

THE BOARD OF SUPERVISORS OF THE COUNTY OF STANISLAUS
ACTION AGENDA SUMMARY

DEPT: Public Works *ml*

BOARD AGENDA # *C-1

Urgent Routine

AGENDA DATE July 14, 2009

CEO Concurs with Recommendation YES NO
(Information Attached)

4/5 Vote Required YES NO

SUBJECT:

Approval of the Purpose and Need Statements for the State Route 99 - State Route 165 Project Study Report

STAFF RECOMMENDATIONS:

Approve the Purpose and Need Statements for the State Route SR 99 - State Route 165 Project Study Report.

FISCAL IMPACT:

Merced County Association of Governments has a Federal Earmark grant to pay for the Project Study Report. Public Works estimates approximately \$5,000 will be coming from Engineering's budget for staff time, which is already budgeted.

BOARD ACTION AS FOLLOWS:

No. 2009-482

On motion of Supervisor Chiesa, Seconded by Supervisor Grover

and approved by the following vote,

Ayes: Supervisors: O'Brien, Chiesa, Grover, Monteith, and Chairman DeMartini

Noes: Supervisors: None

Excused or Absent: Supervisors: None

Abstaining: Supervisor: None

1) X Approved as recommended

2) _____ Denied

3) _____ Approved as amended

4) _____ Other:

MOTION:

Christine Ferraro

ATTEST: CHRISTINE FERRARO TALLMAN, Clerk

File No.

Approval of the Purpose and Need Statements for the State Route 99 – State Route 165 Project Study Report

DISCUSSION:

The State Route (SR) 99 – State Route (SR) 165 Project Study Report (PSR) (see Figure 1, attached) project covers three jurisdictions: Merced County, Stanislaus County, and the City of Turlock. Five local agencies agreed to cooperate with Caltrans to implement the PSR. Those agencies include Merced County, Merced County Association of Governments (MCAG), Stanislaus County, Stanislaus Council of Governments (StanCOG), and the City of Turlock. MCAG was identified as the project lead for the PSR.

In the fall of 2006, MCAG awarded a contract to Omni Means to prepare and complete the PSR phase. At the same time, a Memorandum of Understanding (MOU) was circulated and approved by the five agencies. The MOU created the following committees:

1. Citizens Advisory Committee (CAC) – Participants include community members from Merced County, Stanislaus County, and the City of Turlock. CAC members were selected by their respective governing boards.
2. Project Development Team (PDT) - Participants included technical personnel from each agency.
3. Policy Advisory Committee (PAC) – Participants included up to three persons including at least one member of the City Council/Board of Supervisors appointed by the City of Turlock, County of Stanislaus, and County of Merced. The California Department of Transportation (CalTrans), District 10 may be represented by the District Director or his/her designee.

In addition, the MOU requires that four major milestones be approved by the CAC, PDT, PAC, and the five jurisdictions included in the MOU. The four major milestones include:

- Traffic Modeling;
- Purpose and Need;
- Alternatives to be studied; and
- Final Project Study Report.

The Purpose and Need Statements (see attached memo from Omni-Means) are being adopted by the five member agencies per our December 15, 2005 Memorandum of Understanding as a major project milestone. Three of the agencies have adopted the Purpose and Need Statements, Merced County, City of Turlock, and Merced County Association of Governments. StanCOG and Stanislaus County are proposing to adopt the Purpose and Need Statements in July.

Purpose Statement:

The primary purpose of this project is to improve safety and traffic operations and reduce current and future congestion along SR 165, including congestion within the

Approval of the Purpose and Need Statements for the State Route 99 – State Route 165 Project Study Report

community of Hilmar, and to improve freeway access between SR 99 and the local roadway system to support continued growth in local general plans, community plans and specific plans.

Secondary purposes of the project include:

- Facilitate goods movement including the movement of agricultural products from field to processing plant and from processing plant to market.
- Widen, replace or relocate the existing SR 165 Bridge over the Merced River.
- Move regional and inter-regional truck traffic around the community of Hilmar.
- Improve local traffic circulation within the project study area.
- Support continued growth in the Merced County, Stanislaus County and City of Turlock General Plans; the community of Hilmar Community Plan; and the City of Turlock's SE Turlock Specific Plan.
- Implement long-term circulation system solutions that can be built in phases.

Need Statement:

There is a need to improve current traffic operations and reduce traffic congestion experienced along SR 165 (also referred to as Lander Avenue). Various highway segments including the SR 165 bridge over the Merced River and intersections currently experience AM and/or PM peak hour Levels of Service "E/F".

There is a need to reduce truck impacts on traffic operations on SR 165. Regional, inter-regional and local trucks which currently represent between 10-percent (average condition) to 20-percent (during harvest season) of all traffic traveling on SR 165 contribute to congested traffic conditions including through the community of Hilmar. There is a need to improve safety along SR 165. Highway segments currently experience actual accident rates that are higher than the corresponding average accident rates from the intersection with SR 140 to north of Bradbury Road. There is a need to design traffic circulation improvements on or adjacent to SR 165 that will support continued growth in local general plans, community plans and specific plans, combined with future increases in regional and inter-regional traffic to the year 2035 (future growth). Future growth will further increase congestion along SR 165 and lead to increased congestion on both the adjacent county and city roadway systems. There is also a need to design traffic circulation improvements, including improved freeway access between SR 99 and the local roadway system that will support future growth.

The Purpose and Need Statements build the framework of what the PDT will study. To meet them, the PDT will consider:

- Alternative routes, including a SR 165 bypass;
- Other circulation system alternatives;

Approval of the Purpose and Need Statements for the State Route 99 – State Route 165 Project Study Report

- Alternative freeway access between State Route 99 (SR 99) and the local roadway system;
- Alternative crossings over the Merced River;
- Long-term and phased circulation system improvements; and
- Circulation system improvements that are consistent/compatible with approved State, regional and local planning.

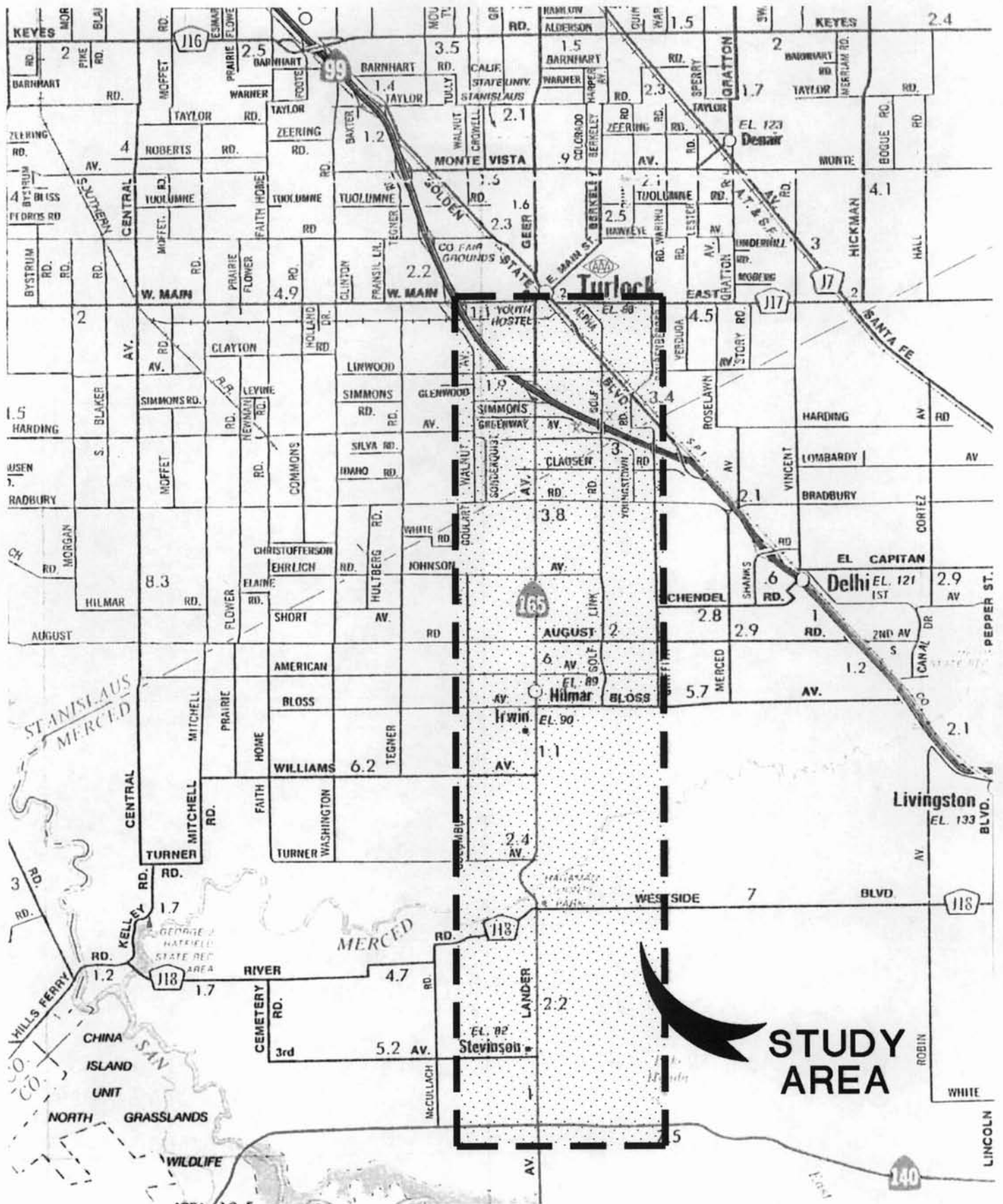
POLICY ISSUES:

The Board should consider if the recommended actions are consistent with its priorities of providing a safe community, a healthy community and a well-planned infrastructure system.

STAFFING IMPACT:

There is no staffing impact associated with this item.

DL:jg
L:\Janelle\BOARD ITEMS\Purpose & Need



SR 99/SR 165 PSR

Figure 1

Project Study Area Map



MEMORANDUM

To: Merced County Association of Governments (MCAG)	Date: May 1, 2009
Attn: Bob Morrison	Project: SR 99 – SR 165 PSR
From: Joe Weiland	
Re: Purpose and Need	Job No.: 25-4701-01
Cc: PDT Members	File No.: C1078MEM015

INTRODUCTION

The purpose of this memorandum is to identify the “Purpose and Need” for the State Route (SR) 99 – SR 165 Project Study Report (PSR) project. The “Purpose and Need” has been developed through a collaborative effort involving the Project Development Team (PDT), Citizens Advisory Committee (CAC) and the Policy Advisory Committee (PAC).

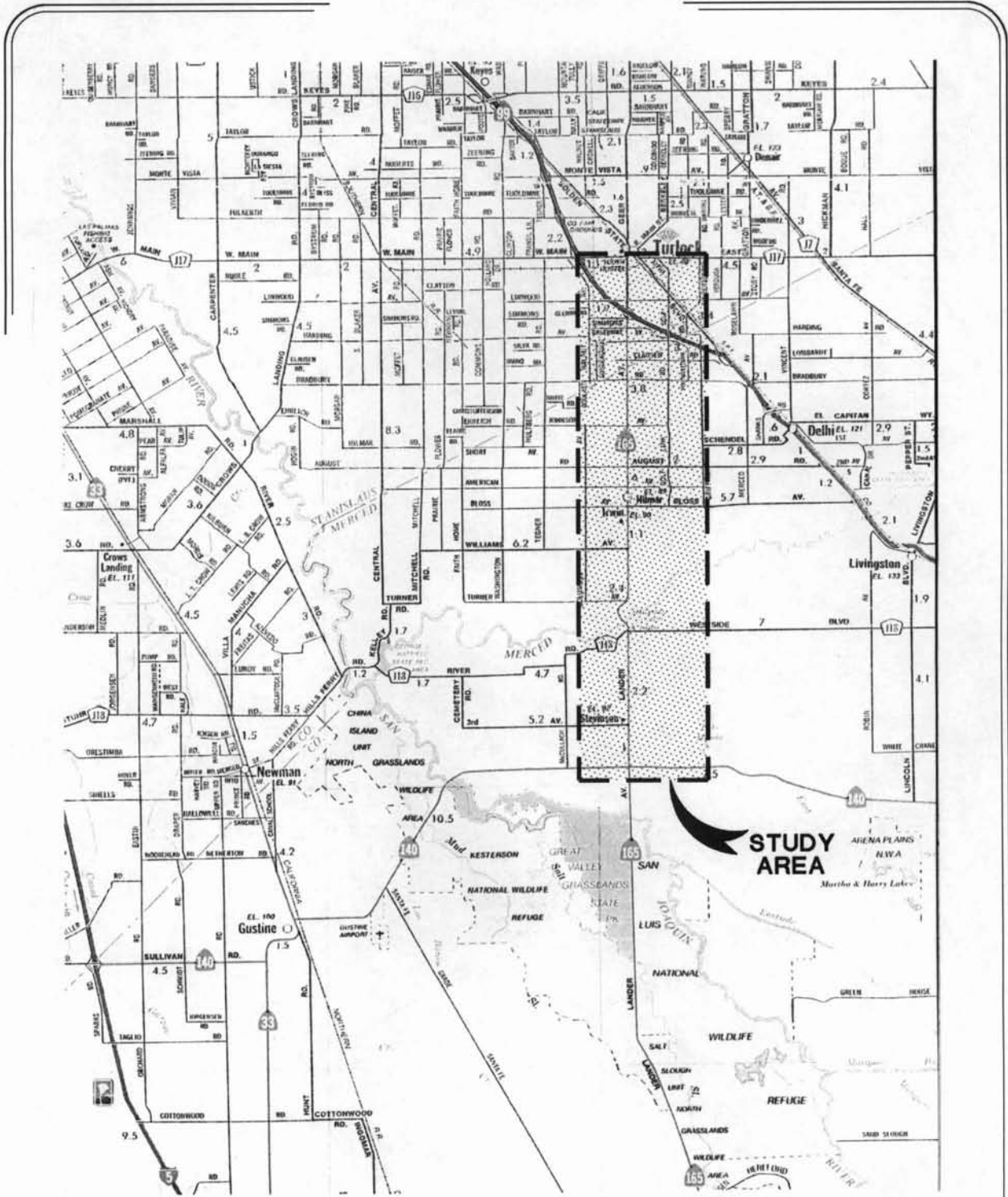
PROJECT BACKGROUND

Federal Demonstration Program funds have been allocated to this project for use during both the Project Initiation Document (PID) and the Project Approval and Environmental (PA&ED) project development phases. This funding is provided from two funding sources as shown in the following table. The project is currently in the PID phase and a Project Study Report (PSR) will be the project initiation document. The \$0.4 million HPP funding and the \$1.0 million TI funding shown in the table have been federally earmarked for the development of the PSR and for further work in the PA&ED project phase.

Funding	Section & Project #	Description of Funding Scope	Funding Amount	5-Year Alloc. of SAFETEA-
High Priority Project (HPP)	Sec. 1702 #716	“Conduct a Project Study Report for new SR 99 Interchange and Safety Improvements/ Realignment of SR 165, serving Turlock/Hilmar region”	\$400,000	FY 2005: 20%* FY 2006: 20%* FY 2007: 20%* FY 2008: 20%* FY 2009: 20%*
Transportation Improvements (TI)	Sec. 1934 #18	“Hilmar/Turlock CA SR 99 Interchange and Safety Improvements/Realignment of SR 165; Project Study Report and Environmental Studies in Merced and Stanislaus Counties”	\$1,000,000	FY 2005: 10%* FY 2006: 20%* FY 2007: 25%* FY 2008: 25%* FY 2009: 20%*

* - Each annual allocation will be further reduced by Obligation Authority (OA) %

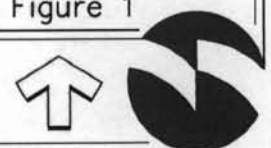
The project study area currently extends along (and to either side of) the State Route (SR) 165 (Lander Avenue) corridor from just south of the intersection with State Route (SR) 140 in Merced County, north through the interchange with State Route (SR) 99 to approximately W. Main Street/East Avenue in Stanislaus County (in the City of Turlock). The project study area also extends along SR 99 from south of the Golden State Boulevard interchange in Merced County north to the W. Main Street interchange in Stanislaus County (in the City of Turlock). The approximate boundaries of the project study area are shown on Figure 1.



SR 99/SR 165 PSR

Figure 1

Project Study Area Map



K:\PR\1078\1078\1078T0038.dwg 4/21/2009 8:59:03 AM PDT

The project covers three jurisdictions: Merced County, Stanislaus County, and the City of Turlock. The State highway facilities are operated and maintained by the California Department of Transportation (Caltrans). Five local agencies have agreed to cooperate with Caltrans to implement the project. These agencies include Merced County, Merced County Associations of Governments (MCAG), Stanislaus County, Stanislaus Council of Governments (STANCOG), and the City of Turlock. A Memorandum of Understanding (MOU) has been approved by the five agencies for the purpose of cooperatively preparing a PSR for transportation improvements involving SR 165 and SR 99 in and/or proximate to the City of Turlock, the County of Stanislaus and the County of Merced.

PURPOSE AND NEED

Need:

There is a need to improve current traffic operations and reduce traffic congestion experienced along SR 165 (also referred to as Lander Avenue). Various highway segments including the SR 165 bridge over the Merced River and intersections currently experience AM and/or PM peak hour Levels of Service "E/F". There is a need to reduce truck impacts on traffic operations on SR 165. Regional, inter-regional and local trucks which currently represent between 10-percent (average condition) to 20-percent (during harvest season) of all traffic traveling on SR 165 contribute to congested traffic conditions including through the community of Hilmar. There is a need to improve safety along SR 165. Highway segments currently experience actual accident rates that are higher than the corresponding average accident rates from the intersection with SR 140 to north of Bradbury Road. There is a need to design traffic circulation improvements on or adjacent to SR 165 that will support continued growth in local general plans, community plans and specific plans, combined with future increases in regional and inter-regional traffic to the year 2035 (future growth). Future growth will further increase congestion along SR 165 and lead to increased congestion on both the adjacent county and city roadway systems. There is also a need to design traffic circulation improvements, including improved freeway access between SR 99 and the local roadway system that will support future growth.

Purpose:

The primary purpose of this project is to improve safety and traffic operations and reduce current and future congestion along SR 165, including congestion within the community of Hilmar, and to improve freeway access between SR 99 and the local roadway system to support continued growth in local general plans, community plans and specific plans.

Secondary purposes of the project include:

- Facilitate goods movement including the movement of agricultural products from field to processing plant and from processing plant to market.
- Widen, replace or relocate the existing SR 165 Bridge over the Merced River.
- Move regional and inter-regional truck traffic around the community of Hilmar.
- Improve local traffic circulation within the project study area.
- Support continued growth in the Merced County, Stanislaus County and City of Turlock General Plans; the community of Hilmar Community Plan; and the City of Turlock's SE Turlock Specific Plan.
- Implement long-term circulation system solutions that can be built in phases.

ACTIONS TO MEET PURPOSE AND NEED

To meet the need and purpose, the PDT will consider:

- alternative routes, including a SR 165 bypass;
- other circulation system alternatives;
- alternative freeway access between State Route 99 (SR 99) and the local roadway system;

- alternative crossings over the Merced River;
- long-term and phased circulation system improvements; and
- circulation system improvements that are consistent/compatible with approved State, regional and local planning.

SUPPORTING DOCUMENTATION FOR THE PURPOSE AND NEED / DEFICIENCIES

The companion report “SR 99 – SR 165 PSR Transportation Deficiencies Report for Base (No Build) Study Area Conditions – Working Paper #1” (OMNI-MEANS, April 2009) provides data and information in support of the project’s “Need”. This report presents existing and projected future (year 2035) transportation deficiencies within the project’s study area for the “No Build” condition. This report also discusses current locations that have actual accident rates that exceed the corresponding average accident rates and discusses current study area corridor and system planning. The existing and future transportation deficiencies identified in Working Paper #1 are summarized as follows:

CURRENT STATE ROUTE (SR) 165 DEFICIENCIES

Intersections: The SR 165 intersections with Geer Avenue, August Avenue, Fowler Avenue and Greenway Avenue currently experience AM and/or PM peak hour Levels of Service (LOS) that do not meet the LOS standard as shown below.

SR 165 Intersections

Intersection	LOS Standard	AM Peak Hour LOS	PM Peak Hour LOS
SR 165 / Geer Avenue (Hilmar)	D	F	
SR 165 / August Avenue (Hilmar)	D	F	E
SR 165 / Fowler Avenue	D		F
SR 165 / Greenway Avenue	D	F	F

Source: SR 99 – SR 165 PSR Transportation Deficiencies Report for Base (No Build) Study Area Conditions – Working Paper #1, Table 4

Highway Segments: The SR 165 highway segments north of River Road (across the Merced River), between Johnson Avenue and Bradbury Road, and south of West Greenwood Avenue currently experience AM and/or PM peak hour service levels that do not meet the LOS standard as shown below. The segment shown in the table north of River Road includes the SR 165 bridge across the Merced River. In addition to traffic volumes, the alignment of SR 165 at the approaches combined with the width and configuration of the bridge contribute to the poor LOS.

SR 165 Highway Segments

Roadway Segment (All 2-Lane Highway Segments)	LOS Standard	AM Peak Hour LOS	PM Peak Hour LOS
SR 165 North of River Road (across the Merced River)	D	E	E
SR 165 between Johnson Ave. and Bradbury Rd.	D		E
SR 165 South of W. Greenwood Ave.	D	E	E

Source: SR 99 – SR 165 PSR Transportation Deficiencies Report for Base (No Build) Study Area Conditions – Working Paper #1, Table 5

Accident Data: There are a number of intersections and highway segments that currently experience accidents over a three-year period at a rate higher than the statewide average. These include the following locations with one or more actual accident rate greater than the corresponding average accident rate:

SR 165 Intersections

SR 165 Intersection @	No. of Accidents			Actual Accident Rate (Per MVE)			Expected Average Accident Rate		
	FAT	INJ	TOTAL	FAT	F + I	TOTAL	FAT	F+I	TOTAL
Junction SR 140	0	4	8	0.000	0.43	0.86	0.009	0.31	0.70
Third Avenue (Stevinson)	0	1	5	0.000	0.10	0.51	0.008	0.16	0.33
Westside Boulevard	0	2	5	0.000	0.18	0.46	0.004	0.10	0.22
Bloss Avenue	1	4	14	0.055	0.27	0.77	0.008	0.16	0.33
August Avenue	0	4	9	0.000	0.24	0.54	0.008	0.16	0.33

TOTAL– Total of all accidents; *INJ* – Injury Accident; *FAT* – Fatal Accident, *F+I* – Fatal + Injury; *MVE* – Million Vehicles Entering the intersection.

Source: SR 99 – SR 165 PSR Transportation Deficiencies Report for Base (No Build) Study Area Conditions – Working Paper #1, Table 8.

Accident data is for the three year period from October 1, 2003 through September 30, 2006.

The predominant collision types at each intersection typically included “rear end”, “broadside”, and “sideswipe” collisions. In addition, the SR 165 intersection with Westside Boulevard experienced three (3) “over turn” collisions while the SR 165 intersection with Bloss Avenue (Hilmar) included two “auto/pedestrian” collisions.

SR 165 Highway Segments

SR 165 Highway Segment	No. of Accidents			Actual Accident Rate (Per MVM)			Expected Average Accident Rate		
	FAT	INJ	TOTAL	FAT	F + I	TOTAL	FAT	F+I	TOTAL
SR 140 to Third Ave (Stevinson)	0	4	11	0.000	0.61	1.67	0.037	0.48	1.00
Third Ave to Westside Blvd. (Stevinson)	1	13	32	0.050	0.69	1.59	0.037	0.48	0.98
Westside Blvd to Williams Ave.	2	11	36	0.090	0.59	1.63	0.036	0.46	0.94
Williams Ave to Bloss Ave (Hilmar)	1	11	47	0.072	0.87	3.39	0.039	0.55	1.14
Bloss Ave (Hilmar) to 1 st Street (Hilmar)	1	6	23	0.231	1.62	5.31	0.040	0.57	1.17
1 st Street to American Ave (Hilmar)	0	6	28	0.000	1.20	5.60	0.040	0.57	1.17
American Ave (Hilmar) to Bradbury Rd	2	24	82	0.040	0.52	1.65	0.035	0.46	0.96
North of Bradbury Road	0	4	13	0.000	0.67	2.17	0.035	0.45	0.92

TOTAL– Total of all accidents; *INJ* – Injury Accident; *FAT* – Fatal Accident, *F+I* – Fatal + Injury; *MVM* – Million Vehicle Miles.

Source: SR 99 – SR 165 PSR Transportation Deficiencies Report for Base (No Build) Study Area Conditions – Working Paper #1, Table 9.

Accident data is for the three year period from October 1, 2003 through September 30, 2006.

The predominant collision types varied by highway segment but typically included “rear end”, “broadside”, “sideswipe”, “head on”, “over turn” and “hit object” collisions. In addition, each SR 165 highway segment between Third Avenue (Stevinson) and Bloss Avenue (Hilmar) included two “auto/pedestrian” collisions.

Truck Traffic: SR 165 is north/south route beginning at Interstate 5 (I-5) south of Santa Nella in Merced County and ends at State Route 99 (SR 99) in the City of Turlock in Stanislaus County. This route serves the communities of Los Banos, Stevinson, Hilmar and Turlock and is widely used for commuter traffic between these cities and communities as well as offering a connection for regional traffic including heavy

trucks between I-5 and SR 99. SR 165 also carries a large amount of agricultural truck traffic needed to transport the significant agricultural resources produced along this corridor from field to processing plant and from processing plant to market. Approximately 10% of the traffic traveling on SR 165 is truck traffic with trucks increasing to approximately 22% of all traffic on this route during the harvest season. The presence of these trucks contributes to the congestion and accidents currently experienced along the highway corridor.

SR 165 also serves as the primary north/south arterial through the community of Hilmar. The highway traverses past schools (Elim Union Elementary School and Hilmar High School), residences and through the central business district. The presence of the high percentage of truck traffic traveling through the community contributes to congested traffic operations and affects vehicular and pedestrian safety.

FUTURE DEFICIENCIES (TO YEAR 2035)

Continued growth in the Merced County, Stanislaus County and City of Turlock General Plans; the community of Hilmar Community Plan; and the City of Turlock's SE Turlock Specific Plan combined with increases in regional and inter-regional traffic by the project's design year 2035 (future growth) will increase congestion along SR 165 as shown in the following table.

SR 165 Intersections

Intersection	LOS Standard	AM Peak Hour LOS	PM Peak Hour LOS
SR 165 / SR 140	D	F	F
SR 165 / Westside Boulevard	D	F	F
SR 165 / River Road	D	F	F
SR 165 / Williams Avenue	D	F	F
SR 165 / Geer Avenue	D	F	F
SR 165 / American Avenue	D		E
SR 165 / August Avenue	D	F	F
SR 165 / Fowler Avenue	D	F	F
SR 165 / Clausen Road	D	F	F
SR 165 / Greenway Avenue	D	F	F
SR 165 / West Glenwood Avenue	D	F	F
SR 165 / SR 99 SB Ramps	D		E

Source: SR 99 – SR 165 PSR Transportation Deficiencies Report for Base (No Build) Study Area Conditions – Working Paper #1, Table 12

SR 165 Highway Segments

Roadway Segment (All 2-Lane Highway Segments)	LOS Standard	AM Peak Hour LOS	PM Peak Hour LOS
SR 165 South of Westside Boulevard	D		E
SR 165 north of River Road (across the Merced River)	D	E	E
SR 165 between Johnson Ave. and Bradbury Rd.	D	E	E
SR 165 South of W. Greenwood Ave.	D	E	E

Source: SR 99 – SR 165 PSR Transportation Deficiencies Report for Base (No Build) Study Area Conditions – Working Paper #1, Table 13

Future growth will lead to increased traffic congestion on both county and city circulation systems as shown in the following table.

County/City Intersections

Intersection	LOS Standard	AM Peak Hour LOS	PM Peak Hour LOS
Lander Avenue / E. Glenwood Avenue	C	E	E
Golf Link Road / Clausen Road	C		D
Golf Road / East Glenwood Avenue	C	F	F
Golf Road / East Linwood Avenue	C	F	F
Berkeley Avenue / 1st Street	C	F	F
Berkeley Avenue / Golden State Boulevard			
<i>Eastbound Golden State Boulevard</i>	C	F	F
<i>Westbound Golden State Boulevard</i>	C	F	F
Griffith Avenue / Golden State Boulevard			
<i>Eastbound Golden State Boulevard</i>	C	E	F
<i>Westbound Golden State Boulevard</i>	C	D	

Source: SR 99 – SR 165 PSR Transportation Deficiencies Report for Base (No Build) Study Area Conditions – Working Paper #1, Table 12

Future growth will also lead to operational deficiencies on SR 99 and increased congestion on freeway ramps. SR 99 is generally projected to experience Level of Service “F” on the mainline and at the ramp junctions between the Golden State Boulevard and the West Main Street interchanges.

ATTACHMENT

Caltrans Project Development Procedures Manual (PDPM), Chapter 9 – Project Initiation, Article 4 – Essential Procedures, Purpose and Need – Defining the Transportation Problem

Purpose and Need – Defining the Transportation Problem

All PIDs shall contain a statement of “Purpose and Need” for the transportation improvement. This statement of purpose and need must be based on needs and objectives identified in the planning process. The statement should be developed by and have the consensus of the project sponsor and members of the Project Development Team (PDT). The PID must present information in an organized manner to support the purpose and need statement. Supporting information to the purpose and need statement includes the background of the transportation problem, system and corridor planning, and data on transportation deficiencies that validate the need for the project.

A clear, well-justified purpose and need statement explains to the public and decision makers that the expenditure of funds is necessary and worthwhile, and that the priority of the project, relative to other transportation needs, is warranted. The purpose and need statement is the foundation of any project regardless of the funding source. The purpose and need drives the process for consideration of the range of alternatives to be studied, the analysis, and ultimate selection. The statement should be written so that the consequences of the “no build” alternative are self-evident.

A project “need” is an identified transportation deficiency. Typical transportation deficiencies are related to safety, congestion relief, connectivity of the highway system, multi-modal connectivity, access, operation, facility preservation, and legal mandates. A need must be supported by evidence that a problem exists.

A project’s “purpose” is the objectives that will be met to address the transportation deficiency. Objectives should be quantified during the project initiation phase and measures should be used to develop, evaluate, and compare reasonable solutions.

The project’s purpose and need statement must be as comprehensive and as specific as possible. Establishment of the appropriate breadth for the purpose and need promotes a suitable range of alternatives. If a statement is too vague, such as “provide a connection between City A and City B,” then the range of alternatives could be very broad. The above statement could imply that alternatives for air transportation be considered when that alternative may be outside of the funding criteria. On the other hand, the purpose and need statements must not be so narrow that it precludes studying reasonable alternatives that meet the underlying need.

The purpose statement should clearly describe both planned expectations for the State’s transportation system and sponsor’s goals. An example of providing specificity is to include a statement that identifies the purpose as “completion of the California Freeway and Expressway portion of a route for interregional truck traffic with a connection to the existing rail system and to improve the LOS.” This is a positive statement (compared to “provide a connection between Cities A & B”) that addresses a specific need for truck traffic capacity, the continuity with the freight system and an unacceptable LOS.

The purpose and need statement may need to be refined, as appropriate, until approval of the project. A key factor in the refinement of a purpose and need statement is the participation of a broad range of Department functional units, community representatives, and public stakeholders. As information is gathered about the project and corridor, one may find more information about the underlying cause of a problem. For example, it may be assumed that the cause of congestion is the commuter traffic to and from the downtown area; however, follow-up studies indicate that additional housing also generates numerous trips to and from the university within a specific segment of the commuter corridor. New information may lead to a refinement of the purpose and need statement so that it can include the improved connectivity to transit, pedestrians, and bicycles in the corridor.

The final design reflected in the construction documents and any modification to the design during construction must be consistent with the approved purpose and need of the project.

Additional information and resources on Purpose and Need statement development can be found at the following website: http://www.dot.ca.gov/hq/env/emo/purpose_need.htm.

The project scope may be refined as the project progresses through to project approval. The project scope shall remain consistent with the purpose and need of the project. Any changes to the programmed project scope will require a Program Change Request (PCR) and supporting engineering documentation. A PCR alone is not sufficient to adequately document the engineering decision to change the scope of a project and provide for design immunity protection in tort liability. Additional information on scope changes can be found in Chapter 6 – Project Cost, Scope, and Schedule Changes.