Of Project Traffic*
		Delay	LOS	Delay	LOS	Improvement	Delay	LOS	Improvement	
1. SR46E/ US 101 SB Ramps	AM	32.6	C	31.9	C	Re-optimization of the signal timings	Conversion of SR 46 to 4-lane freeway with new direct connection to US 101. Design to be determined as part of future studies			4
	PM	97.7	F	100.3	F					5
	Friday Peak	>150	F	>150	E					4
2. SR 46E/ US 101 NB Ramps	AM	>150	F	80.4	E	Add dual northbound right-turn lanes	Conversion of SR 46 to 4-lane freeway with new direct connection to US 101. Design to be determined as part of future studies			4
	PM	>150	F	120.2	E					5
	Friday Peak	>150	F	>150	F					4
3. SR 46E/ Buena Vista Drive	AM	N/A	N/A	96.6	F	Add westbound right-turn lane; Add 2 nd eastbound left-turn lane	Close Buena Vista Drive with conversion of SR 46 to freeway			4
	PM	N/A	N/A	>150	F					5
	Friday Peak	N/A	N/A	>150	F					5
4. SR 46E/ Golden Hill Rd.	AM	>150	F	96.6	F	Add 3 rd eastbound and westbound through lane				8
	PM	>150	F	>150	F					10
	Friday Peak	>150	F	>150	F					9
4a. SR 46 WB ramps/ Golden Hill Rd.	AM						43.9	D	Grade separated interchange	8
	PM						54.7	D		10
	Friday Peak						58.3	E		9
4b. SR 46 EB ramps/ Golden Hill Rd.	AM						100.3	F	Grade separated interchange	8
	PM						43.9	D		10
	Friday Peak						45.5	D		9
5. SR 46E / Union Rd.	AM PM Friday Peak	Close Union Road with conversion of SR 46 to Freeway								

*Percent of projected traffic was calculated by dividing the project trips over the total intersection volume.
 ** The analysis of Friday PM peak-hour is to evaluate the effects of regional through traffic for intersections on SR 46. Local city intersection were not evaluated for Friday PM conditions

Table D.19 Cumulative Intersection (2030) Level of Service (Part 2)

CUMULATIVE INTERSECTION (2030) LEVEL OF SERVICE										
Intersection	Peak Hour	Near-term Cumulative (Existing Roadway Geometry)		Mitigated Near-term Cumulative (with Existing Plus Project Mitigation)			Mitigated Near-term Cumulative (with Existing Project and Additional Mitigation)			% Of Project Traffic*
		Delay	LOS	Delay	LOS	Improvement	Delay	LOS	Improvement	
6. SR46E/ Airport Rd	AM	>150	F							3
	PM	>150	F							3
	Friday Peak	>150	F							3
6a. SR 46E WB ramps/ Airport Rd.	AM			>150	F	Grade separated interchange (unsignalized)	14.0	B	Grade separated interchange (signal)	3
	PM			>150	F		42.0	D		3
	Friday Peak			>150	F		53.9	D		3
6b. SR 46E EB ramps/ Airport Rd.	AM			>150	F	Grade separated interchange (unsignalized)	25.5	C	Grade separated interchange (signal)	3
	PM			>150	F		14.3	B		3
	Friday Peak			>150	F		15.1	B		3
7. SR 46E/ Mill Rd	AM PM Friday Peak	Close Mill Road with conversion of SR 46 to Freeway								
8. SR 46E/ Jardine Rd	AM	>150	F	Widen SR 46 to 4 lanes						4
	PM	>150	F							4
	Friday Peak	>150	F							3
8a. SR 46 WB ramps/ Jardine	AM						9.8	A	Grade separated interchange (unsignalized)	4
	PM						8.6	A		4
	Friday Peak						11.1	B		3
8b. SR 46 EB ramps/ Jardine	AM						7.6	A	Grade separated interchange (unsignalized)	4
	PM						8.2	A		4
	Friday Peak						7.9	A		3

Table D.20 Cumulative Intersection (2030) Level of Service (Part 3)

CUMULATIVE INTERSECTION (2030) LEVEL OF SERVICE										
Intersection	Peak Hour	Near-term Cumulative (Existing Roadway Geometry)		Mitigated Near-term Cumulative (with Existing Plus Project Mitigation)			Mitigated Near-term Cumulative (with Existing Project and Additional Mitigation)			% Of Project Traffic*
		Delay	LOS	Delay	LOS	Improvement	Delay	LOS	Improvement	
9. Golden Hill/Union Rd.	AM	>150	F	6	A	Widen single-lane roundabout to 2 lanes	No Mitigation Required			6
	PM	>150	F	6	A					7
	Friday Peak	N/A	N/A	N/A	N/A					N/A
10. Buena Vista/ Dallons	AM	25.7	D	80.4	E	No Mitigation Required				
	PM	13.9	B	120.2	E					
	Friday Peak	N/A	N/A	>150	F					
11. Golden Hill/ Dallons	AM	69.7	F	No Mitigation Required			12.4	B	Signalized Intersection	8
	PM	63.1	F				16.6	B		11
	Friday Peak	N/A	N/A				N/A	N/A		N/A

**Percent of projected traffic was calculated by dividing the project trips over the total intersection volume.
 ** The analysis of Friday PM peak-hour is to evaluate the effects of regional through traffic for intersections on SR 46. Local city intersection were not evaluated for Friday PM conditions*

D.5 Final Assessment

Existing traffic studies indicate the need for a future expanded SR 46E facility, which includes grade-separated access points and fewer at-grade signalized intersections.

Prior to the Golden Hill Center Traffic Report, Caltrans Traffic Operations Branch also evaluated this corridor using, and the results concur with the results from the Golden Hill Report. The concept of a six-lane expressway was evaluated and they concluded that a six-lane expressway on State SR 46E (Between Hwy 101 and Jardine Road) cannot sustain a 20-Year design life. Consequently, a six-lane expressway concept is not considered a feasible alternative. Based upon the revised traffic, the level of service analysis indicates a six-lane expressway would fall below the Department's level of service threshold of "C/D" Cusp by the Year 2020 assuming a Friday scenario. Under a typical weekday scenario, a six-lane expressway would fall below the Department's level of service threshold of "C/D" Cusp by the Year 2026. The City has a threshold of LOS D. The team agreed that this corridor would reach LOS F before funding for scenario improvements would be available. The levels of service analysis results are provided in *Tables D.10 and D.11 of Appendix D*.

Caltrans Traffic Operation Department and the City's lead traffic studies conclude the need for a future expanded SR 46E facility, which includes grade-separated access points and a plan to address the failing at-grade signalized intersections. The improvement scenarios need to include intermediate projects that move the facility toward the facility that provides the capacity requirements as the City develops and interregional travel demand increases.

The study team agreed that this corridor would require grade separations and interchanges in the long term and the importance of establishing a plan of short and mid-term phases that work towards the scenario that would accommodate the mobility needs of all users of this corridor.

The City of Paso Robles is currently in the process of conducting a State Route (SR 46E) Parallel Routes study, which looks at possible local road connections that could relieve congestion and improve connectivity of the local street network, as well as SR 46E through Paso Robles. Study finding will be used in guiding the update of the City's Circulation Element, which is expected to be complete in 2009.

Existing traffic studies do not address local circulation improvements, which could affect the level of service at some intersections.