

CHAPTER 1 – PROPOSED PROJECT

1.1 INTRODUCTION

Caltrans, FHWA, and the Sacramento Transportation Authority (STA) propose to add bus/carpool lanes in the median of Interstate 80 (I-80) in Sacramento County from east of the Sacramento River to Watt Avenue (PM 0.3/10.4). The total length of the project is approximately 10 miles. The project includes auxiliary lanes in the eastbound and westbound directions between West El Camino Avenue and the Interstate 5 (I-5)/I-80 separation and between Northgate Boulevard and Norwood Avenue. Retaining walls and sound walls are proposed at various locations along the project. Figure 1-1 shows the project location.

1.2 SCOPE OF THIS ENVIRONMENTAL IMPACT REPORT/ENVIRONMENTAL ASSESSMENT

This document contains environmental analyses pertaining to the I-80 Across the Top Bus/Carpool Lanes Project from the Sacramento River to Watt Avenue in Sacramento County, California. This document satisfies requirements of the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). FHWA is the lead agency for NEPA and Caltrans is the lead agency for CEQA.

This Draft Environmental Impact Report/Environmental Assessment (EIR/EA) is an informational document that: 1) informs the public agency decision-makers and the public of the environmental effects of the proposed project; and 2) identifies potential mitigation measures to minimize any adverse impacts.

A Notice of Preparation (NOP) to prepare an EIR was released in September 2006.

Opportunities for public comment on the Draft EIR/EA will occur during the 45-day public availability period and at the public meetings/open houses that Caltrans will hold on this document. The Final EIR/EA will take into account comments received on the Draft EIR/EA during the 45-day comment period.

1.3 PURPOSE AND NEED

Purpose

The purpose of the project is:

- to provide congestion relief in order to improve traffic flow on the regional transportation system,
- promote the use of high occupancy vehicles, such as carpools, van pools, and transit, and
- provide greater connectivity with the existing and proposed bus/carpool network in the Sacramento region, and help achieve the goals of the SACOG 2006 Metropolitan Transportation Plan.

Need

Traffic Congestion and Capacity

I-80 is the primary east-west route in Northern California. Monitoring of traffic conditions during peak commute periods has shown a steady increase in both duration and length of congestion on the I-80 corridor. The congestion primarily occurs in the westbound direction during the morning commute and the eastbound direction during the evening commute.

Traffic congestion is classified as recurrent or non-recurrent. Recurrent congestion is repeated at the same location and same time of day. Recurrent congestion is defined as a condition where vehicle

speeds are reduced to 35 mph or less and lasting for 15 minutes or longer during an incident-free period. Non-Recurrent congestion is non-repeating and caused by incidents such as traffic accidents, weather and road construction.

Table 1-1 shows the volumes for the heavier peak direction for the 4-hour peak AM and PM periods for 2004 and 2034. The increase in the 4-hour future peak period demand volumes from 2004 to 2034 in both directions ranges from 46% to 120%. Capacity for this segment of I-80 is between 1,800 – 2,000 vehicles per hour per lane.

I-80 Eastbound Traffic Conditions (PM)

The 2006 Traffic Study (Fehr & Peers 2006) summarized existing congestion along this portion of I-80. In the eastbound direction during the PM peak hour, the main bottleneck is at the Northgate Boulevard interchange, which causes queues that extend to I-5. The congestion lasts from 3:00 to 6:15 PM. However, downstream bottlenecks also exist near the Norwood Avenue on-ramp and the Winters Street off-ramp, which cause minor congestion.

During the evening peak period, recurrent traffic congestion in this segment of I-80 in the eastbound direction occurs in and near the I-5/I-80 separation and east of Winters Street on I-80. In 2004, this segment experienced delays of 97,500 vehicle-hours per year. In 2006, congestion monitoring showed the average speed from West El Camino to Winters Street during the 4 PM to 5 PM peak period was 29 mph. The normal travel time between these two points at 65 mph is 6.5 minutes, and increases to nearly 15 minutes (29 mph average speed) when congested. The congestion is due to the considerable volume of traffic weaving and merging between eastbound I-80 from the northbound I-5 connector and Truxel Avenue. Additional congestion is also caused by a combination of high traffic volumes ascending the grade on the Natomas East Main Canal Bridge with a large number of vehicles merging from the Northgate Boulevard interchange.

Level of service (LOS) is used to express the traffic flow conditions of a road segment in relation to the capacity of the roadway. LOS generally describes traffic conditions in terms of speed and travel time, volume and capacity, traffic interruptions, and safety. LOS uses the letters “A” through “F” to describe traffic flow, with “A” being free flow and “F” being gridlock (see Figure 1-2). During the PM peak period, the freeway operates with level of service (LOS) C conditions from the Yolo/Sacramento county line to I-5 and with LOS D conditions from Winters Street to Watt Avenue, with LOS F in between.

Increasing growth along the I-80 corridor and in areas east of Sacramento will put more pressure on the mainline capacity by infusing greater volumes of traffic into already congested areas. Increased traffic volumes will also reduce traffic speeds to congestion levels (35 mph or less) in other parts of this segment.

I-80 Westbound Traffic Conditions (AM)

Between the Watt Avenue interchange and the Sacramento River, the westbound direction experiences recurrent traffic congestion during the morning peak period. Traffic delays have typically occurred within the limits west of Watt Avenue and Northgate Boulevard. In 2004, the average speed during the peak period was 31.5 mph. Without major highway improvements in this area, anticipated future growth is expected to increase the limits of westbound congestion further west beyond Norwood Avenue towards the I-80/I-5 separation.

In the westbound direction during the AM peak period, the bottlenecks between Raley Boulevard and Northgate Boulevard cause queues that extend back to the Longview Drive interchange. The end of the existing bus/carpool lane and the associated lane drop just west of the Longview Drive off-ramp also create congested conditions that extend to the Watt Avenue on-ramp. The congestion conditions (speeds below 35 mph) last from 6:45 to 8:45 AM. These conditions are reflected in the peak hour

analysis results, which are LOS F from Watt Avenue to Northgate Boulevard. From Northgate Boulevard to the Yolo/Sacramento county line, all locations operate at LOS D or better.

Current traffic conditions on the I-80 corridor between the Watt Avenue interchange and the Sacramento River during the evening peak period do not yet warrant congestion monitoring in the westbound direction.

Interstate 80 also serves as a principal recreational route between the Sacramento/Bay Area and the North Tahoe area. Consequently, westbound traffic volumes on Sunday afternoons and evenings are typically heavier than during other “off-peak” periods.

Move more people in fewer vehicles

Bus/carpool lanes can promote the movement of more people in fewer vehicles (carpools, vanpools, transit) by:

- Increasing the overall person-moving capacity of a roadway. An effective bus/carpool lane moves more people in fewer vehicles and will typically carry a higher number of persons than a mixed-flow lane. Mixed-flow lanes allow all types of vehicles, including single-occupant cars, carpools, vans, buses, and trucks.
- Maintaining free-flow speeds and providing a more dependable, predictable commute compared to the mixed-flow lanes, which typically operate under congested conditions.
- Carrying 2-3 times the passenger volume as mixed-flow lanes.
- Operating during the peak commute times (requiring 2 or more people) between 6 to 10 AM and 3 to 7 PM Monday through Friday.

Greater Connectivity with Bus/Carpool Network

The project is an important part of the larger existing and planned bus/carpool network in the Sacramento region. The project is a continuation of the existing bus/carpool lanes that extend from Watt Avenue to the Sacramento/Placer County line. By 2012, these lanes will extend to Highway 65 in Roseville, creating over 22 miles of bus/carpool lanes along I-80 and serving both Sacramento and Placer Counties.

Bus/carpool lanes are incorporated in regional transportation plans, including the 2005/2007 MTIP, the 2006 MTP, Measure A funding, and the Sacramento Regional Blueprint (see Section 1.8). The I-80 bus/carpool lane project is included in each of these plans.

1.4 PROJECT DESCRIPTION

The project proposes to construct bus/carpool lanes in the median of I-80 in Sacramento County from east of the Sacramento River to Watt Avenue (PM 0.3 – 10.4). The project also includes auxiliary lanes in the eastbound and westbound directions between the West El Camino Avenue interchange and the I-5/I-80 separation and between Northgate Boulevard and Norwood Avenue. Retaining walls and sound walls are proposed at various locations along the project.

1.5 ALTERNATIVES

1.5.1 Project Alternatives

There are two proposed alternatives:

Alternative 1: Bus/Carpool Lanes and Auxiliary Lanes

Alternative 1 would connect to the existing bus/carpool lanes that extend east from Watt Avenue to Placer County (see Figure 1-3a – 3d). Specifically, Alternative 1 would:

- Add a 12-foot bus/carpool lane, a minimum 10-foot median shoulder with an exception, and a 1-foot area for a concrete median barrier in each direction from Watt Avenue to West El Camino Avenue.
- Add 12-foot eastbound and westbound auxiliary lanes in two locations, from West El Camino Avenue to I-5 and between Northgate Boulevard and Norwood Avenue.
- Widen four structures: Natomas East Canal Bridge and Overhead, Rio Linda Boulevard Undercrossing, Winters Street Undercrossing, and Del Paso Park Separation Overhead. All structures will be widened to the inside.
- Install ramp metering and bus/carpool bypass lane on-ramps at selected interchanges, if feasible.
- Construct sound walls and retaining walls at various locations.

Alternative 2: No Build

The No-Build alternative (Alternative 2) would not add any improvements to the existing facility. Alternative 2 would not address future growth. Without improvements to the existing facility, the level of service will continue to deteriorate and peak periods of congestion will increase. With a no build alternative, existing freeway lane configuration would remain while other future projects within the project limits are constructed. Alternative 2 would not add capacity and therefore would create longer delays.

1.5.2 Alternatives Considered But Dropped

Traffic Report (2006)

Several alternatives were analyzed as part of the 2006 Traffic Report completed for the project (a copy of the traffic study is available from Caltrans):

Mixed Flow Alternative

When considering ways to reduce freeway congestion, adding mixed flow traffic lanes seems an obvious approach. Mixed-flow lanes allow all types of vehicles, including single-occupant cars, carpools, vans, buses, and trucks. However, for the following reasons, a mixed flow alternative was not fully evaluated:

- The mixed-flow alternative does not meet the purpose and need; specifically, it does not promote the use of high occupancy vehicles and is not included in SACOG's 2006 MTP (see bullet below).
- The Traffic Report for the project indicated that by the year 2034, the mixed-flow alternative would serve fewer persons and have higher delays than the bus/carpool lane alternative.
- In the 2005/07 MTIP, SACOG describes the project as "construct HOV lanes from Longview Drive to the Yolo County line." The 2005/07 SACOG MTIP identified bus/carpool lane alternatives as having both superior air quality benefits and superior mobility benefits over mixed flow lanes.
- Bus/carpool lanes, not mixed-flow, are included in all three scenarios presented for the eastern 1-80 corridor in SACOG's early 2035 MTP discussions.
- Mixed-flow alternative offer no incentives for carpooling or transit use.
- Because of air quality concerns, federal funding is not available for mixed flow lanes.
- The project is an important part of the larger existing and planned bus/carpool network proposed for the Sacramento region. Mixed-flow lanes are not part of this network.

HOT Lanes

High-occupancy toll (HOT) lanes allow single-occupant vehicles to use the bus/carpool lane for a fee that is based typically on the amount of congestion in the mixed-flow lanes. An analysis of the proposed US-50 bus/carpool lanes in Sacramento by Dowling and Associates in 2006 concluded that HOT lanes would be infeasible. The report found that projected congestion would not be great enough

to generate toll rates and revenues necessary to generate a positive cost/benefit ratio. The HOT lane would have a limited number of access points (necessary for toll collection and enforcement purposes). Bus/carpools have more freedom to switch to the bus/carpool lane. But with the limited number of access points for the HOT lane, a number of bus/carpools are forced to use the general-purpose lanes. These bus/carpools experience increased time costs, and cause more congestion in the general-purpose lanes. The barrier-separated design may also have right-of-way impacts and higher construction costs. (Dowling 2006).

Mixed-Flow to Bus/Carpool Lane Conversion (“Take-a-lane”)

One option to provide a bus/carpool lane facility in the study area would be to convert an existing lane on I-80 to a bus/carpool lane (as known as “take-a-lane”). Under such an alternative, the existing inside shoulder lane (the leftmost lane) would be re-striped and signed to prohibit non-bus/carpool traffic during the peak period. Unlike Alternative 1, the mixed-flow to bus/carpool lane conversion would reduce mixed-flow lane capacity.

For the westbound direction, the bus/carpool lane would be continued in the left lane from the current terminus before the Longview Drive on-ramp through to east of West El Camino Avenue. Given the 2034 peak-hour bus/carpool lane forecast volume of 1,200 vehicles per hour and the average freeway capacity of 2,200 vehicles per hour per lane, the lane conversion alternative would have 28 percent less vehicle capacity than Alternative 1. For the eastbound direction, a lane transition with an outside lane drop to the West El Camino Avenue off-ramp would be needed to begin the bus/carpool lane west of West El Camino Avenue. The existing two-lane section at the I-5 overcrossing would become one mixed-flow lane and one bus/carpool lane. Given the 2034 peak-hour bus/carpool lane forecast volume of 700 vehicles per hour and the average freeway capacity of 2,200 vehicles per hour per lane, the lane conversion alternative would have 43 percent less vehicle capacity than Alternative 1. Therefore, the lane conversion alternative would serve fewer people and create lower average speeds than Alternative 1.

1.6 PROJECT SCHEDULE

The current project schedule is as follows:

- Circulate Draft EIR/EA: April/May 2007
- Final EIR/EA: Summer 2007
- Begin Construction: June 2009
- End Construction: October 2011

1.7 PROJECT BACKGROUND AND HISTORY

The project has been included in various studies, plans, and programs since 1988. These include:

- National Strategic Transportation Study (U.S. Department of Transportation)
 - 1988 study that recommended widening I-80 with bus/carpool lanes between I-5 and the City of Roseville.
- Transportation Concept Report (Caltrans)
 - 2001 report recommending adding a bus/carpool lane in each direction from I-5 to the Placer County line.
- Sacramento Transportation Authority (STA) Congestion Management Program
 - The Program has recommended bus/carpool lanes between I-5 and the Placer County line since 1991.

- Sacramento County Strategic Plan
 - The Plan has listed bus/carpool lanes between I-5 and the Placer County line since 1994.
- Metropolitan Transportation Improvement Program (MTIP):
 - The program includes a listing of all transportation-related projects requiring federal funding or other approval by the federal transportation agencies.
 - The project was included in the adopted 2005/2007 MTIP.
- Metropolitan Transportation Plan (MTP):
 - The MTP is a 23-year plan for transportation improvements in a six-county region (El Dorado, Placer, Sacramento, Sutter, Yolo, and Yuba).
 - The project is included in the 2006 MTP, which has been adopted by SACOG.
- Measure A Half-Cent Sales Tax, Sacramento County 2004
 - The Measure A Half-Cent sales tax extended an existing half-cent from 2009 to 2030.
 - The bus/carpool project was listed under Freeway Safety and Congestion Relief Program, Regional Bus/Carpool Lane Connectors/Extensions in the 2004 election ballot. All projects included on the ballot are also included in the 2025 MTP.
 - According to Sacramento County Registrar of Voters, countywide, the measure passed with approximately 75% approval by voters. A more detailed approval breakdown is as follows:

▪ City of Sacramento	76%
▪ Unincorporated Sacramento County	74%
- Sacramento Region Blueprint
 - Joint effort of SACOG and Valley Vision.
 - SACOG conducted two years of study and public involvement, resulting in the adoption the Blueprint's Preferred Blueprint Scenario in December 2004. The Blueprint scenario adopted became part of SACOG's Metropolitan Transportation Plan update for 2005, a formal document that serves as a long-range transportation plan for the six-county region. It also will serve as a framework to guide local government in growth and transportation planning through 2050.
- California Transportation Plan 2025
 - The California Transportation Plan 2025 is a blueprint for meeting the State's future transportation needs.
 - Specific policies and strategies include completing the HOV network and maximizing the use of HOV lanes by encouraging transit operators to provide express bus service on HOV lanes.
- Proposition 1B, California State Propositions 2006
 - The proposition directs the State of California to sell \$19.9 billion in general obligation bonds to fund state and local transportation and safety projects, including completing the state's network of carpool lanes.
 - The bus/carpool project was one of the projects listed as part of the proposition.
 - According to the Secretary of State's office, statewide Proposition 1B passed with approximately 61% approval by voters. In Sacramento County, the approval rate was 62%.

1.8 PERMITS AND APPROVALS NEEDED

The following permits, reviews, and approvals would be required for project construction:

Agency	Permit/Approval
United States Fish and Wildlife Service	Section 7 Consultation for Threatened and Endangered Species Review and Comment on 404 Permit
United States Army Corps of Engineers	Section 404 Permit for filling or dredging waters of the United States.
California Department of Fish and Game	1601 Agreement for Streambed Alteration
California Water Resources Board	Water Discharge Permit
Reclamation District 1000	Permit

Table 1-1. EB/WB Existing (2004) Peak Period and Future (2034) Peak Period Demand Volumes

Segment	Westbound 2004 4 hr. A.M. Peak Period	Westbound 2034 4 hr. A.M. Peak Period	Eastbound 2004 4 hr. P.M. Peak Period	Eastbound 2034 4 hr. P.M. Peak Period
	Volume	Volume	Volume	Volume
Yolo/Sac County line to W. El Camino Ave	13,000	30,700	13,300	39,900
W. El Camino Ave to I-5 Junction	12,900	30,100	12,600	34,900
I-5 Junction to Truxel Road	20,700	40,200	20,100	38,400
Truxel Road to Northgate Blvd.	19,900	37,000	18,900	34,300
Northgate Blvd. To Norwood Ave	21,600	38,900	20,900	37,800
Norwood Ave to Raley Blvd	20,500	36,300	21,900	38,900
Raley Blvd to Winters Street	19,700	35,300	21,000	37,300
Winters Street to Longview Drive	23,900	42,800	22,700	40,600

Source: Caltrans District 3 Office of Traffic Operations.

Table 1-2. Three-Year Accident History (4-1-02 to 3-31-05)

Location	Total Accidents	Total Fatalities	Actual Accident Rate*	Average Accident Rate*
Eastbound I-80 Yolo/Sac County Line to Longview Drive	433	1	0.62	0.97
Westbound I-80 Longview Drive to Yolo/Sac County Line	327	1	0.47	0.97

* The accident rate is accidents per million vehicle-miles.

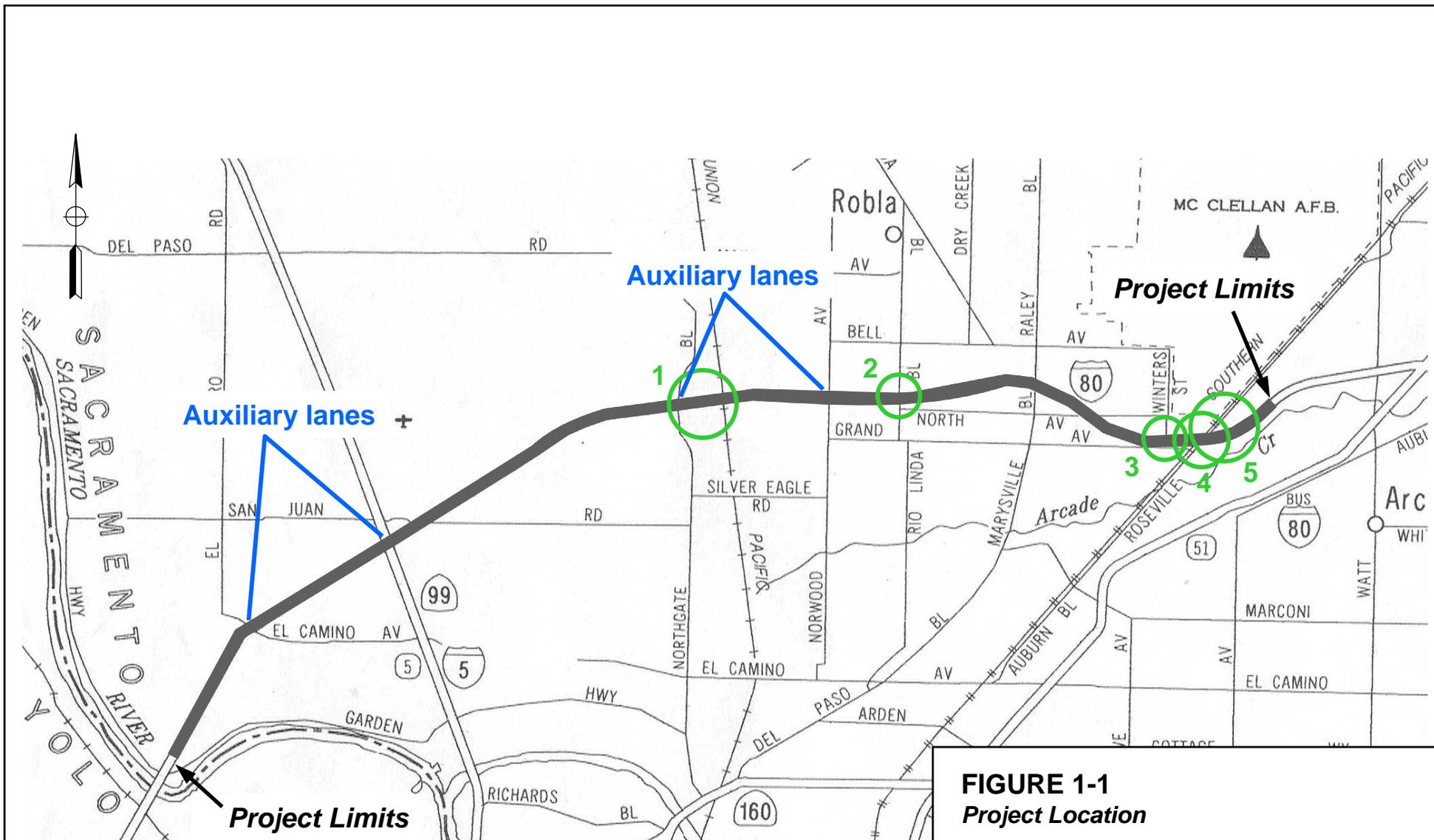
Source: Caltrans District 3

Table 1-3. Accidents By Peak Period and Accident Type

Statistic	Peak Period			Accident Type				Total
	6 to 10 AM	3 to 7 PM	Off-Peak	Rear End	Hit Object	Sideswipe	Other*	
Number	153	283	324	330	214	148	68	760
Percentage	20%	37%	43%	43%	28%	20%	9%	100%

* The "Other" category includes head-on, broadside, overturn, and other accident types.

Source: Caltrans District 3



No scale

Structure Widening:

- 1 Natomas East Main Drain Canal Bridge
- 2 Rio Linda Overhead
- 3 Winters Street Undercrossing
- 4 Longview Drive Overhead (retaining wall)
- 5 Del Paso Park Bridge Overhead

FIGURE 1-1
Project Location

03-Sac-80
Median Lanes and Auxiliary Lanes Project
PM M0.3 / M10.4
EA 03-37970

State of California
Department of Transportation



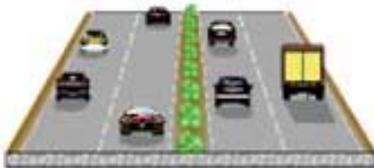
Level of Service	Flow Conditions	Operating Speed (mph)	Technical Descriptions
A		70	Highest quality of service. Traffic flows freely with little or no restrictions on speed or maneuverability. No delays
B		70	Traffic is stable and flows freely. The ability to maneuver in traffic is only slightly restricted. 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 1-2

Levels of Service (LOS) for Freeways

03-Sac-80

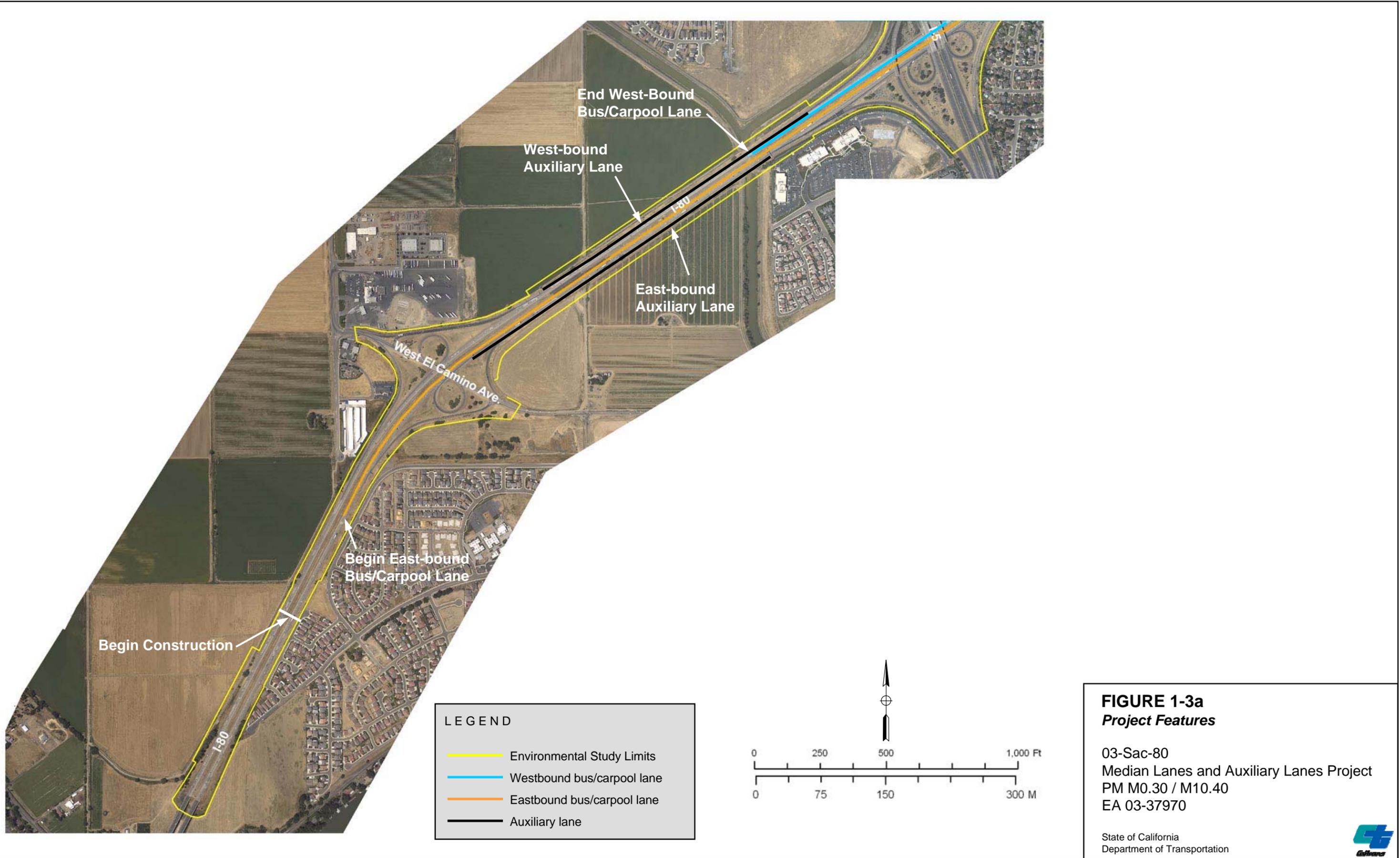
Median Lanes and Auxiliary Lanes Project

PM M0.3 / M10.4

EA 03-37970

State of California
Department of Transportation





LEGEND

- Environmental Study Limits
- Westbound bus/carpool lane
- Eastbound bus/carpool lane
- Auxiliary lane

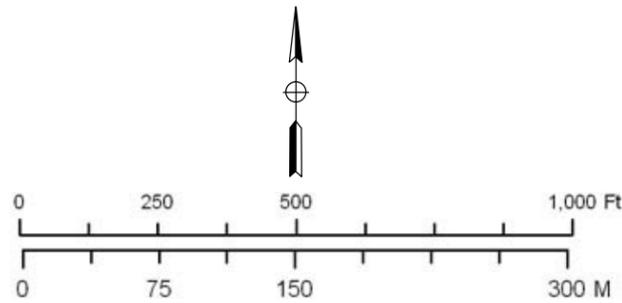


FIGURE 1-3a
Project Features

03-Sac-80
 Median Lanes and Auxiliary Lanes Project
 PM M0.30 / M10.40
 EA 03-37970

State of California
 Department of Transportation





LEGEND

- Environmental Study Limits
- Westbound bus/carpool lane
- Eastbound bus/carpool lane

FIGURE 1-3b
Project Features (cont.)

03-Sac-80
 Median Lanes and Auxiliary Lanes Project
 PM M0.30 / M10.40
 EA 03-37970

State of California
 Department of Transportation





LEGEND

- Environmental Study Limits
- Westbound bus/carpool lane
- Eastbound bus/carpool lane
- Auxiliary lane

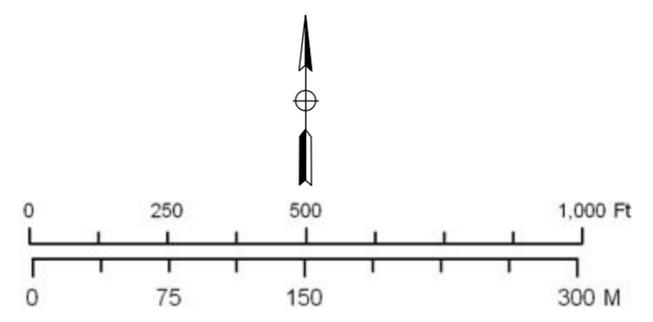
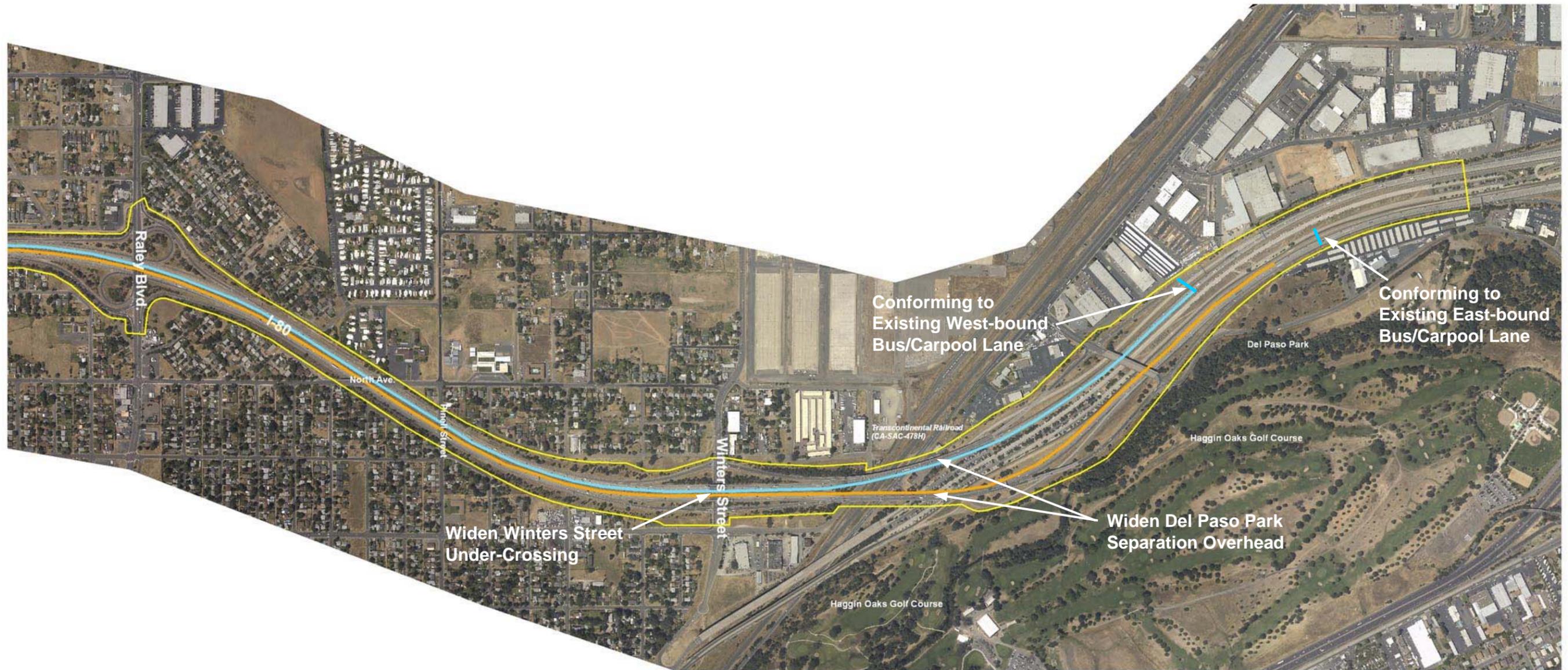


FIGURE 1-3c
Project Features (cont.)

03-Sac-80
 Median Lanes and Auxiliary Lanes Project
 PM M0.30 / M10.40
 EA 03-37970

State of California
 Department of Transportation





LEGEND

- Environmental Study Limits
- Westbound bus/carpool lane
- Eastbound bus/carpool lane

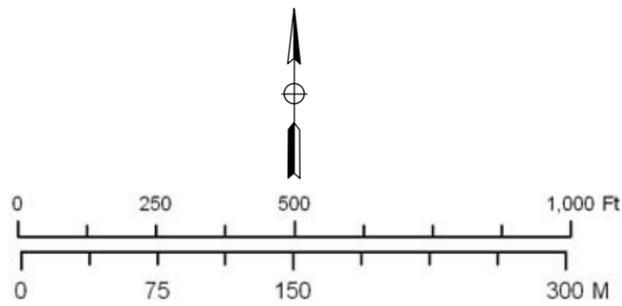


FIGURE 1-3d
Project Features (cont.)

03-Sac-80
 Median Lanes and Auxiliary Lanes Project
 PM M0.30 / M10.40
 EA 03-37970

State of California
 Department of Transportation

