Corridor System Management Plan
San Joaquin County
I-205 Corridor Phase I

Final
Preliminary Performance Assessment

Prepared for

State of California
Department of Transportation

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1 INTRODUCTION

1.1 Purpose of the Memo

The purpose of this document is to provide a preliminary assessment of the operation of the corridor, based on the existing data available to the study team. This will provide a basis for determining the analysis that will be required for the detailed performance assessment at a later time and also help determine the data that will be required for that detailed assessment.

This document satisfies Item 4.0 Development Preliminary Performance Assessment of the Corridor System Management Plan (CSMP) Guidelines.

1.2 Study Context

Funded through the Proposition 1B Corridor Mobility Improvement Account (CMIA), the proposed project will construct auxiliary lanes between Tracy Boulevard and West Grant Line Road and west of West 11th Street. The locations of the proposed lanes are illustrated in Figure 1.

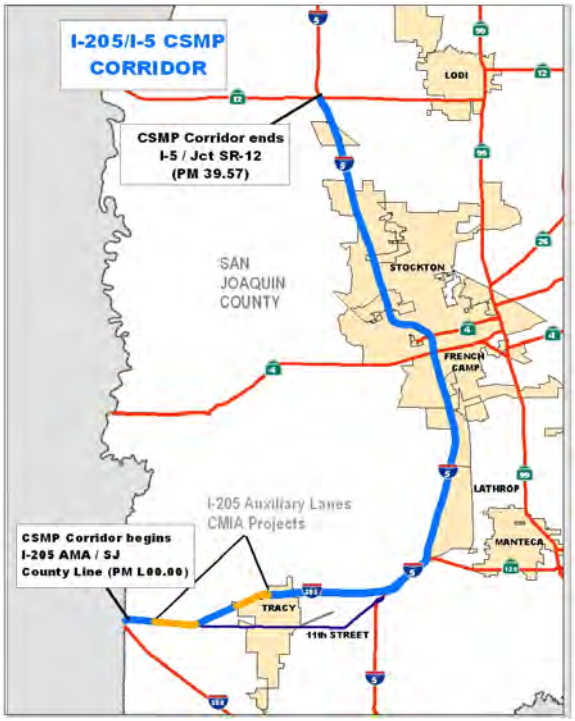


Figure 1 Locations of CMIA project

Caltrans is required to prepare a CSMP for I-205 and I-5 in San Joaquin County to assess current performance, identify causal factors for congestion, and propose the best mix of improvements for preserving the performance of the corridor for the next twenty years. The CSMP will study I-205 from the Alameda/San Joaquin County Line to the junction of I-205/I-5 near the city of Tracy, and continue on I-5 through the Lathrop and Stockton area, to Junction State Route 12 (SR-12) East in

the city of Lodi; including major local parallel arterials, local road intersections, ramps, signal controls, transit, park and ride lots, pedestrian and bike lanes, and rail.

While the preliminary performance assessment should aim to address the entire corridor, the guidelines required it to have at least two freeway components:

- Develop corridor-wide performance measures
- Identify bottlenecks on the corridor

2 CORRIDOR DESCRIPTION

2.1 Network Description

The study corridor is broadly defined as including the freeways and adjacent arterial roads of:

- I-205 from I-580 interchange to I-5 interchange; and
- I-5 from I-205 interchange to SR12 interchange.

The study network has been defined in more detail in a separate memo so as to cover the sections of freeway and arterials that will affect operation on the freeway or will in turn be affected by conditions on the freeways within the corridor. The additional sections of freeway included to accommodate these requirements are:

- I-580 from I-205 to west of the West Grant Line Road interchange;
- I-5 south of the I-205 interchange to south of the Kasson Road interchange;
- SR120 east from I-5 to east of South Airport Way interchange;
- SR4 Cross-town Connector, from I-5 to Wilson Way interchange.

The agreed study network is illustrated in Figure 2.

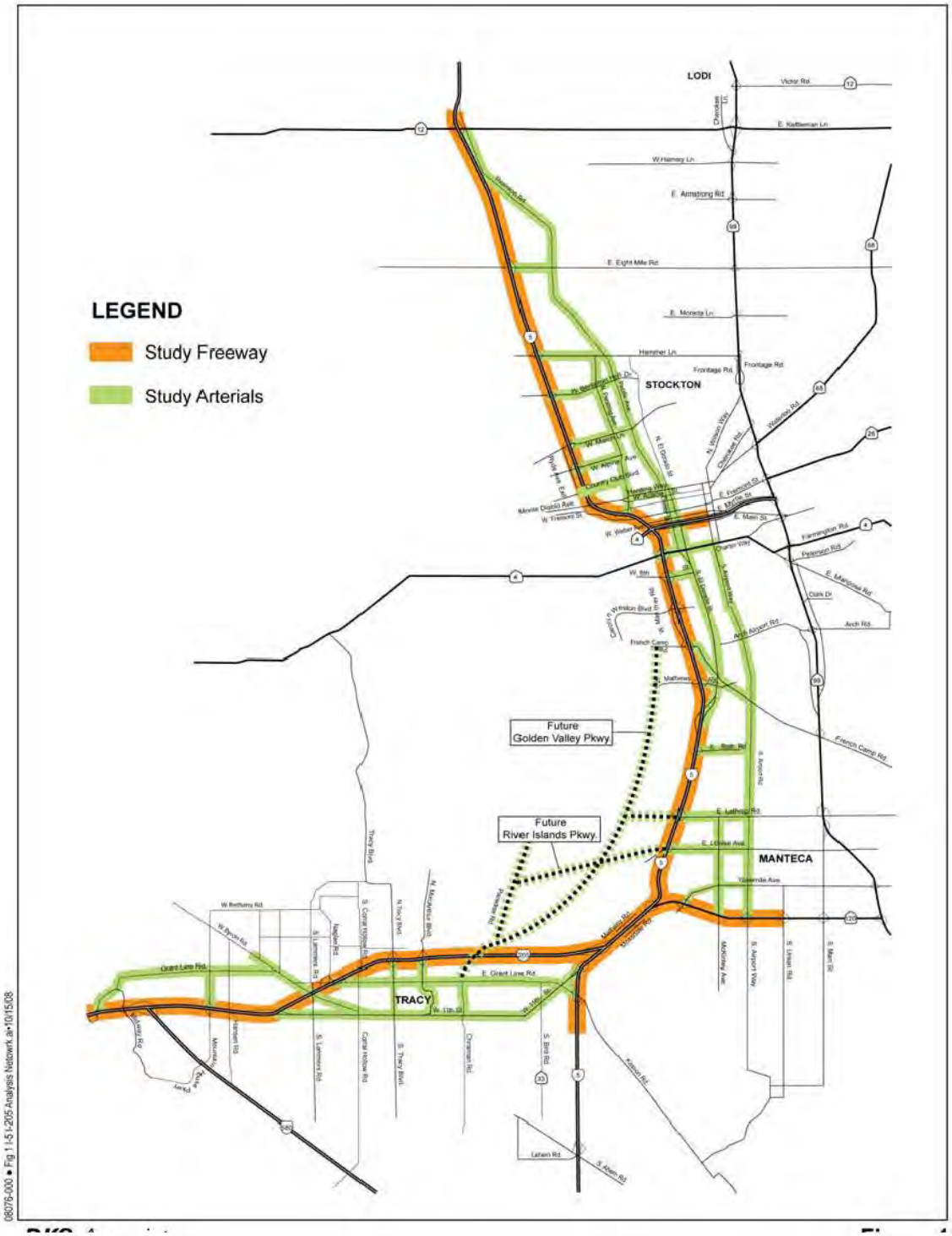


Figure 2 Agreed study network

2.1.1 Description of Freeway

The number of lanes along these freeways is summarized in Table 1 through Table 4.

Table 1 Number of lanes, I-205

Interchange	Number of Lanes Between Interchanges			
	Westbound		Eastbound	
	Mainline	Auxiliary	Mainline	Auxiliary
I-580 Junction				
	3	0	3	0
Mountain House Pkwy				
	3	0	3	0
W 11th St				
	3	0	2	0
Grant Line				
	2	0	2	0
Naglee				
	2	0	2	0
Tracy Blvd				
	2	0	2	0
MacArthur Dr				
	2	0	2	0
I-5 Junction				

Table 2 Number of Lanes, I-5

Interchange	Number of Lanes Between Interchanges			
	Southbound		Northbound	
	Mainline	Auxiliary	Mainline	Auxiliary
Kasson Rd				
	2	0	2	0
I-205 Junction				
	5	0	3	0
Mossdale Rd / Manthey Rd				
	4	1	4	1
SR 120				
	3	0	5	0
Louise Ave				
	3	0	3	0
Lathrop Rd				
	3	0	3	0
Roth Rd				
	3	0	3	0
El Dorado St				
	3	0	3	0
Mathews Rd				
	3	0	3	0
French Camp Rd				
	3	0	3	0
Downing Ave				
	3	0	3	0
Eighth St				
	4	1	3	1
SR 4W				
	4	1	4	1
SR 4E Junction				
	4	1	4	1
Pershing Ave				
	4	0	4	0
Mt Diablo Ave				
	4	1	4	1
Country Club				
	3	0	3	0

Interchange	Number of Lanes Between Interchanges			
	Southbound		Northbound	
	Mainline	Auxiliary	Mainline	Auxiliary
Alpine Ave				
	3	1	3	1
March Ln				
	3	0	3	0
Benjamin Holt Dr				
	3	0	3	0
Hammer Ln				
	3	0	3	0
Eight Mile Rd				
	3	0	3	0
SR 12				

Table 3 Number of lanes, SR 120

Interchange	Number of Lanes Between Interchanges			
	Westbound		Eastbound	
	Mainline	Auxiliary	Mainline	Auxiliary
I-5 Junction				
	2	0	2	0
Guthmiller Rd				
	2	0	2	0
Airport Way				

Table 4 Number of lanes, SR 4E

Interchange	Number of Lanes Between Interchanges			
	Westbound		Eastbound	
	Mainline	Auxiliary	Mainline	Auxiliary
I-5 Junction				
	2	1	2	1
El Dorado St				
	4	1	4	1
Stanislaus St				
	3	1	3	1
Airport Way				

I-205

I-205 runs approximately thirteen miles in an east-west direction connecting I-580 and I-5. It is a major corridor that serves traffic between the Central Valley and the Bay Area during both weekdays and weekends. I-205 currently carries approximately 135,000 vehicles per day during the peak month. The annual average along this part of SR-4 ranges from 94,000 to 123,000 daily vehicles.

Between I-580 and West 11th Street, the freeway has three lanes in each direction. East of this interchange it has two lanes in each direction, although a third lane is under construction in each direction and is partly open to traffic.

I-5

The I-5 segment within the San Joaquin County extends approximately 30 miles from I-205 to SR 12. It serves as a major freeway corridor for commuters within the County as well as those traveling to Sacramento and the Bay Areas. Three major freeway junctions along the study segment are at I-205, SR120 and SR4 (Crosstown Freeway). The I-5 study segment carries the

highest traffic of approximately 165,000 vehicles per day in the vicinity of the SR120 junction and the lowest traffic of approximately 80,000 vehicles per day at the SR12 interchange.

South if I-205 interchange, the freeway has two lanes in each direction. Between I-205 and SR 4E (Crosstown Freeway) there are generally three or four lanes in each direction, with some auxiliary lanes and several sections with five lanes. North of SR 4E (Crosstown Freeway), there are four lanes to County Club Drive and three in each direction to SR 12.

SR 4 shares the same route as I-5 between West Charter Way (SR 4 West) and the Crosstown Freeway (SR 4 East).

SR 120

SR120 segment within the San Joaquin County is a seven-mile corridor connecting I-5 and SR 99. It serves as a major connector for commuters from cities in San Joaquin, Stanislaus and Merced Counties to the Bay Area. Currently SR 120 carries traffic of approximately 80,000 vehicles per day. Between I-5 junction and Airport Way, SR 120 has two lanes in each direction.

SR4

The SR4 highway segment within the City of Stockton functions as the crosstown freeway connecting I-5 and SR99. It currently carries traffic of approximately 106,000 vehicles per day. Because of the proximity of the I-5 junction, interchanges at the Center and El Dorado one-way couplet, at South Stanislaus Street and at South Wilson Way, there is a variation in the number of through lanes and auxiliary lanes along the length of this study section.

2.1.2 Parallel Facilities

City of Tracy

11th Street provides an important east-west arterial function within Tracy, particularly for traffic associated with the extensive residential development south of the 11th Street. It provides good connection to I-205 to the west and also connects to I-5 to the east. It also serves as a parallel reliever route for I-205 through Tracy and is used by peak hour traffic avoiding congestion on I-205. It has been developed as a high standard arterial generally with six through lanes, central median and left turn bays.

West of West Byron Road, West Grant Line Road is generally a two lane rural road that connects to I-580 west of the I-205/I-580 junction. It is used by some traffic to bypass congestion on I-205 between I-580 and West Byron Road.

East of I-205, Grant Line Road runs parallel to I-205 and is an important arterial road within Tracy, connecting some of the older developed parts of Tracy. It also provides a parallel reliever route to I-205, running between I-205 in the west and I-5 in the east.

There are several north-south arterials that connect I-205 to West Grant Line Road and 11th Street. These include West Byron Road, Tracy Boulevard, MacArthur Boulevard and Paradise Road - South Chrisman Road.

South of SR 4E

Between SR 120 and SR 4E (Crosstown Freeway) there are two important parallel routes to the east of I-5, and none to the west. There is no useful parallel route between the SR 120 and I-205 junctions. These provide routes for traffic that avoid I-5 between Manteca, Lathrop and Stockton.

South Airport Way provides a continuous route from SR 120 to SR 4E, and extends north into the edge of downtown Stockton. It connects to I-5 via Louise Avenue, Lathrop Road, Rich Road, French Camp Road and Dr. Martin Luther King Jr. Blvd.

South El Dorado Street connects Downtown Stockton at SR 4E to I-5 south of French Camp Road. It is also connected to I-5 via Dr. Martin Luther King Jr. Blvd, French Camp Road and Mathews Road.

North of SR 4E

The main route parallel to I-5 north of SR 4E and south of SR 12 is along Pacific Avenue and Thornton Road. Between Hammer Land and Harding Way, Pershing Avenue also provides a parallel route. South of Harding Way, the route is provided by the Center/El Dorado one-way couplet, passing through the downtown to SR 4E (Crosstown Freeway).

2.2 Key Physical Features

The entire route is essentially at sea level, or built up above the surrounding farm land and wetlands, with the only grades related to bridges and interchanges. There are two bridges, over the Stockton Deep Water Channel adjacent to SR 4E and a slough to the south of SR 120. The majority of the route is straight or almost straight. There are about six main curves, all of which have design speeds equal to or greater than the speed limit.

2.3 Existing Management Strategies

Current management strategies are weather-related. There are no capacity-related or throughput-related management strategies in place on this route. There is one active ramp metering location in the study corridor, at Mountain House interchange (illustrated in Figure 3). There is no other ramp metering in the corridor and up to now the local community has been strongly opposed to ramp metering. However, a County-wide study of ramp metering and HOV lanes has recently been completed by SJCOG.

Figure 3 New ramp meter, Mountain House Parkway

There are weather monitoring stations that detect high winds and low visibility, and several changeable message signs that display appropriate warnings to motorists.

Within the Stockton area there are several CCTV cameras that provide video to a TMC at the Caltrans District 10 office. Several of these cameras are shared with City of Stockton and there is a video link between the City's TMC and Caltrans' TMC. Caltrans and CHP have incident management plans in place that involve coordination of emergency services, Freeway Service Patrol (FSP) and use of CMS to advise motorists.

2.4 Land Use Characteristics

Overall, there is an imbalance between population and employment in San Joaquin County, which has been growing steadily over the past two decades. There is extensive commuting out of the study area in the morning peak, to the Bay Area and Sacramento, with heavy return traffic in the afternoon peak.

Stockton is the largest city in San Joaquin Valley with a mixture of residential, commercial, retail and industrial activities. The Port of Stockton is located adjacent to I-5 in the vicinity of the SR 4E (Crosstown Freeway) junction.

There is light industry south of SR 4 and in the vicinity of the Stockton airport. North Stockton is a growing residential area, replacing the existing agriculture. The urban boundary is gradually moving northwards. South of Stockton there is growing residential population in the cities of Lathrop and Manteca.

Tracy is also surrounded by agricultural land and has a rapidly growing population that is outstripping the growth in employment. Along the I-205 and I-5 corridor there are numerous transportation-related land uses. There are several large shipping distribution centers and food processing plants. At the western end of the corridor, the new City of Mountain House is developing as a largely residential city.

2.5 Park-and-Ride and Other Support Facilities

There are several activities and facilities in place that support higher car occupancies and non-auto modes, such as park and ride, express buses, BRT and commuter rail. The existing park and ride lots are described in Table 5. It can be seen that the current storage capacity is rather modest and the demand exceeds the capacity at many locations. These lots provide the opportunity for auto drivers to transfer to express buses or to carpools. The lots are illustrated in Figure 4.

Table 5 Existing park-and-ride lots

No.	Park-and-Ride Lots	Jurisdiction	Sponsor	No. of spaces	% Occupied 2007
1	Flag City - I-5/SR-12	Lodi	Caltrans	43	109%
2	Calvary Church - Kelley Drive	Stockton	SJCOG/SJRTD	40	158%
3	Marina Center - I-5/Ben Holt Drive	Stockton	SJCOG/SJRTD	35	142%
4	Bethany Church - I-5/Michigan Avenue	Stockton	SJCOG/SJRTD	45	60%
5	Community Center- 5th Street	Lathrop	City/ SJCOG	48	96%
6	Wal-Mart – SR-120/Main Street	Manteca	Developed	50	200%
7	City Park-n-Ride - Naglee Road/I-205	Tracy	City/ SJCOG	180	63%
8	Factory Outlet Center - I-205/MacArthur Drive	Tracy	Developer	45	1%

SJRTD operates a BRT line on Pacific Avenue from Hammer Lane to the Downtown Transit Center (DTC). This will be extended during 2009 south to the airport. City of Stockton has provided transit signal priority along the BRT route.

Commuter rails service is provided between Stockton and San Jose by Altamont Commuter Express (ACE), with runs three trains per day in each direction. SRTD operates several coach services along the corridor servicing commuters traveling to the Bay Area and Sacramento.

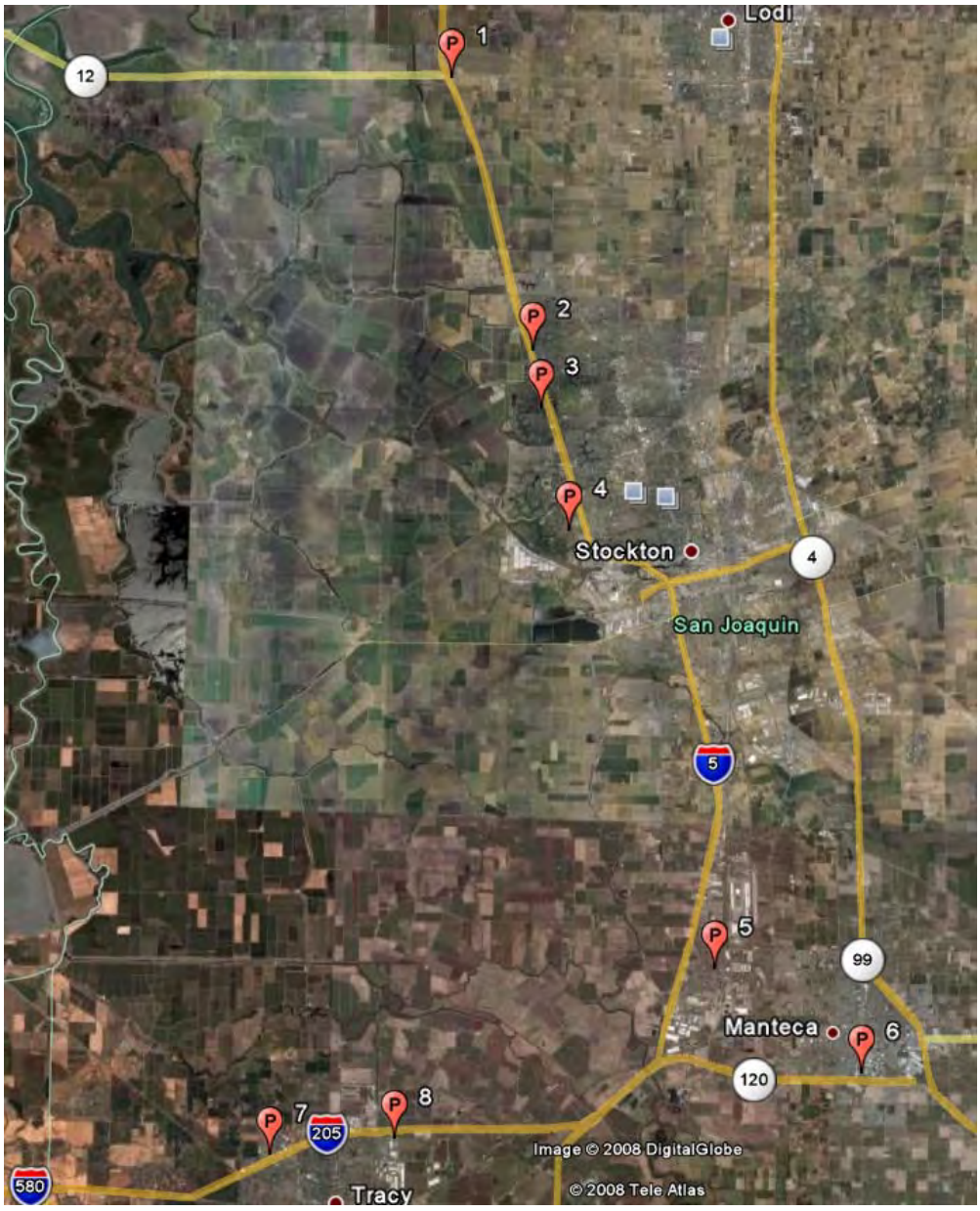


Figure 4 Existing park-and-ride lots

2.6 Construction Activities

2.6.1 I-205

There is an existing widening project on I-205, providing a third lane in each direction between West 11th Street and I-5. This is expected to be completed in early 2009. At the western end of I-205, a new interchange was recently constructed at Mountain House Parkway, which will serve the growing residential population in the new city.

2.6.2 I-5

Construction is continuing to widen the roadway and bridges in Lathrop, from Paradise Cut overflow to just north of SR 120. Projects recently completed or in the closeout stage are listed in Table 6 Recent projects on I-5.

Table 6 Recent projects on I-5

Description	PM
Median barrier in and near Lathrop, French Camp Road and Stockton	R13.1 to 41.6
Microwave vehicle detection	16.4 to 38.1
Traffic signals at French Camp Road undercrossing	R22.7
Resurface between Dunning Avenue and SR 4W	23.9 to 25.1
Rehabilitate ramps at Eighth Avenue and SR 4W undercrossings	24.5 to 25.5

The location and timing of construction and maintenance activities on I-5 over the period 1995 to 2015 are illustrated in .

3 CORRIDOR TRAVEL PATTERNS

3.1 Travel Patterns

The imbalance in population and employment in San Joaquin County results in approximately one quarter of all commute trips leaving the county each morning. This is illustrated in Figure 5, which shows the estimated commute pattern of San Joaquin County residents in 2000. 30,000 commuters travel to the east (to Bay Area counties) each day, 6,300 to the north (mainly Sacramento County) and 6,600 south (to Stanislaus and Merced Counties).

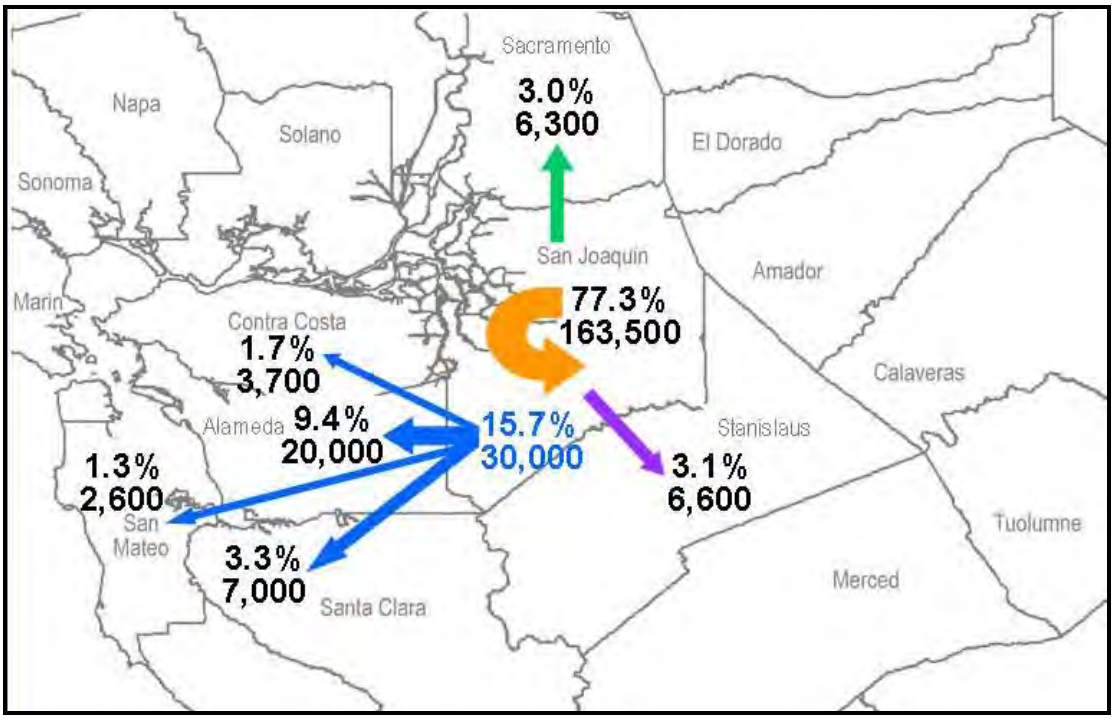


Figure 5 Commute Patterns for San Joaquin County Residents, 2000

3.2 Freeway Volumes

3.2.1 I-205

Mainline volumes on I-205 are illustrated by reference to PeMS data from a detector station west of Mountain House Parkway. This was the only station reporting data during September, when the data for this report was prepared. Due to the ongoing construction on I-205, there is limited historical detector data available. The traffic volume is reasonably consistent from day to day, as illustrated for a three week period during September, 2008 in Figure 6 and Figure 7, which are based on traffic volumes measured during Tuesdays, Wednesdays and Thursdays.

The commute pattern on I-205 is clearly uni-directional. The eastbound peak occurs between approximately 2:00pm and 6:00pm, while the westbound peak occurs between approximately 4:00am and 9:00am. The minimum line in Figure 7 illustrates the effect on throughput of a major incident, with throughput reduced to approximately 2,000 vph for three hours.

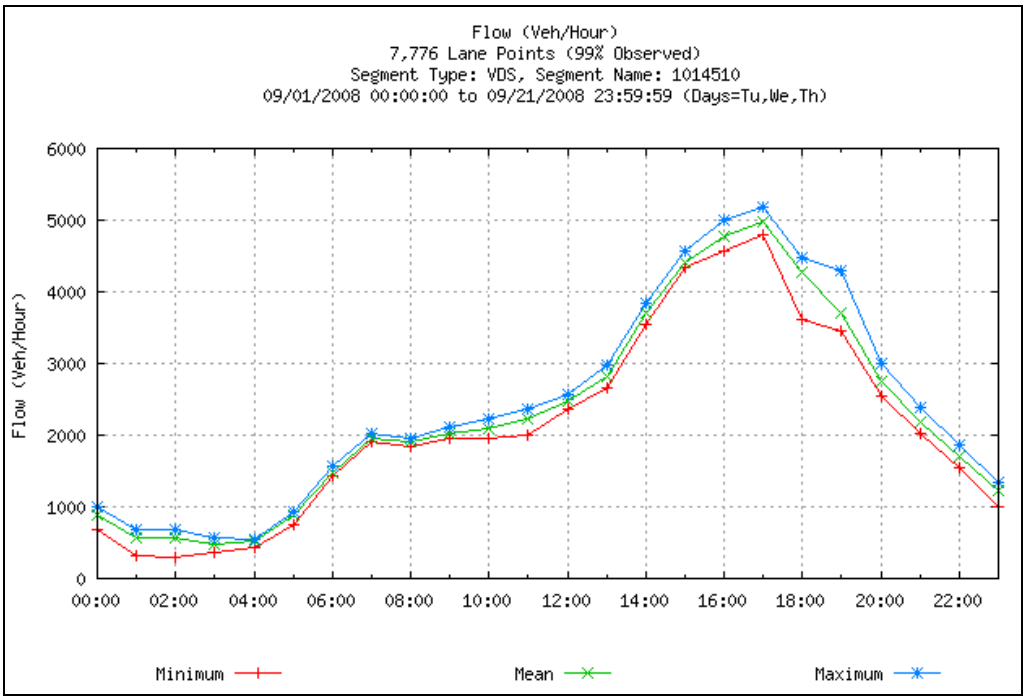


Figure 6 I-205 eastbound, west of Mountain House Parkway

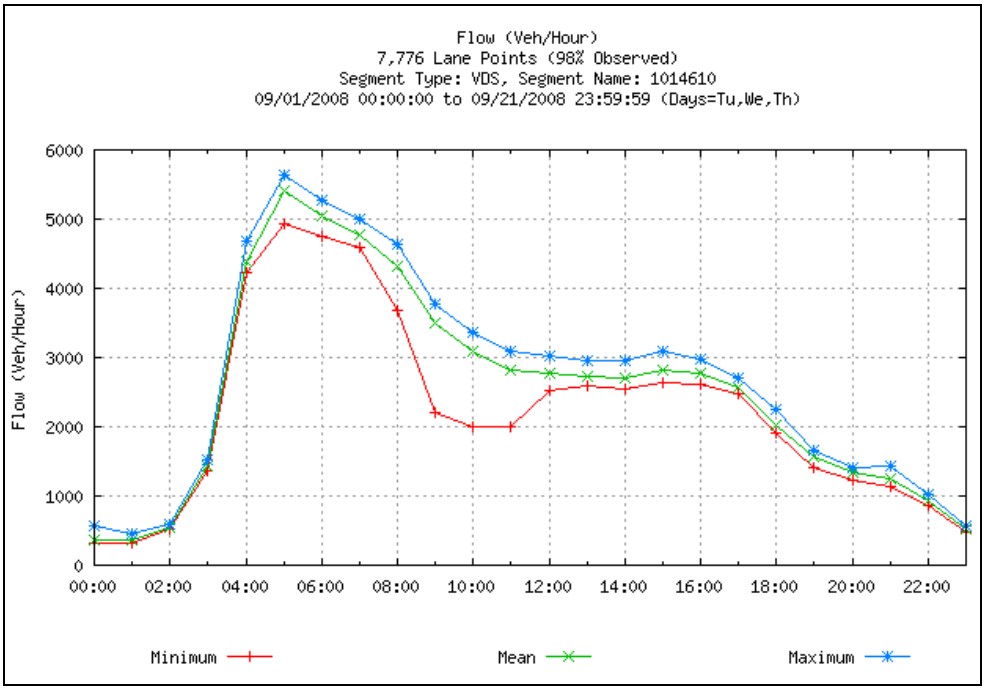


Figure 7 I-205 westbound, west of Mountain House Parkway

3.2.2 I-5

The peaking characteristics on I-5 are significantly different from those of I-205. At each location there is a pronounced peak in both directions during both the AM and PM peak periods. PeMS data was available for five representative locations on I-5, for the same three weeks during September, 2008. Figure 8 and Figure 9 illustrate the traffic volumes on I-5 between I-205 and SR 120. The total volume in the peak direction is similar to that measured on I-205 west of Mountain House Parkway.

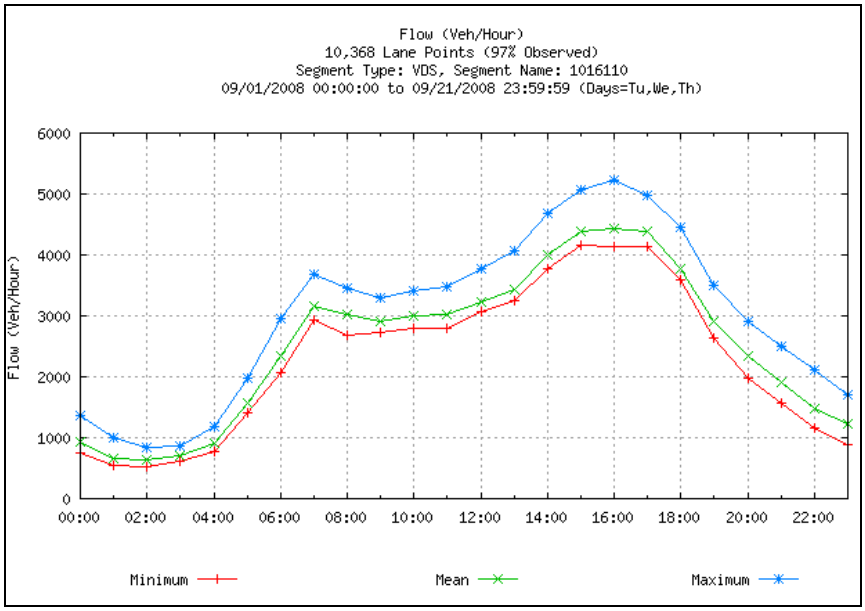


Figure 8 I-5 northbound, between I-205 and SR 120

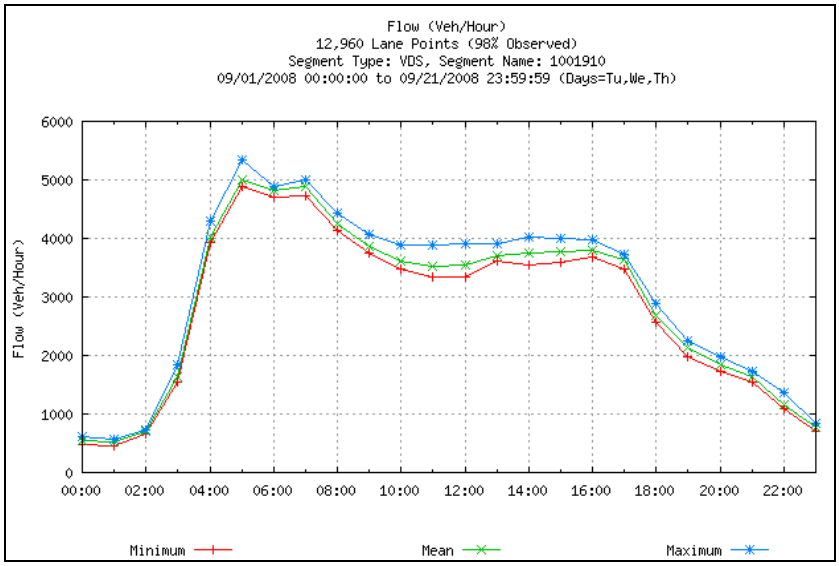


Figure 9 I-5 southbound, between I-205 and SR 120

North of SR 120 in the northbound direction there is a short peak around 7:00am to 8:00am and a longer, heavier peak from approximately 2:00pm to 5:00pm. In the southbound direction, there are similar volumes in both the AM and PM peaks, which occur at approximately 4:30am to 8:00am and 2:00pm to 5:30pm. The business hours volumes are approximately 70% of the peak volume (see Figure 10 and Figure 11).

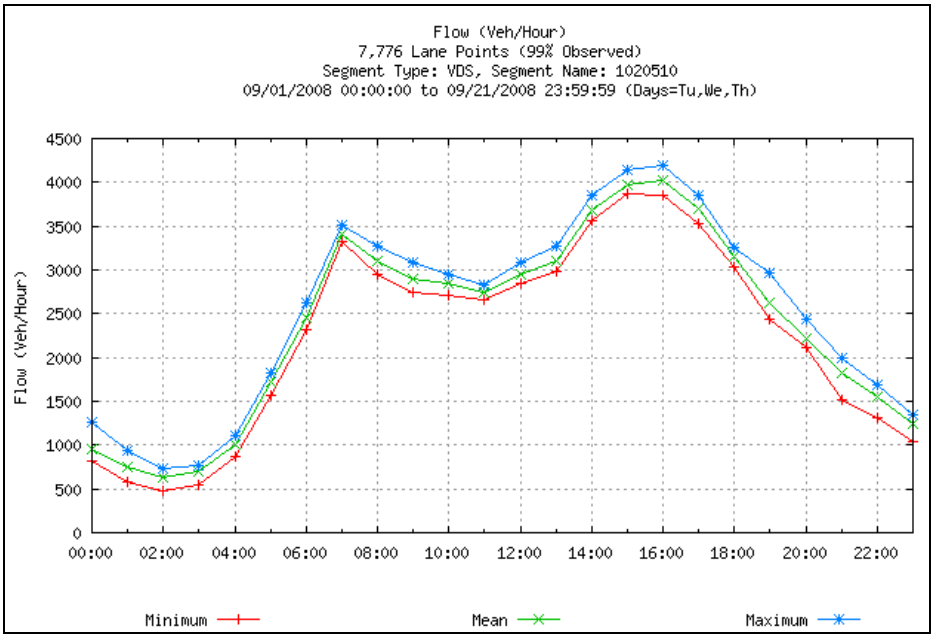


Figure 10 I-5 northbound, south of Lathrop Road

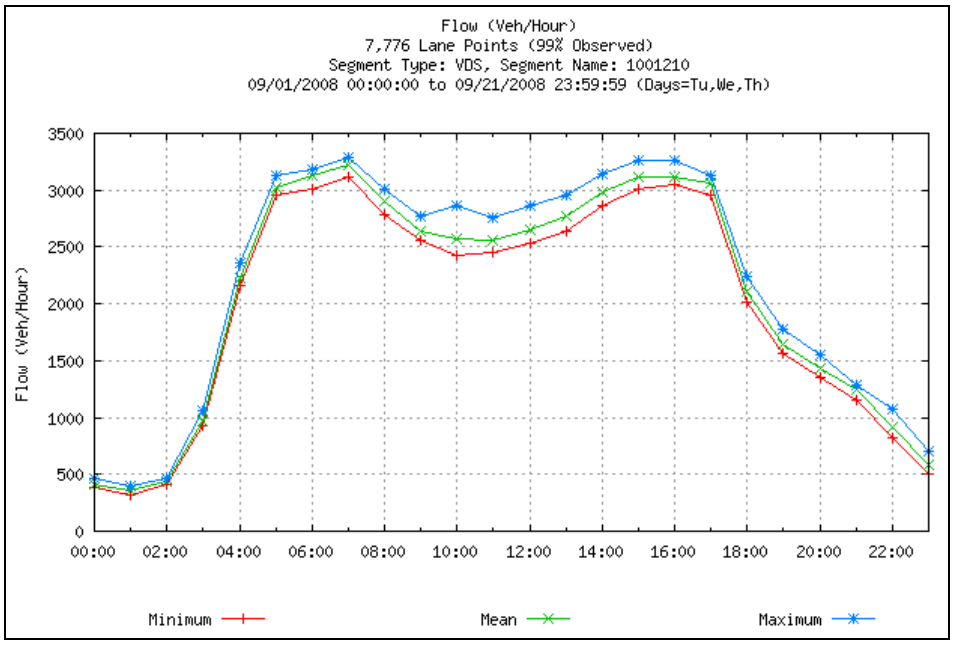


Figure 11 I-5 southbound, south of Lathrop Road

In the vicinity of West Charter Way (SR 4W) the peaks become a little more pronounced, although the daily profiles have similar characteristics to those the north of SR 120 (see Figure 12 and Figure 13).

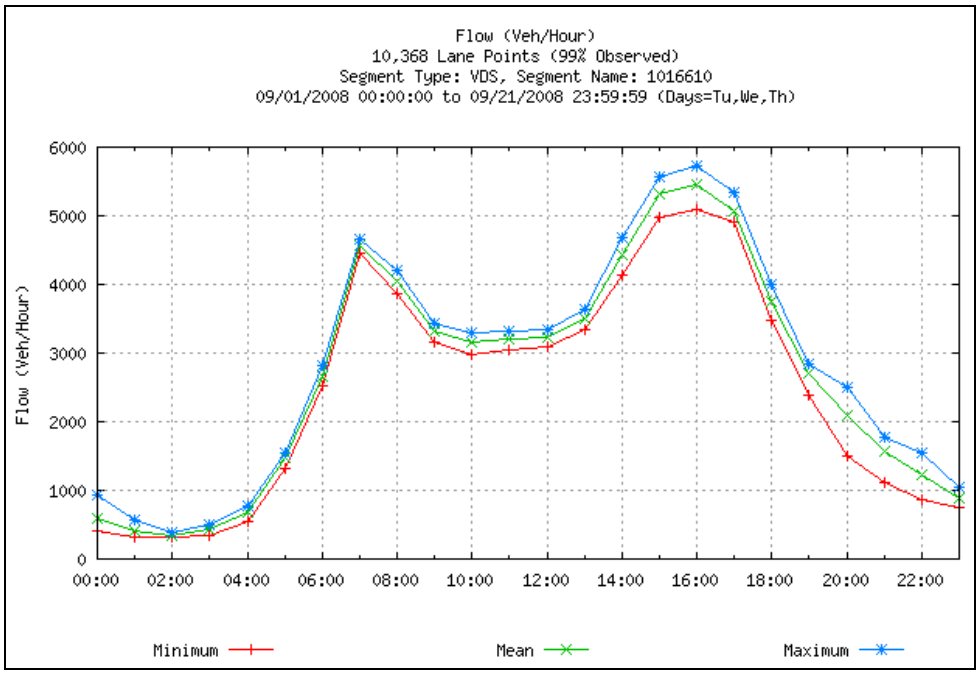


Figure 12 I-5 northbound, south of SR 4W (West Charter Way)

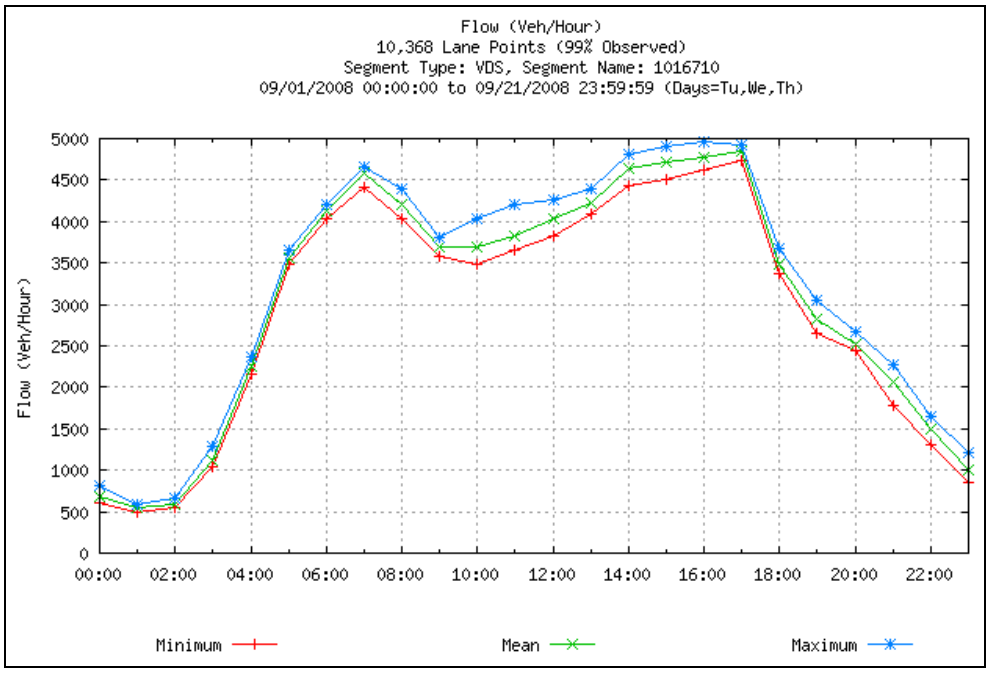


Figure 13 I-5 southbound, south of SR 4W (West Charter Way)

To the north of SR 4E (Crosstown Freeway) there is a pronounced southbound AM peak (approximately 6:30am to 8:30am) and northbound PM peak (approximately 2:30pm to 5:30pm). At Eight Mile Road, the peaks are less pronounced. There is an identifiable PM peak in the northbound direction (see Figure 16), while in the southbound direction there is only a small variation in volumes throughout the day (see Figure 17).

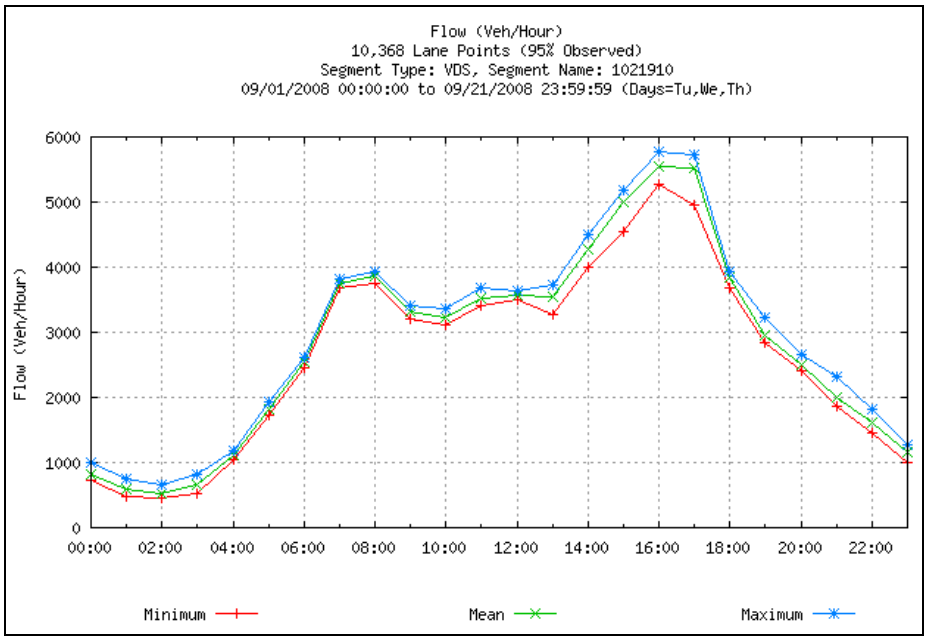


Figure 14 I-5 northbound, north of SR 4E (Crosstown Freeway)

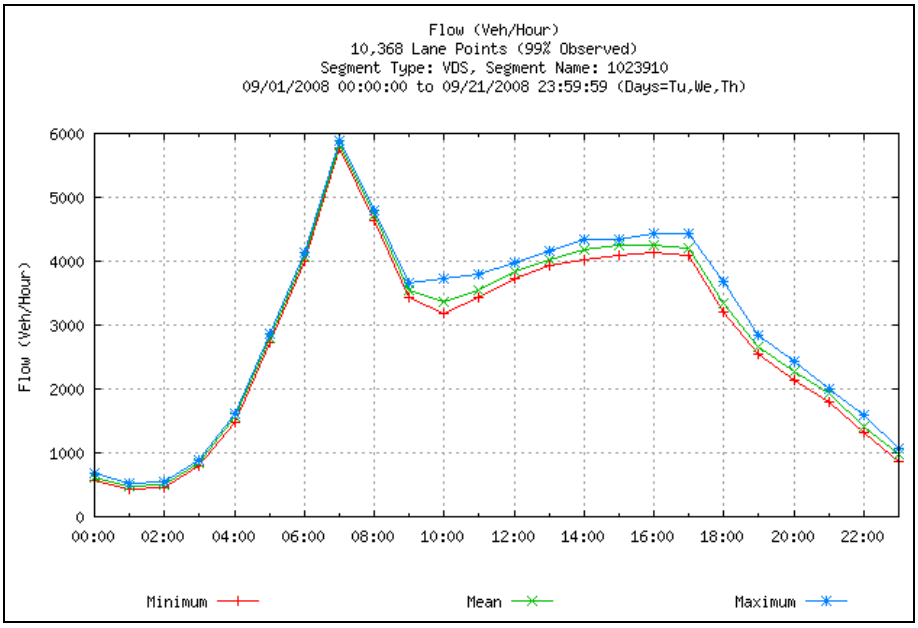


Figure 15 I-5 southbound, north of SR 4E (Crosstown Freeway)

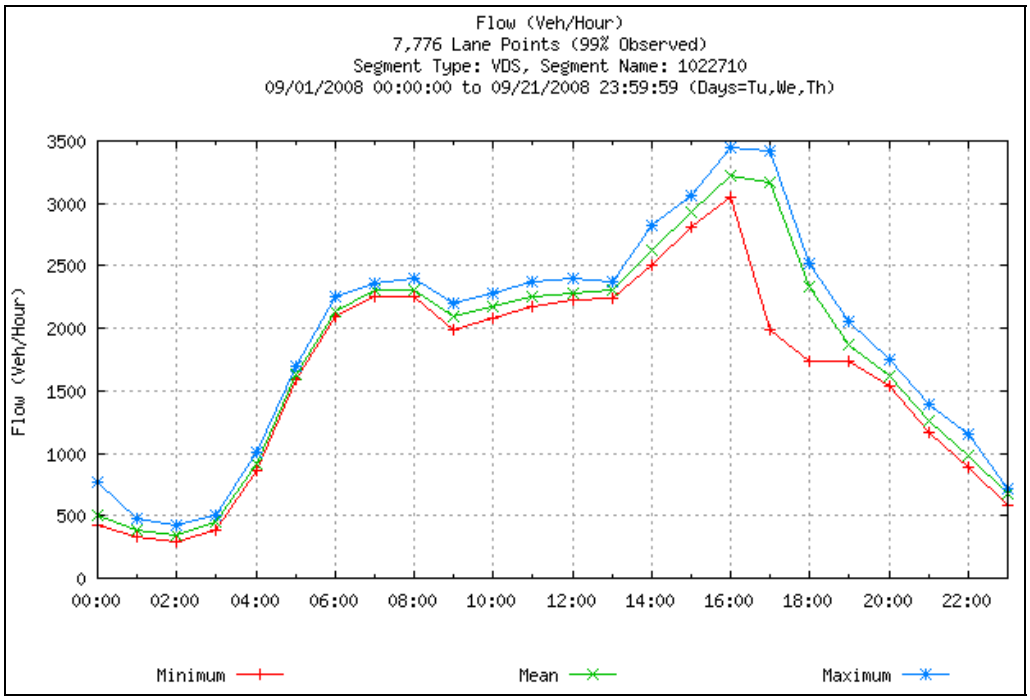


Figure 16 I-5 northbound, south of Eight Mile Road

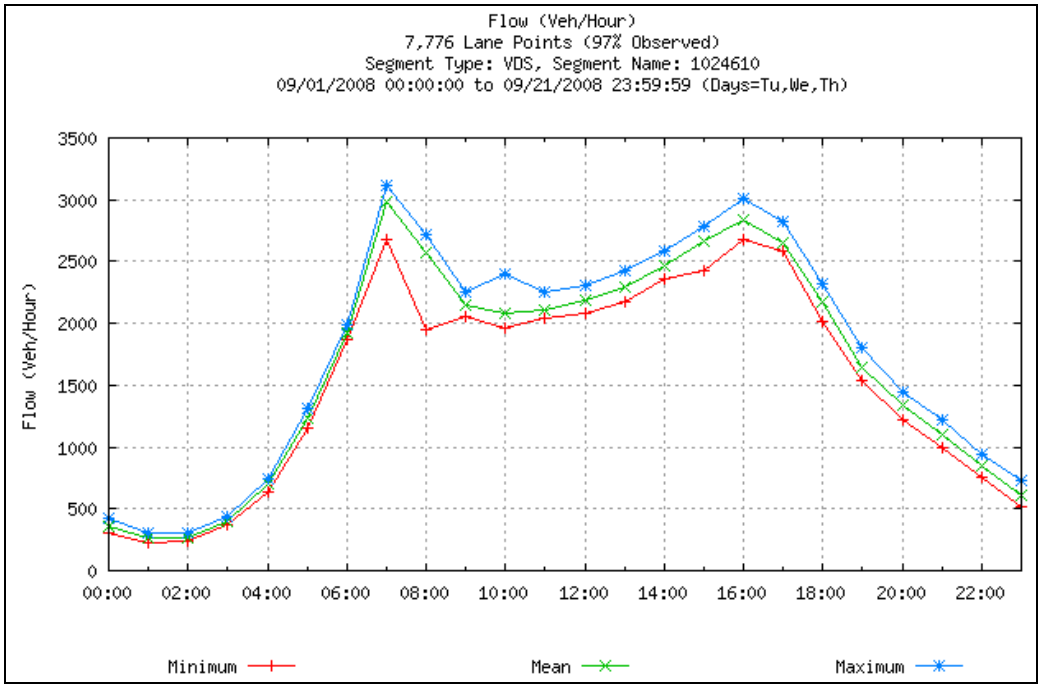


Figure 17 I-5 southbound, south of Eight Mile Road

3.2.3 Differences between Segments

From the data presented in the preceding sections it is clear that there are four relatively homogeneous segments within the corridor, plus several short stubs requiring analysis. Their characteristics are summarized below. The main segments are:

- I-205, from I-580 to I-5. This has (or will soon have) similar cross section for the entire length with a very heavily directional commute pattern.
- I-5 from I-205 to SR 120. This is a short section between two major junctions, so it carries traffic bound for I-5 (north and south), SR 120 and I-205.
- I-5 between SR 120 and SR 4E (Crosstown Freeway). This carries the main north-south traffic for the state, peak hour commuters from several cities who work in the Bay Area and a different group of commuters who work in Stockton.
- I-5 between SR 4E (Crosstown Freeway) and SR 12. In addition to being the main north-south route for the state, it carries commuters who work in the Sacramento region and a different group of commuters who work in Stockton.

The four additional stubs that will be included in the analysis are:

- I-580 between I-205 and west of West Grant Line Road. This will allow assessment of the effects on I-205 traffic of merging and diverging associated with the I-580/I-205 interchange.
- I-5 between I-205 and south of Kasson Road. This will allow assessment of effects of strategies on traffic using East Grant Line Road and West 11th Street as bypass routes.
- SR 120 between I-5 and South Union Road. This will allow assessment of the effects of strategies on traffic using South Airport Way or McKinley Avenue as bypass routes.
- SR 4E (Crosstown Freeway) from I-5 to South Airport Way. This will allow assessment of the effects of strategies on traffic entering and leaving downtown Stockton at all the main ramps connecting to the arterial road network.

3.3 Freeway Speeds

The following figures illustrate the speeds observed on the various segments over the three week period during September, 2008 for which the volumes are reported above. When read in conjunction with the volume profiles, it can be seen where congestion is occurring on typical weekdays.

3.3.1 I-205

Figure 18[1] and Figure 19 illustrate the speeds throughout the day eastbound and westbound, respectively, along I-205. During the PM peak, speeds are typically less than 30 mph through the entire urban area from West 11th Street to the approach of the I-5 interchange. During the AM peak, speeds are below 35 ph for up to two hours around 4:30am to 6:30am in the vicinity of the interchanges from West 11th Street to central Tracy. Figure 19 also shows reduced speeds

[1] Absolute postmile is provided by PeMS application. Relationship between Absolute and San Joaquin County postmiles is tabulated in Appendix B.

throughout the day in the vicinity of construction in the vicinity of West 11th Street and West Grant Line Road.

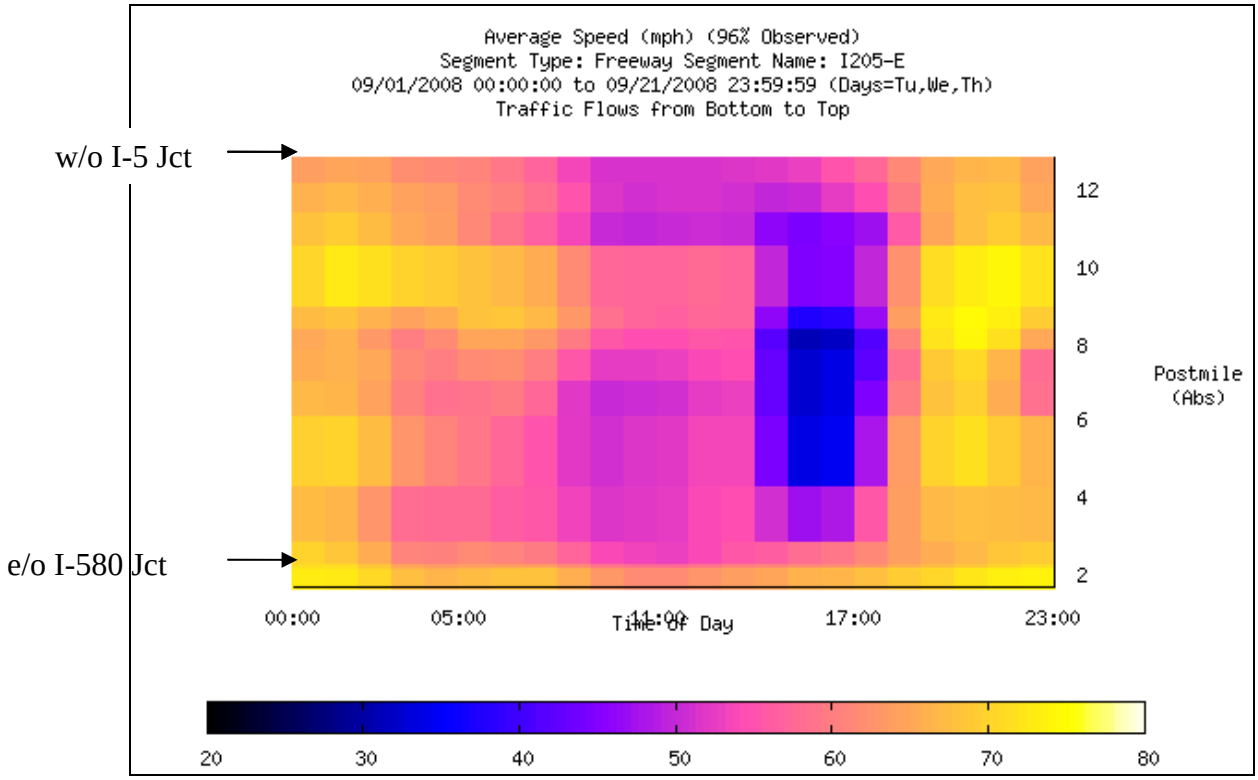


Figure 18 Speeds on I-205 eastbound, between I-580 and I-5

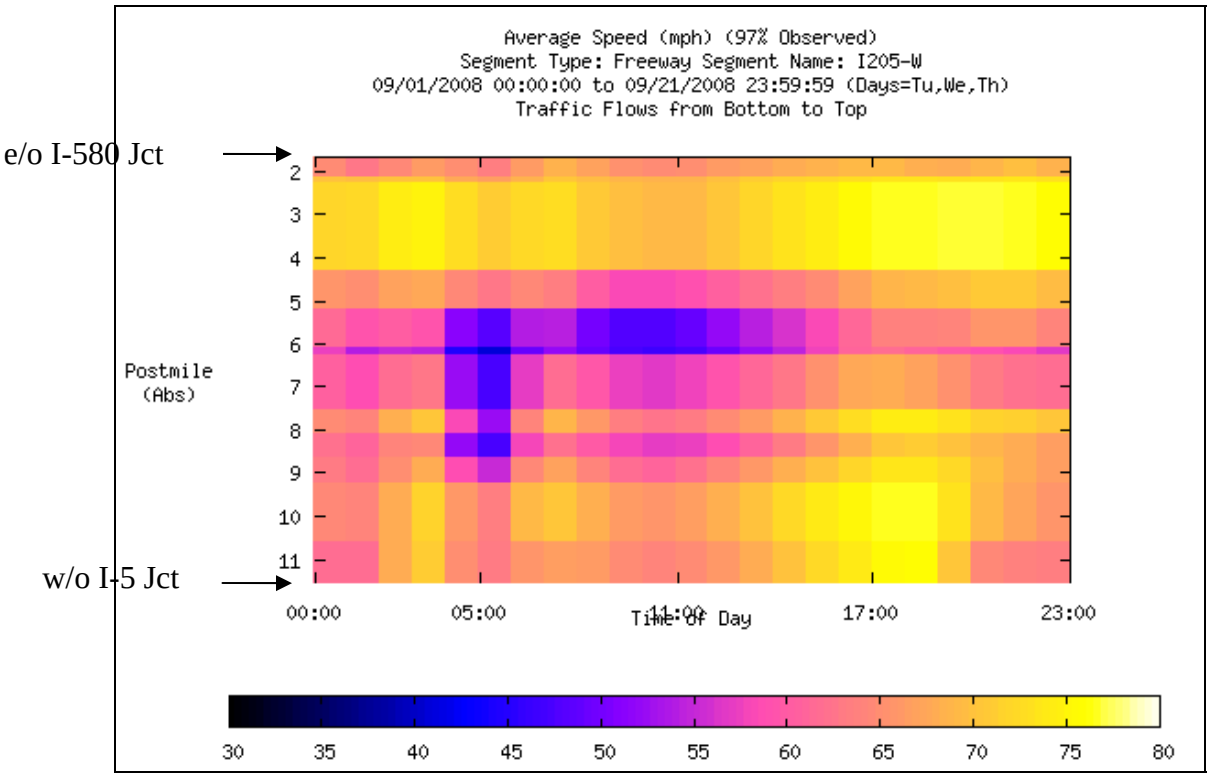


Figure 19 Speeds on I-205 westbound, between I-580 and I-5

3.3.2 I-5 (I-205 to SR 120)

On I-5, between I-205 and SR 120, speed rarely drop below 50 mph. There is ample capacity in this section and the reductions in speed below the speed limit are mainly due to the extensive weaving and merging (see Figure 20 and Figure 21).

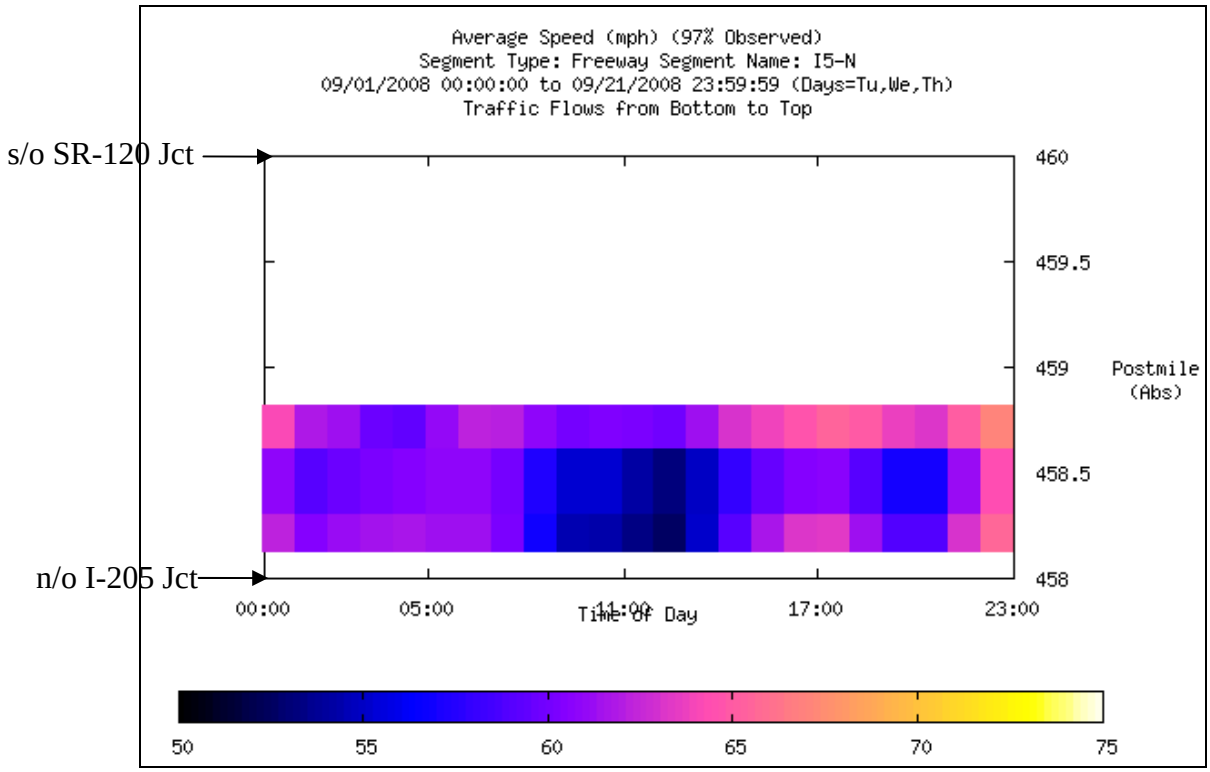


Figure 20 Speeds on I-5 northbound, between I-205 and SR 120

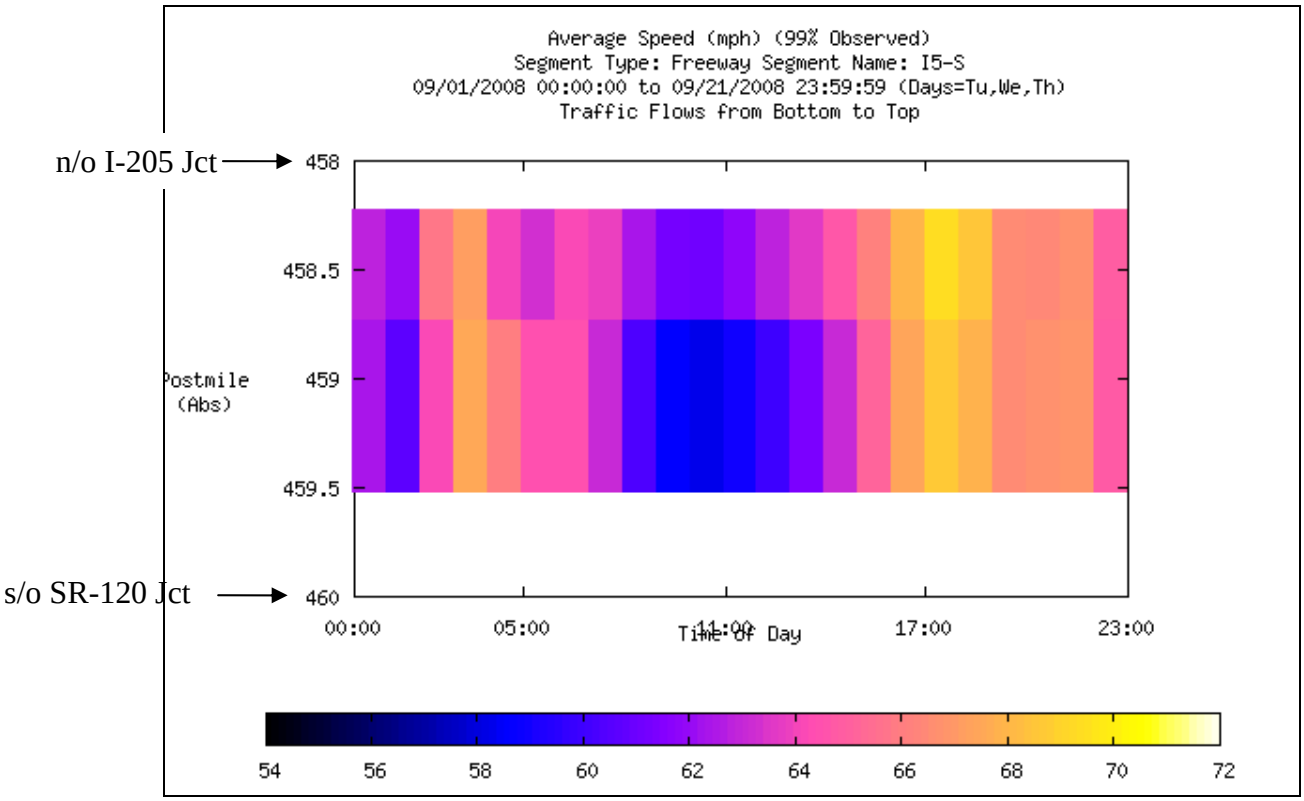


Figure 21 Speeds on I-5 southbound, between I-205 and SR 120

3.3.3 I-5 (SR 120 to SR 4E)

On I-5 between SR 120 and SR 4E, there is some localized speed reduction near some interchanges during the peak, but this is not significant. Figure 22 and Figure 23 illustrate extensive speed reduction during the daytime between peaks, and this appears to be mainly due to construction activities.

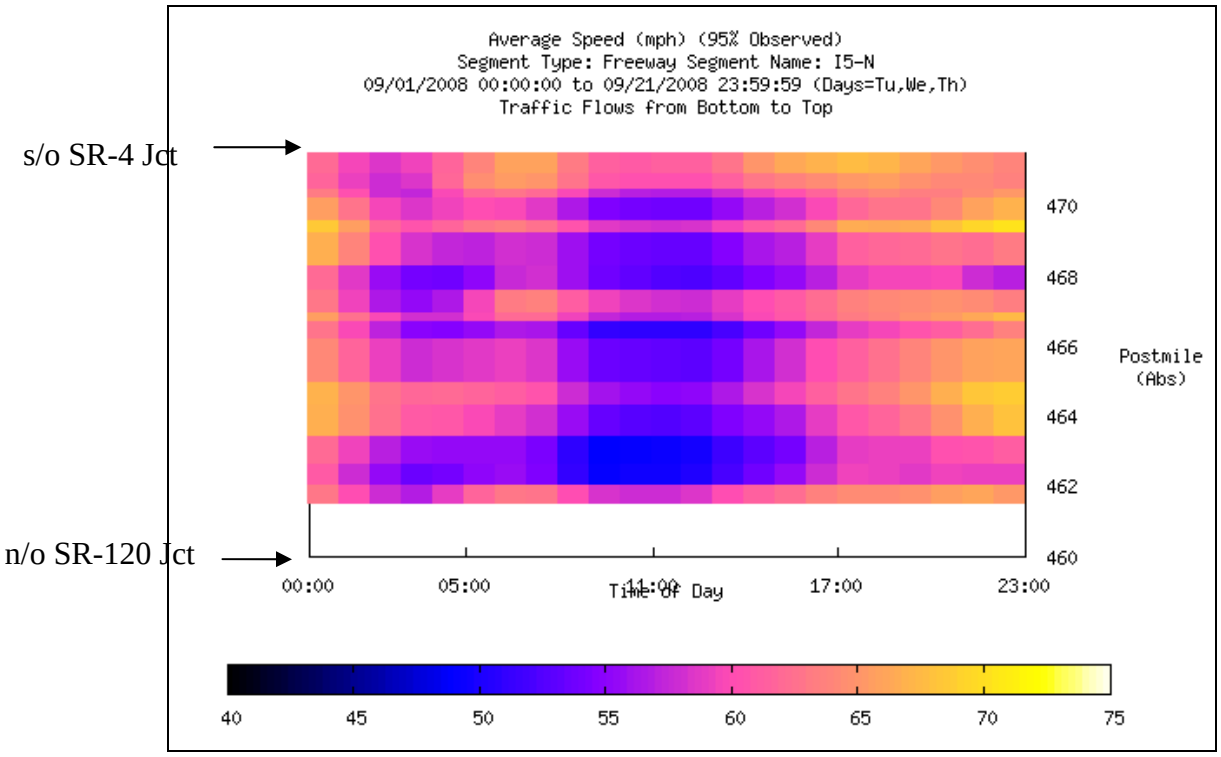


Figure 22 Speeds on I-5 northbound, between SR 120 and SR 4E

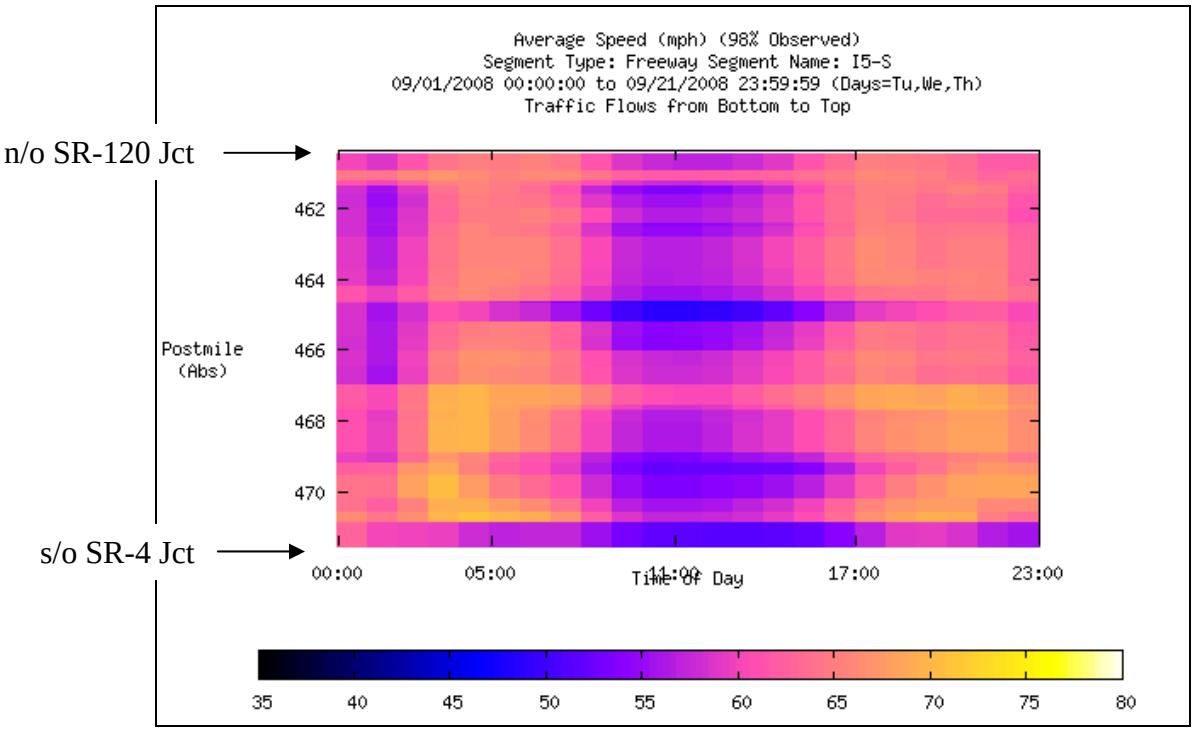


Figure 23 Speeds on I-5 southbound, between SR 120 and SR 4E

3.3.4 I-5 (North of SR 4E)

On I-5 north of SR 4E, the northbound direction (see Figure 24) shows congestion and low speeds throughout the day in the vicinity of Benjamin Holt Drive and Hammer Lane. In the southbound direction (see Figure 25) low speeds were observed during the early morning (1:00 to 4:00 am) and business hours, with higher speeds observed during both the AM and PM peak periods. This isbelieved to reflect the level of merging and weaving that occurs in this section, including the effect of truck traffic. This will be further investigated during the comprehensive performance assessment.

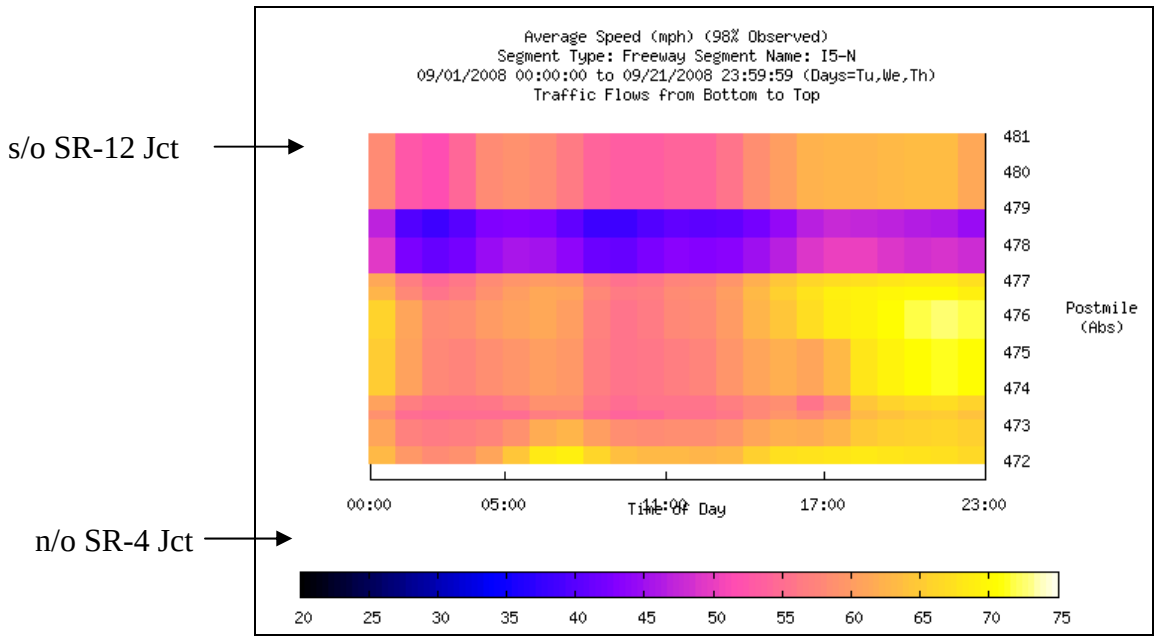


Figure 24 Speeds on I-5 northbound, between SR 4E and SR 12

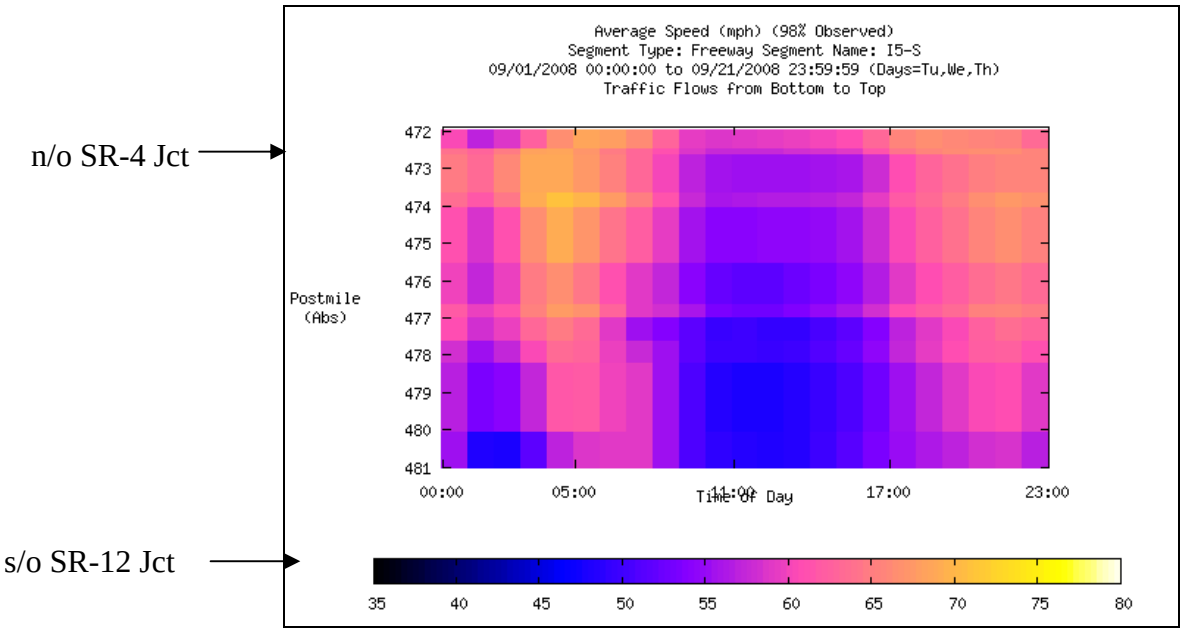


Figure 25 Speeds on I-5 southbound, between SR 4E and SR 12

3.4 Vehicle Occupancy

The average vehicle occupancy varies between 1.2 and 1.5 occupants per vehicle in the study corridor, with the percentage of vehicles with two or more occupants in the range of 13% to 29%. There are a no HOV lanes within the study corridor at present. The observed values at various locations are shown in Table 7.

Table 7 Vehicle occupancy, AM and PM peaks

Segment	Location	Direction	AM Peak Period		PM Peak Period		Source
			AVO	% HOV *	AVO	% HOV *	
I-205	Paradise Rd	Eastbound	-	-	1.4	22%	San Joaquin HOV Lane and Ramp Metering
		Westbound	1.2	16%	-	-	
I-5	French Camp	Northbound	1.2	13%	1.24	19%	San Joaquin HOV Lane and Ramp Metering
		Southbound	1.3	18%	1.3	19%	
	Monte Diablo/County Club	Northbound	1.2	17%	1.3	22%	Caltrans 2007 HICOMP Report
		Southbound	1.2	21%	-	-	
	Eight Mile	Northbound	1.4	25%	1.3	24%	Caltrans 2007 HICOMP Report
		Southbound	1.3	19%	1.3	21%	
	SR12	Northbound	1.5	29%	1.3	22%	Caltrans 2007 HICOMP Report
		Southbound	1.4	24%	1.4	22%	
SR120	Yosemite Ave	Eastbound	1.3	22%	1.2	21%	Caltrans 2007 HICOMP Report
		Westbound	1.3	21%	1.3	24%	

Segment	Location	Direction	AM Peak Period		PM Peak Period		Source
			AVO	% HOV *	AVO	% HOV *	
SR4	Filbert St	Eastbound	1.3	21%	1.3	25%	Caltrans 2007 HICOMP Report
		Westbound	1.3	22%	1.3	22%	

3.5 Vehicle Classification/Trucks

The available data on truck traffic is rather dated. The 2006 Caltrans report on average daily truck traffic on the State Highway system estimated truck volumes based on counts collected between 1988 and 2004. The available results are summarized in Table 8. On I-5 trucks comprise approximately 25% of traffic south of Stockton. This percentage drops significantly north of Stockton, reaching 16% at SR 12.

Some peak hour truck data was available for I-205 and this is shown in Table 9. The peak hour truck volume is in the range of 600 to 1,000 vph in each direction at each end of I-205. The range of the percentage of trucks (7.7% to 21.4%) reflects the heavily directional nature of the commuter traffic rather than large variations in truck volume.

Table 8 Daily average truck volume and percentage

Segment	Location	AADT	Truck AADT	Truck %	Year
I-5	Junction I- 205 West	160000	42240	26.4%	1996[1]
	Junction SR-120 East	107000	27713	25.9%	1996[1]
	French Camp Rd	112000	28000	25.0%	1996[1]
	Junction SR-4	141000	33840	24.0%	1996[1]
	March Ln	118000	27140	23.0%	1996[1]
	Hammer Ln	95000	21470	22.6%	1996[1]
	Junction SR-12	77000	12620	16.4%	2004[1]
I-205	Junction I-580	112000	13440	12.0%	2004[1]
	W 11th St	113000	13560	12.0%	2004[1]
	MacArthur Dr	101000	11292	11.2%	2006
	Junction I-5	101000	11544	11.4%	2004
SR-120	Junction I- 5	77000	14168	18.4%	1989
SR-4	Stanislaus St	88000	8448	9.6%	1988

Note:
[1] The truck data were not counted continuously or quarterly in that year, therefore data for this period were estimated

Source: Caltrans 2006 Average Annual Daily Truck Traffic On The State Highway System

Table 9 I-205 peak period truck data

I-205 Segment	Direction	AM Peak		PM Peak	
		Truck Vol (vph)	%Truck	Truck Vol (vph)	%Truck
Mountain House Rd	Eastbound	820	19.9%	716	4.9%
	Westbound	927	7.8%	568	7.7%
Paradise Rd	Eastbound	919	21.4%	902	9.2%
	Westbound	1046	11.4%	673	8.8%

Source: I-205 Auxiliary Lane Study, 2007

4 FREEWAY OPERATIONS

4.1 Recurrent Congestion

4.1.1 Bottleneck Locations

Information on recurrent congestion is available from the 2007 HICOMP report and PeMS. Figure 26 illustrates the typical 2007 morning peak congestion map. On I-205, the congestion occurs very early, which is consistent with the PeMS volume and speed data previously presented. Bottlenecks appear in the westbound direction in the vicinity of Mountain House Parkway, West Grant Line Road and MacArthur Road. This reflects the high demand levels that exceed the capacity of each of thse locations It appears that the volume traveling west on I-205 from I-5 is constrained by the capacity west of the freeway-to-freeway connector. It appears that the capacity of the structure over the railroad is slightly less than the capacity of the connector and, at the same time, there is some lane changing activity that occurs in this vicinity that also serves to slightly reduce the capacity at that point. This congestion appears at approximately 4:15 am, which is earlier than at other locations in this direction. The on-ramp merge at Grant Line Road next appears as a bottleneck, followed by later onset of congestion and bottleneck at the Mountain House on-ramp.

On I-5 there is congestion in the southbound direction from Hammer Lane to a bottleneck at the curves in the vicinity of Monte Diablo Avenue and Fremont Street. Observations indicate that this bottleneck is mainly due to the large numbers of vehicles using the right lanes to exit at the various downtown interchanges. Traffic in those lanes travels at reduced speed, while traffic volume in the left lanes is less that the capacity of those lanes, and flows at a higher speed. No other bottlenecks are reported in the AM peak on I-5.

The PM peak situation is illustrated in Figure 27. On I-205 there is continuous congestion between approximately 2:00pm and 8:00pm along all or most of the study section. It is difficult to identify individual bottlenecks in this situation as individual queues merge fairly quickly after the onset of the peak. Aerial observations indicated that each interchange may be a bottleneck in its own right

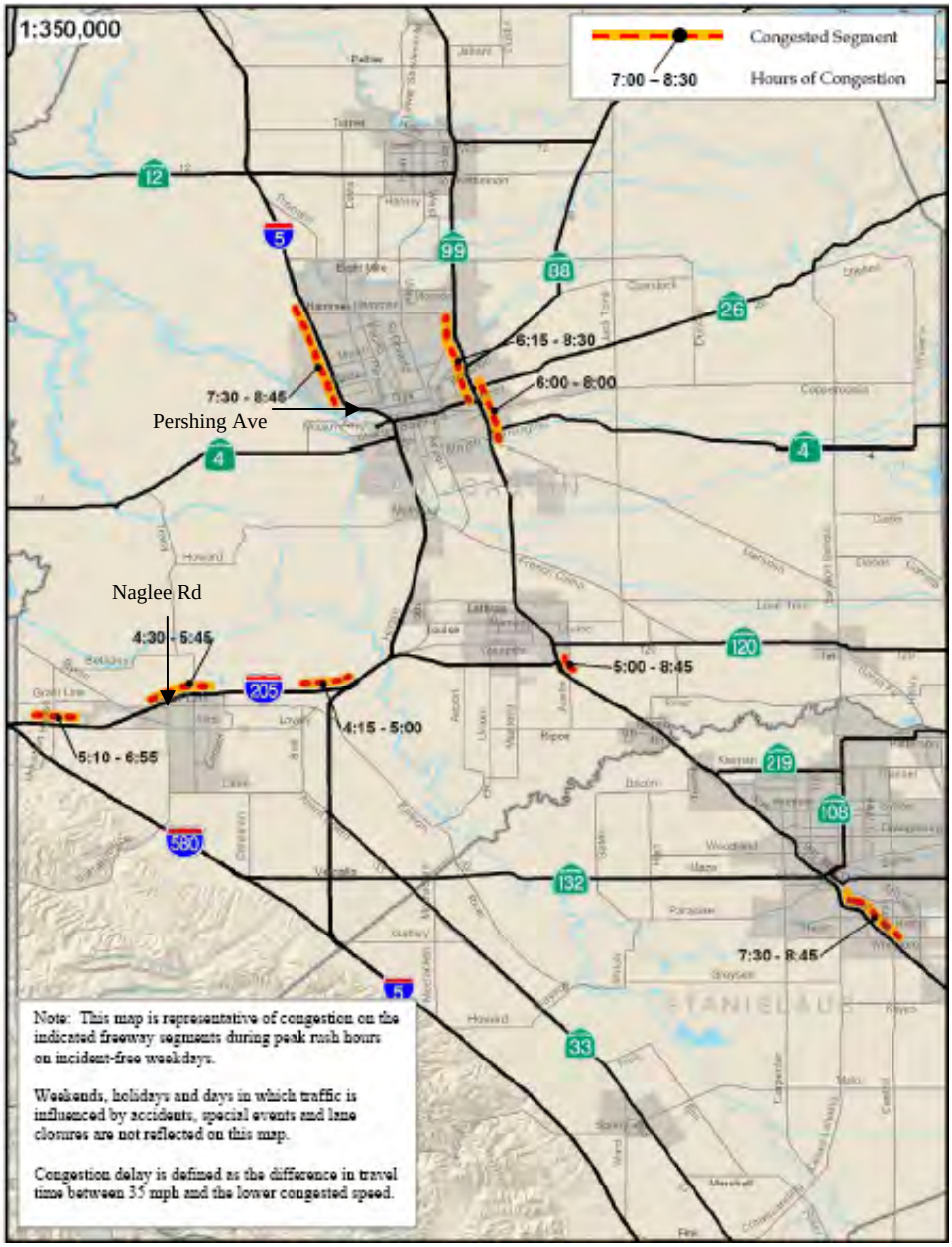


Figure 26 Congestion during AM peak in San Joaquin County

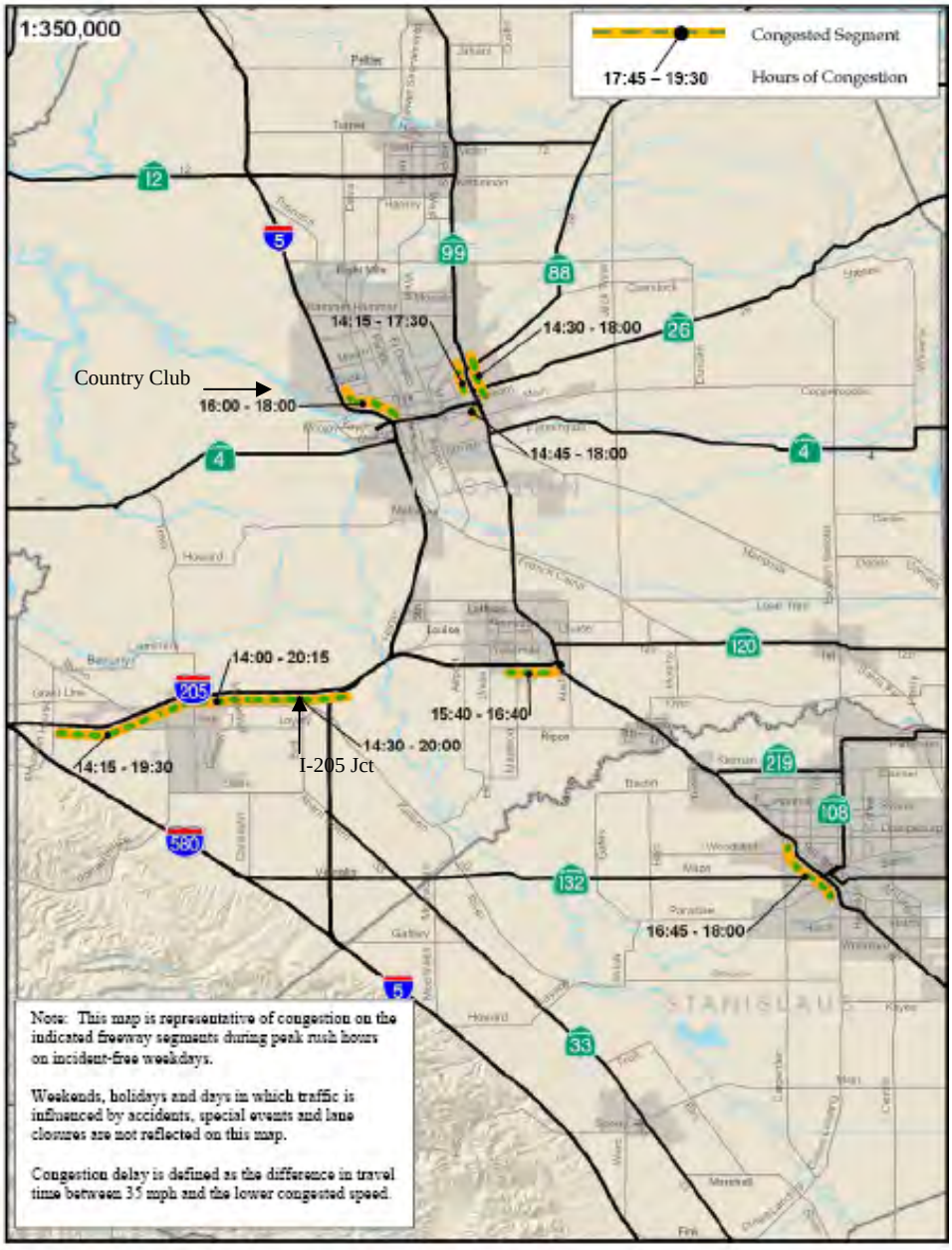


Figure 27 Congestion during PM peak in San Joaquin County

4.1.2 Performance Measures

The main performance measure available from existing data relate to travel times and speed. The travel times derived from PeMS data are illustrated in Figure 28 through Figure 25.

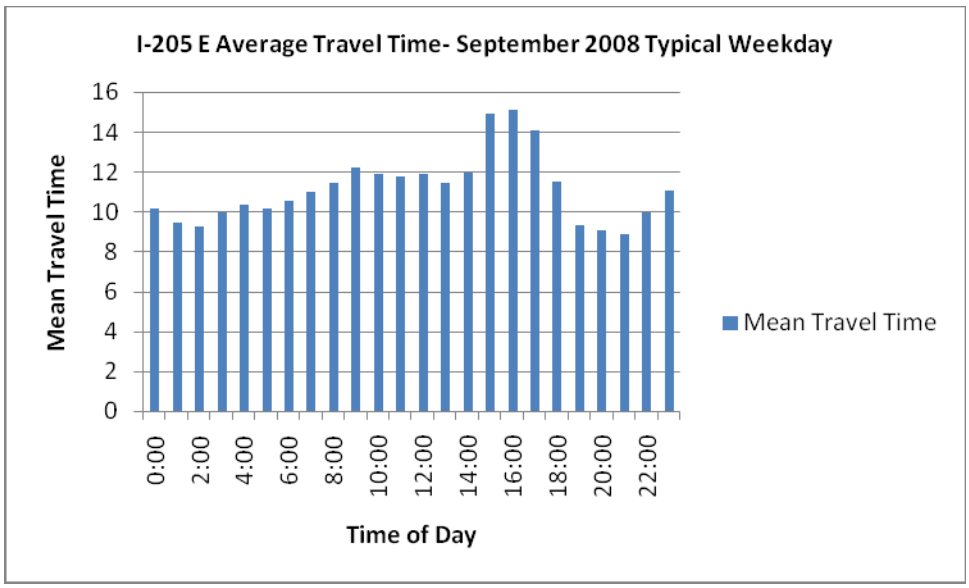


Figure 28 Travel time on I-205 eastbound

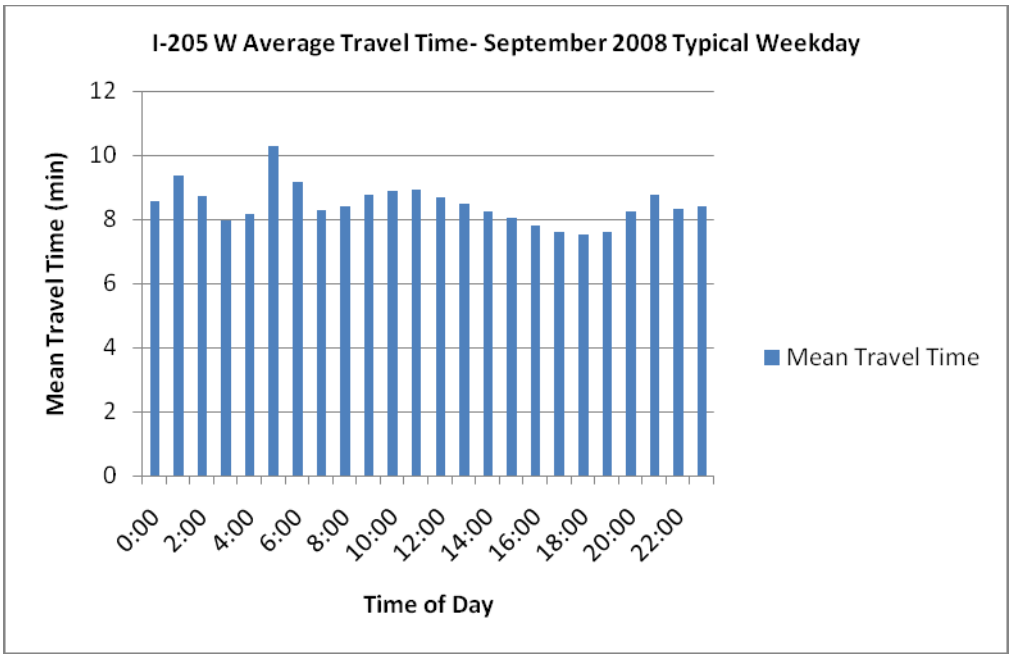


Figure 29 Travel time on I-205 westbound

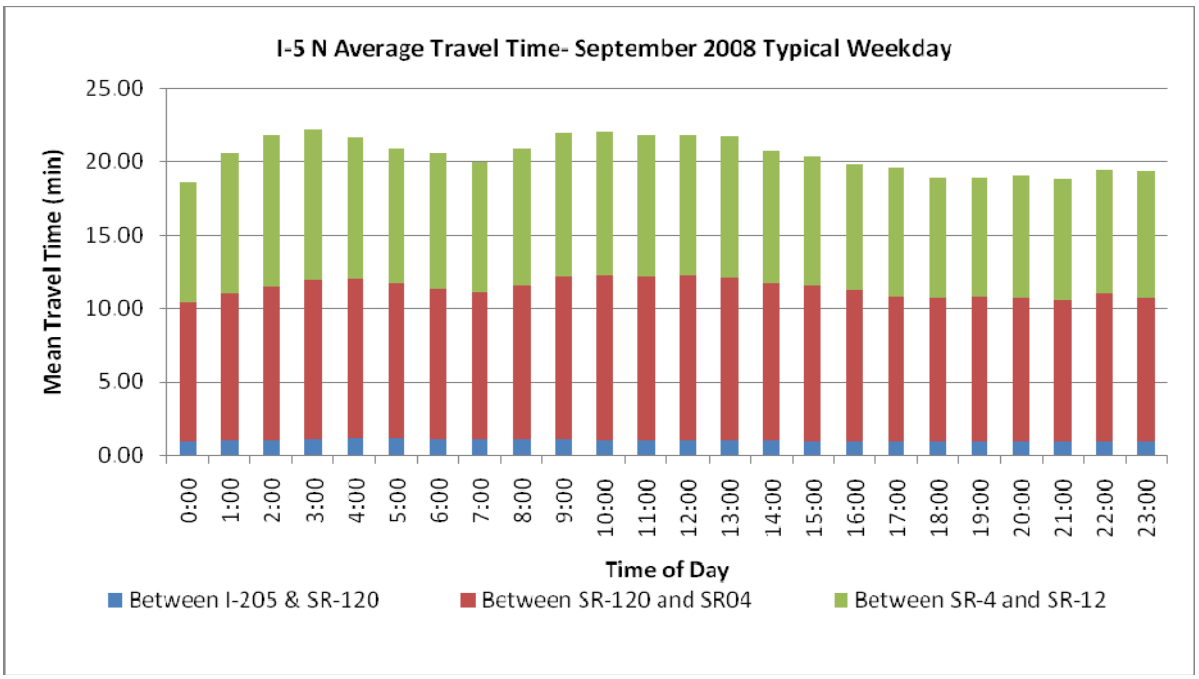


Figure 30 Travel times on I-5 northbound

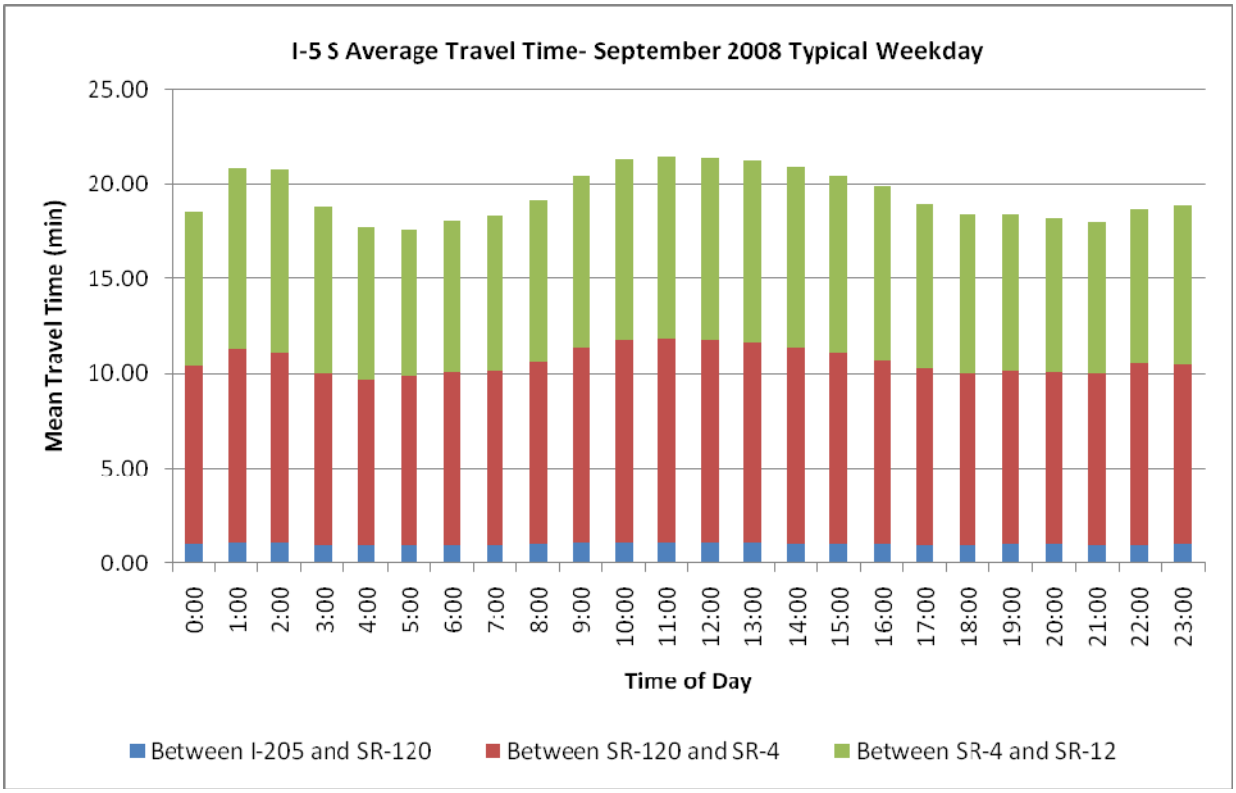


Figure 31 Travel times on I-5 southbound

Buffer Index is a measure of the reliability of travel time. Buffer Index is a representation of the 95th percentile travel time. It is defined as the percentage of average travel time that needs to be added to a trip in order to have a 95% probability of completing a given trip within the estimated time.

A large buffer index indicates a large amount of variation in observed travel times, due to recurrent congestion, accidents, other incidents and construction. The average travel time and buffer index are illustrated in Figure 32 through Figure 39. The presence of construction activities on both I-5 and I-205 appear to contribute significantly to the high buffer index outside the peak hours.

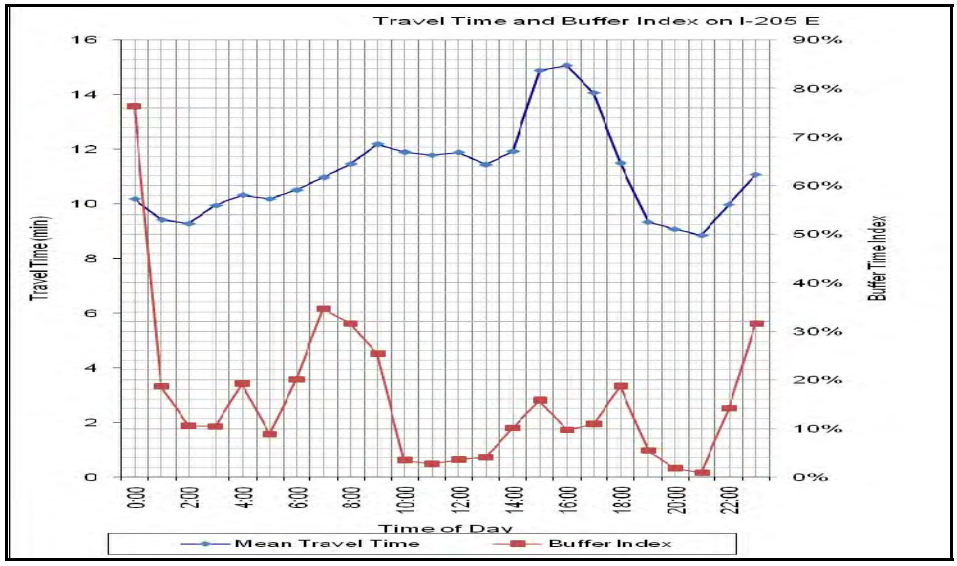


Figure 32 Buffer index, I-205 eastbound

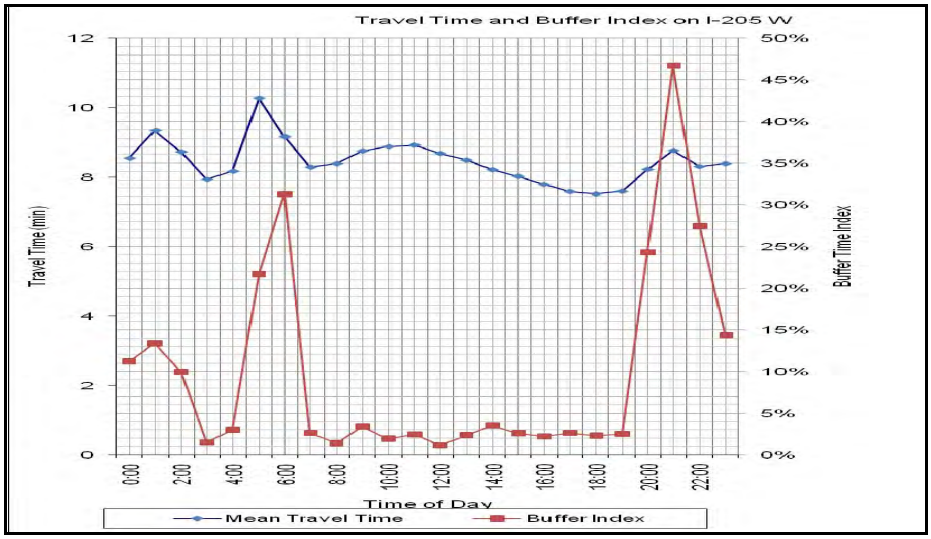


Figure 33 Buffer index I-205 westbound

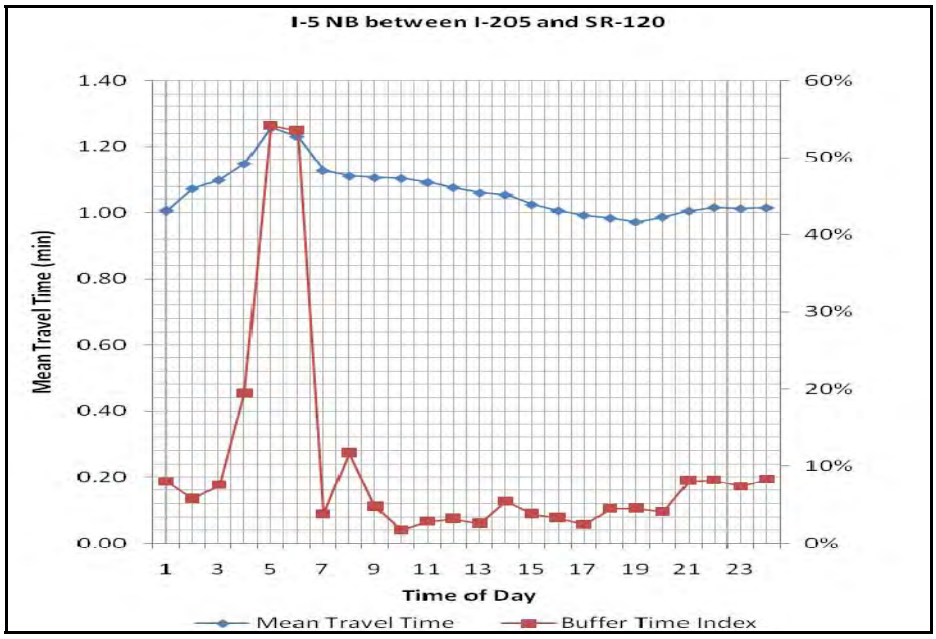


Figure 34 Buffer index I-5 northbound, I-205 to SR 120

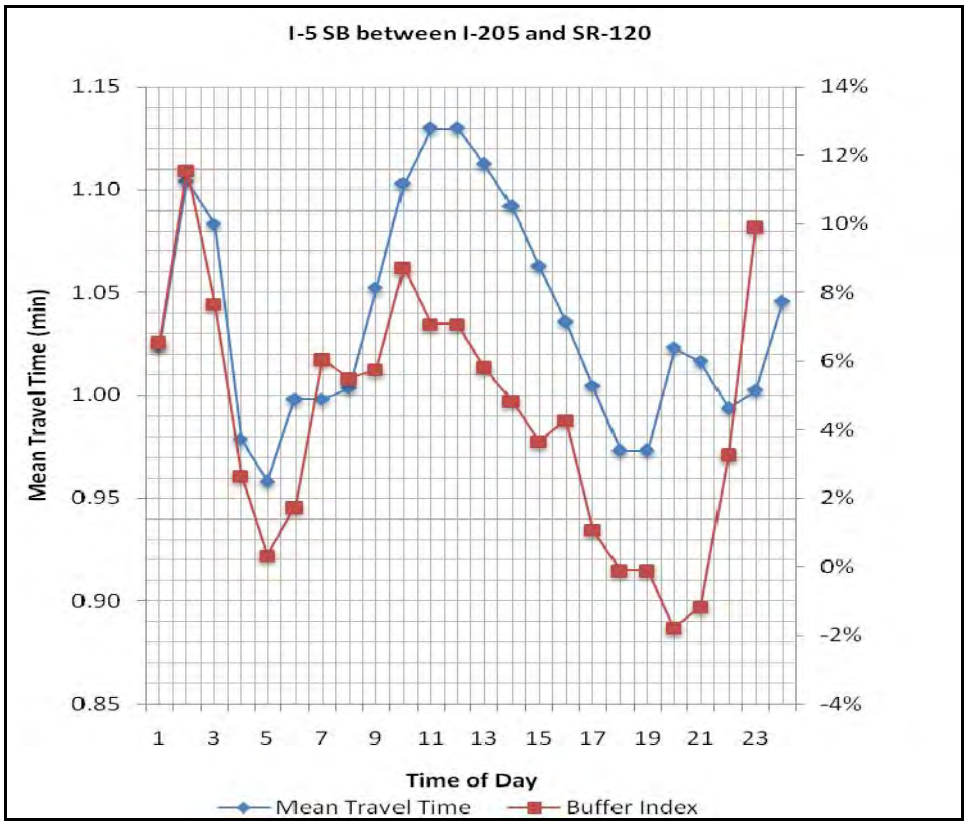


Figure 35 Buffer index I-5 southbound, I-205 to SR 120

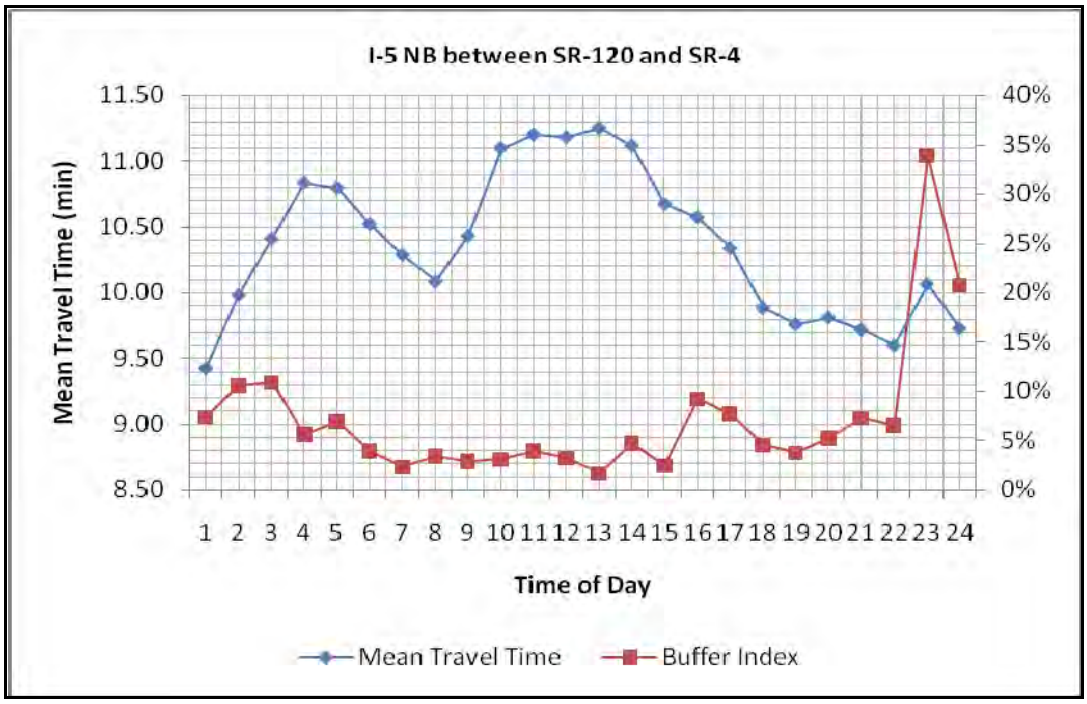


Figure 36 Buffer index I-5 northbound, SR 120 to SR 4E

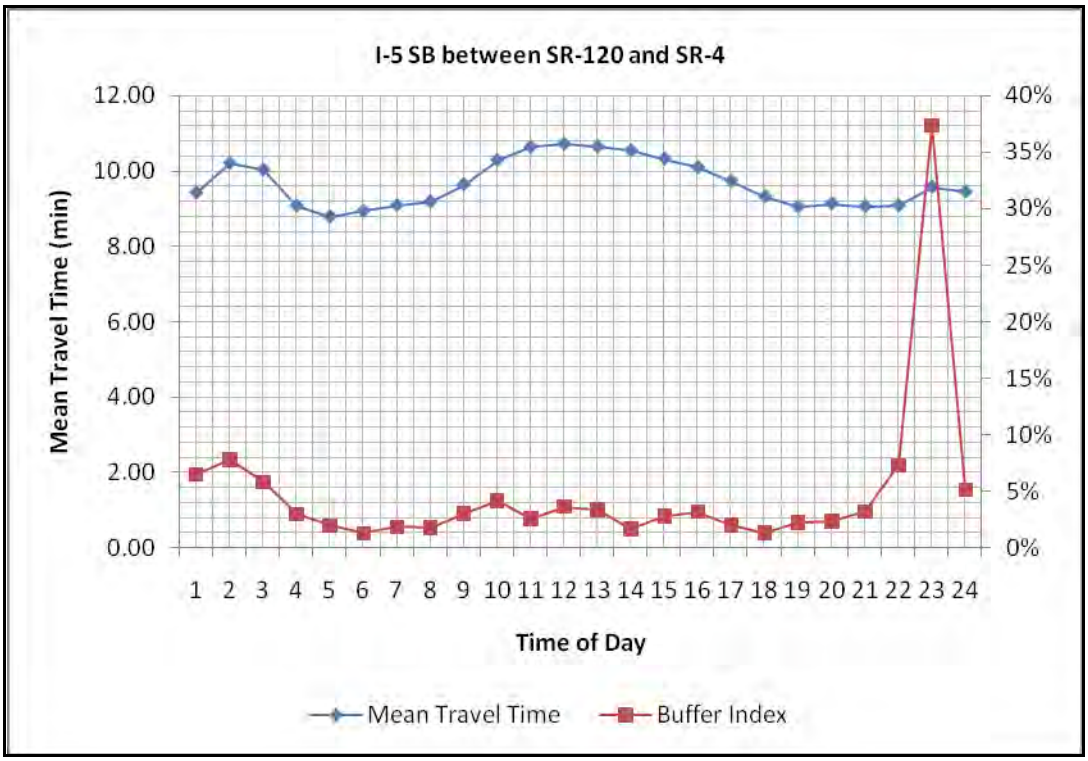


Figure 37 Buffer index I-5 southbound, SR 120 to SR 4E

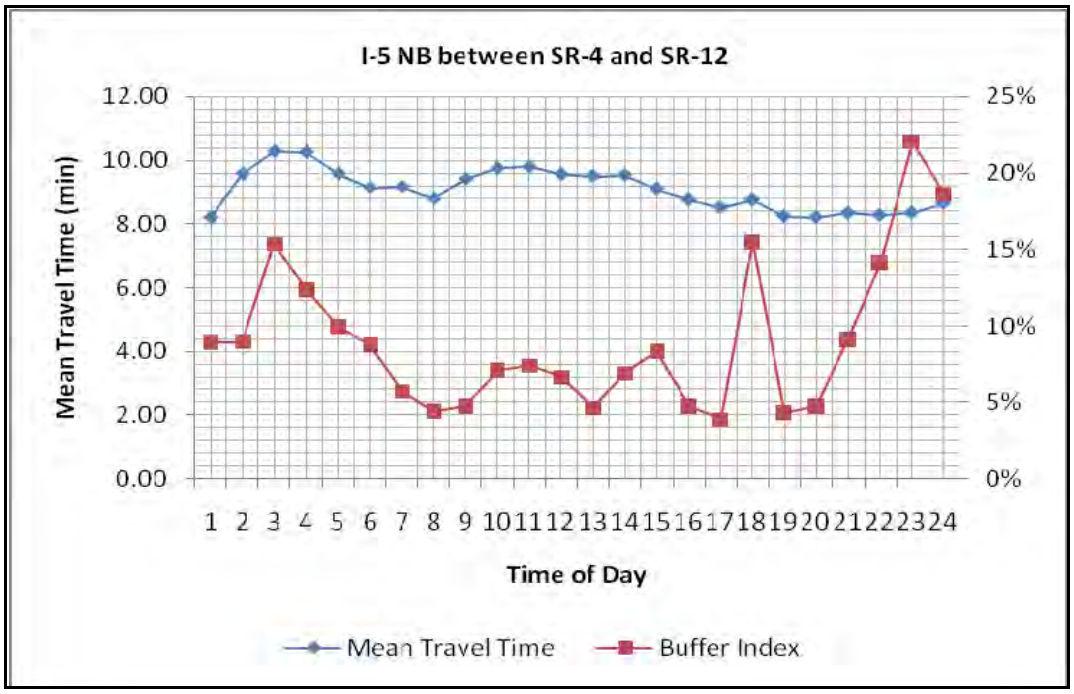


Figure 38 Buffer index I-5 northbound, SR 4E to SR 12

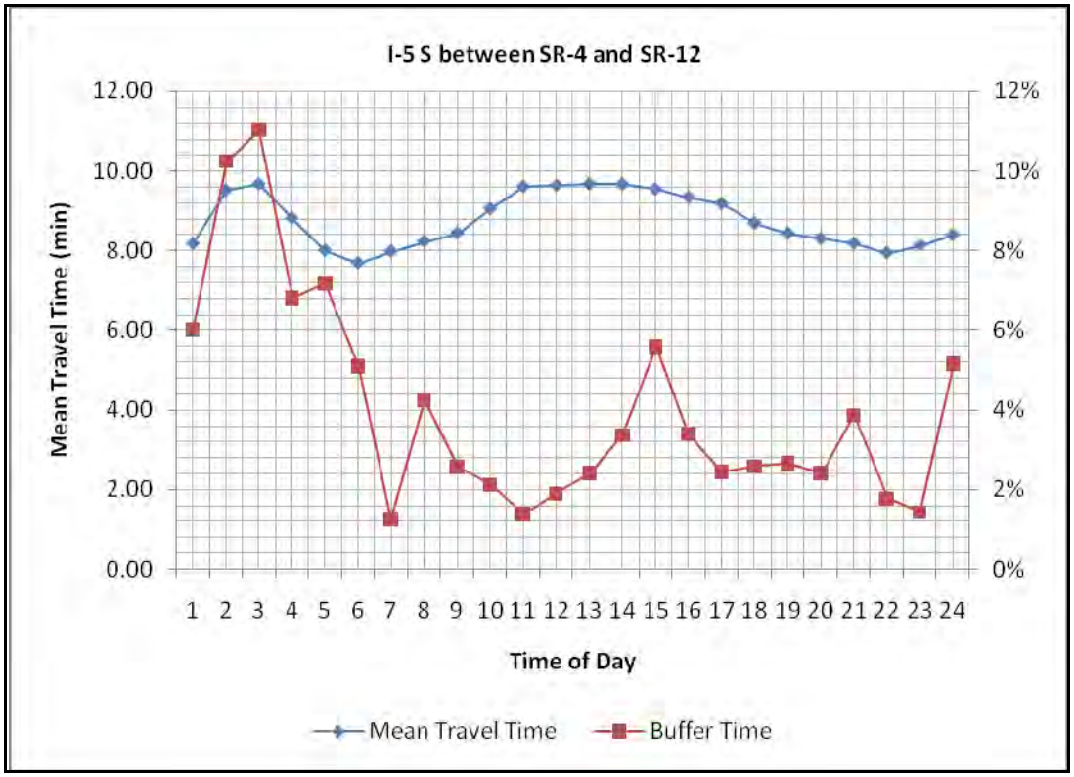


Figure 39 Buffer index I-5 southbound, SR 4E to SR 12

4.2 Safety

4.2.1 Non-Recurring Congestion

At the time this preliminary assessment was prepared, most PeMS detector locations had either only recently been install or was still affected by construction within the study area. Therefore little useful data was then available from PeMS to quantify non-recurring congestion. More data will be available for the Comprehensive Performance Assessment.

4.2.2 TASAS Records, Collision-Risk Profile

Two different performance measures are available to quantify safety on the study corridor. Overall accident rates and numbers of accidents are available from TASAS. These are summarized in Table 10. For I-5 in both directions and I-205 westbound, the accident rate per million vehicle miles is at or below the statewide average. However, for I-205 eastbound, the accident rate is 1.7 times the statewide average.

The locations of incidents on I-5 are illustrated in Figure 40 and Figure 41. (Similar data is not yet available for I-205.) These figures (derived from PeMS) show that the numbers of other incidents exceeds the number of accidents.

In the northbound direction, there is a high concentration of incidents around PM 35 (Eight Mile Road), PM 30 (March Lane) and in the section PM 27.5 to 34.5 (SR 4W to Monte Diablo). In the southbound direction, there are clusters of incidents at PM 13 (I-205 split), PM 26 (SR 4E Crosstown Freeway) and PM 30 (March Lane). The clusters in both directions at March Lane may not be correct data, since both directions have no incidents reported in the adjacent section.

Table 10 Accident summary by freeway segment

Freeway	Direction	Segment	CA PM	# Accidents	Accident Rate (per mile)	Accident Rate (per MVM)2	State Average Accident Rate (per MVM)2
I-205	EB	Between I-580 and I-5	0.00-12.70	1030	81.1	1.46	0.87
	WB	Between I-5 and I-580	0.00-12.70	614	48.35	0.87	0.87
I-5	NB	Between Kasson Rd and SR-12	11.00-42.00	1106	35.68	0.63	0.83
	SB	Between SR-12 and Kasson Rd	11.00-42.00	1197	38.61	0.68	0.83

[1] In this table, the segment boundaries on I5680 are functions of the TASAS reports received and do not necessarily match those used for segment reporting elsewhere in this document.

[2] MVM – million vehicle-miles

Source: TASAS, August 2004 through July 2007

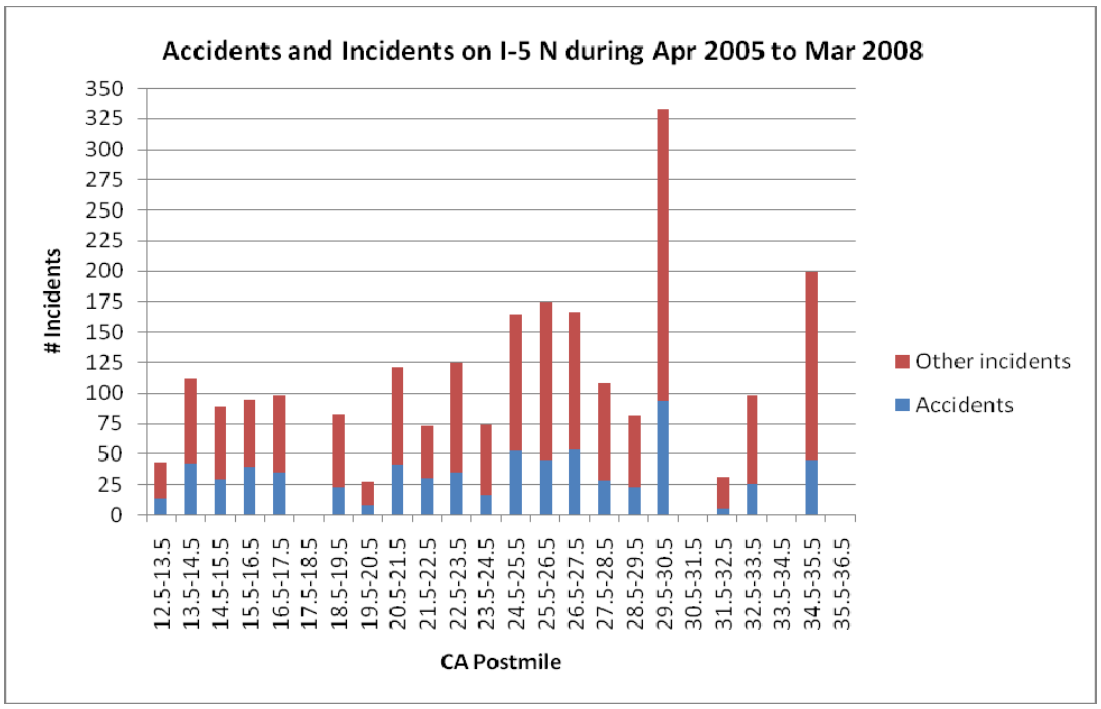


Figure 40 Accidents and incidents on I-5 northbound

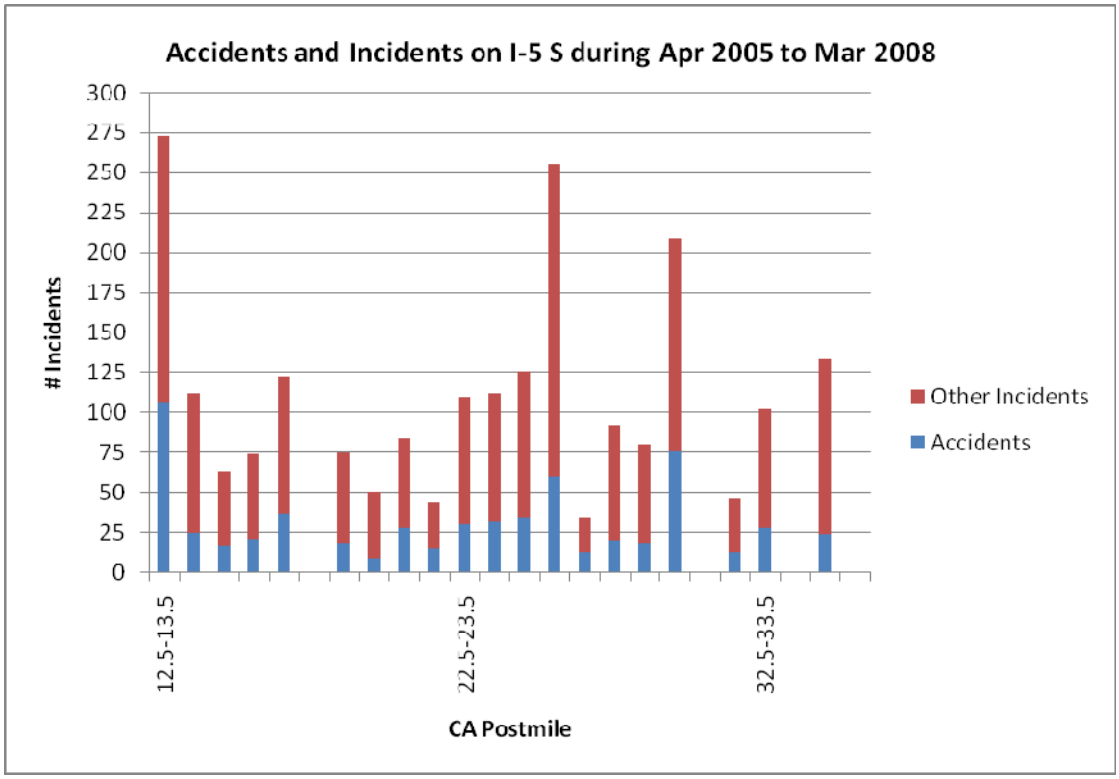


Figure 41 Accidents and incidents on I-5 southbound

4.2.3 Continuous Risk Profile Analysis

Continuous risk profile analysis (CRP) is an alternative way of assessing the accident data for the corridor. It represents the number of accidents recorded in a moving window of the freeway, compared to a reference base rate. The plots produced highlight locations that have a high incidence, and filter out the "noise" related to inaccuracies in coding exact location. The results of CRP for I-5 are illustrated in Figure 42 and Figure 43, and for I-205 in Figure 44 and Figure 45. It is clear from these figures that the sections of particular interest from a safety point of view are:

- I-5 northbound from SR 4W to Alpine and between I-205 and SR 120
- I-5 southbound between I-205 and SR 120
- I-205 eastbound from Grant Line Road to MacArthur
- I-205 westbound at the I-5 merge and between MacArthur and Tracy Boulevard.

These locations have consistently shown similar characteristics over several years.

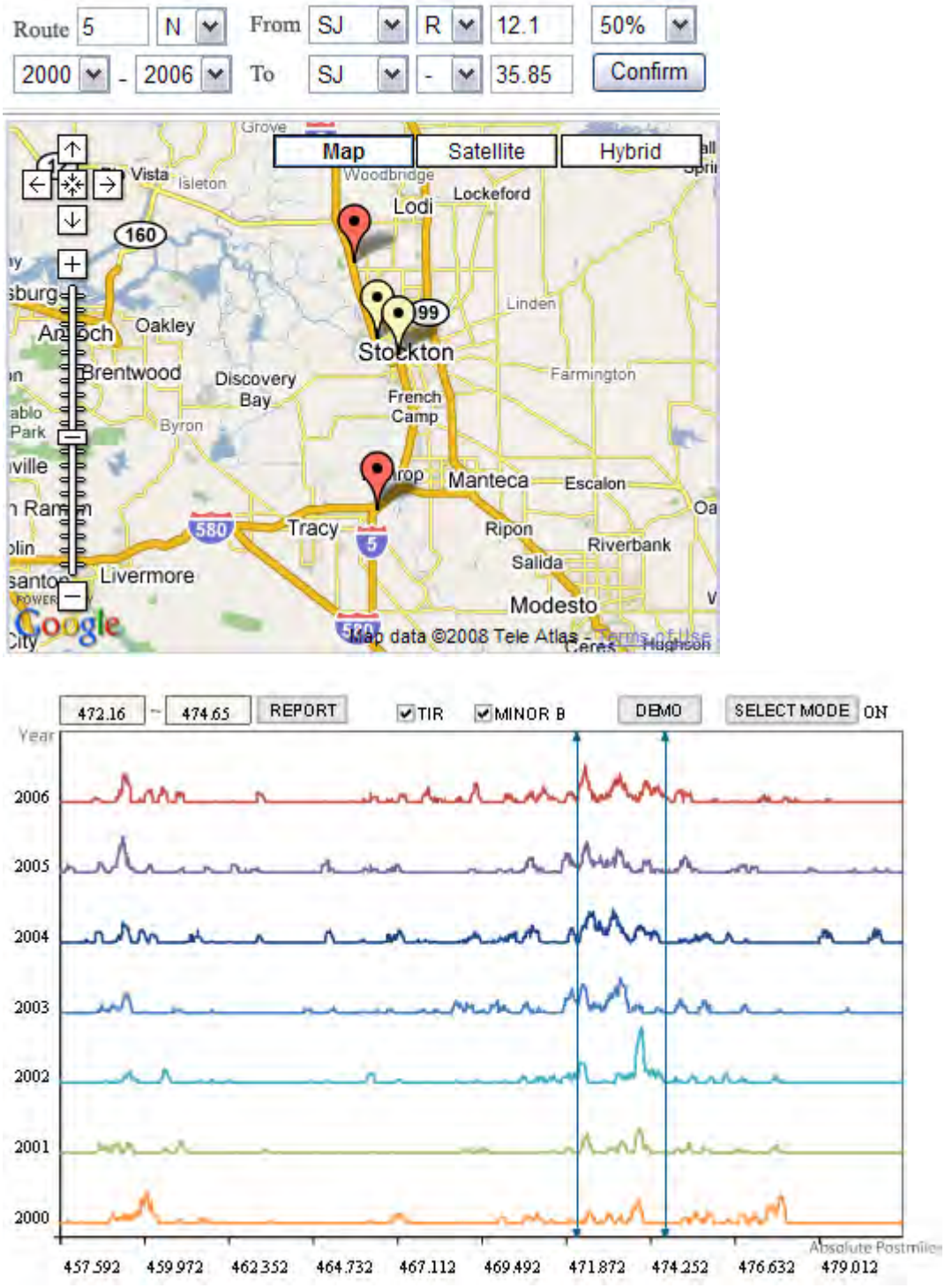


Figure 42 I-5 northbound CRP Analysis

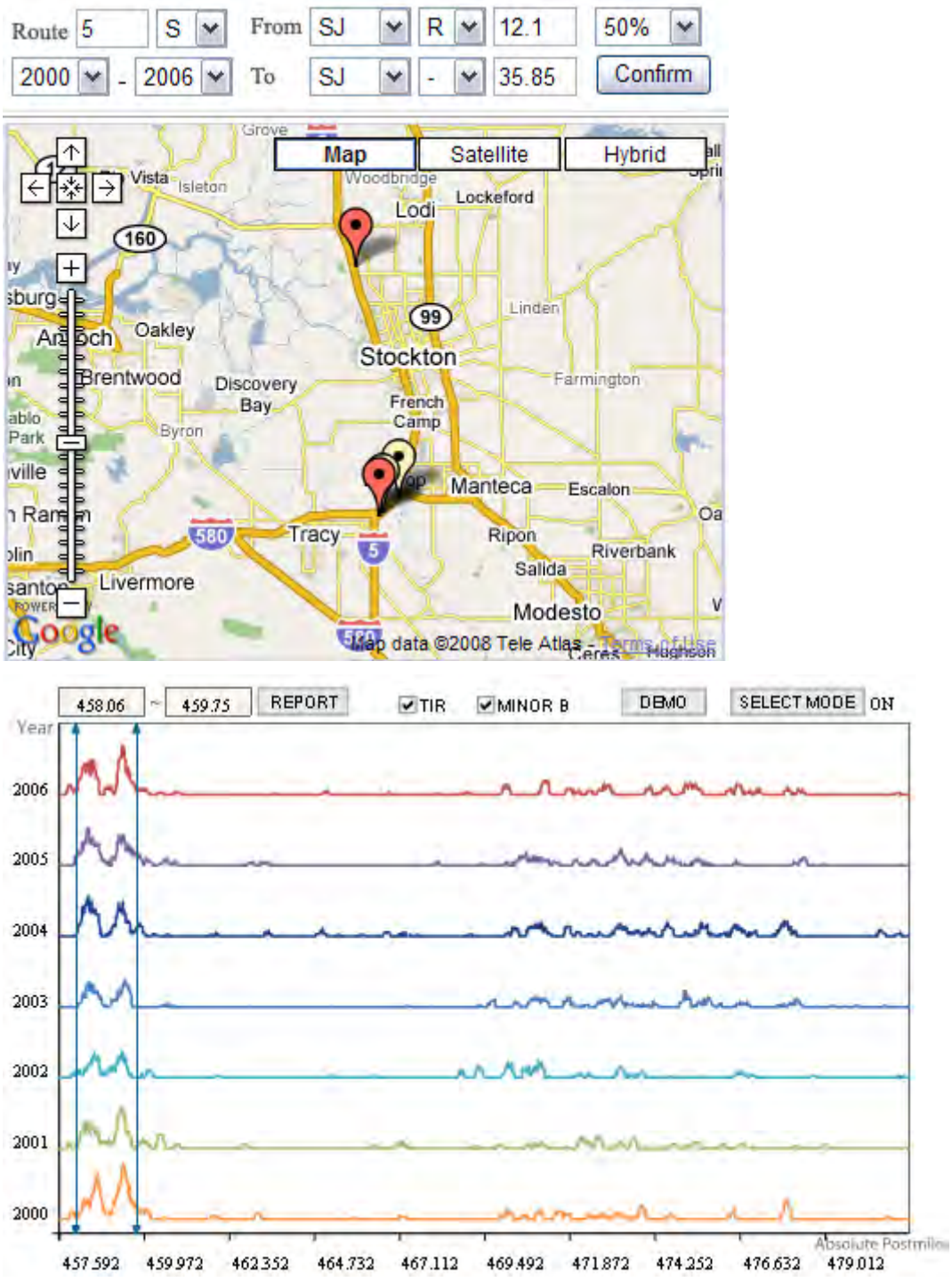


Figure 43 I-5 southbound CRP Analysis

Figure 44 I-205 eastbound CRP Analysis

Figure 45 I-205W CRP Analysis

4.3 Physical Condition

Because of the extensive widening, upgrading and rehabilitation going on in the study corridor, there are no sections of the corridor showing poor or failing pavements. All structures in the

corridor are in satisfactory condition. Detailed documentation of pavement and structure condition will be included in the Detailed Performance Assessment at a later date.

4.4 Gaps in Understanding

There are significant gaps in current understanding of the travel within the corridor that will need to be filled. On the freeways there is a reasonable amount of travel time and speed data but the PeMS stations are relatively new and historical trends cannot be established in detail. There is little recent data on truck traffic on the freeway.

The biggest gap is in understanding of operation on the arterial roads. Parts of the arterial network are included in some existing Synchro models, but these are generally not up to day and have not been examined in detail at this time. Traffic volumes are available for some arterial roads from the routine traffic volume mapping prepared by the City of Stockton. However, intersection turning movement counts are generally not available. While data about peak hour volumes is available for many ramps, it is somewhat dated and the flow profile is generally not available for the peak period.

5 ARTERIAL OPERATIONS

As described in the previous section, little data was available to the consultant to provide a comprehensive picture of arterial operations within the study corridor. City of Stockton will make available AADT and traffic flow profile data for a number of arterial roads. The data collection plan (prepared separately) addresses this paucity of data suitable for detailed analysis and use in simulation models. The Comprehensive Performance Assessment will include more detailed analysis of arterial operations.

6 TRANSIT OPERATIONS

6.1 SJRTD

SJRTD operates various services on different sections of the I-5 and I-205 study corridor. The number of bus trips and estimated daily passenger trips are summarized in Table 11.

Table 11 SJRTD routes using I-5 and I-205

Route	Destination	Area of service in San Joaquin County	Daily bus trips	Estimated Monday-Friday average passenger trips
22	North Stockton - Tracy Defense Depot	I-5/Defense Depot	4	105
26	Stockton-Lathrop-Tracy	I-5/Harlan/I-205/Grant Line	25	220
51	Stockton - South Stockton - County Hospital	Parallel roads to I-5	36	300
52	Kaiser-Stockton-County Hospital	Hwy 4/Manthey/I-5	25	315
55	Stockton-Weston Ranch	Dr. Martin Luther King Jr. Blvd /I-5	30	305
90	Stockton -Lathrop - Tracy	I-5/Manthey/I-5/Grant Line	15	160
151	Stockton -Livermore (Lawrence Lab)	I-5/I-205	2	40
152	Stockton -Livermore (Lawrence Lab)	I-5/I-205	2	64
153	Manteca -Livermore (Lawrence Lab)	Hwy 120/I-5/I-205	2	52
154	Manteca -Livermore (Lawrence Lab)	Hwy 120/I-5/I-205	2	64
157	Stockton – Manteca – Tracy - Dublin (BART-Hacienda Business Park)	Hwy 120/I-5/I-205	2	48
160	Stockton - Dublin (BART)	I-5/I-205	2	91
162	Tracy - Sunnyvale (Lockheed)	I-5/I-205	2	66
164	Manteca - Sunnyvale (Lockheed)	I-5/I-205	2	110
166	Stockton - Sunnyvale (Lockheed)	I-5/I-205	2	108
167	Ripon - Livermore (Lawrence Lab)	Hwy 120/I-5/I-205	2	98
170	Stockton - Manteca - San Jose (Silicon Valley)	Hwy 120/I-5/I-205	2	96
171	Stockton - Dublin (BART)	I-5/I-205	2	82
172	Stockton - Sunnyvale (Lockheed)	I-5/I-205	2	70
173	Stockton – Manteca - Sunnyvale (Northrop/Grumman)	Hwy 120/I-5/I-205	2	102
174	Stockton - Palo Alto (Loral)	I-5/I-205	2	82
175	Stockton – Manteca - Santa Clara (Silicon Valley)	Hwy 120/I-5/I-205	2	62
	TOTAL		167	2,640

6.2 Other providers

In addition to the SJRTD services summarized above, there are other bus lines that use I-5. These are described in Table 12. Additional transit information is also provided in Appendix C.

Table 12 Bus routes using I-5

Provider	Route Number	From	To	Service Description
Manteca Transit	1	Transportation Center	KFC	
	2	Transportation Center	Main St/ Center St	
Escalon Tracer	95 Route A; B; C	City Hall	Sears Mall	Weekday 06:00 AM to 07:00 PM. Weekend 07:45 AM to 03:00 PM
GrapeLine	Route 1	Lodi Station	Church/ Lower Sacramento	Weekday 06:00 AM to 07:00 PM. Weekend 07:45 AM to 03:00 PM
	Route 2	Lodi Station	Central	Weekday 06:00 AM to 07:00 PM. Weekend 07:45 AM to 03:00 PM
	Route 3	Lodi Station	Ham	Weekday 06:00 AM to 07:00 PM. Weekend 07:45 AM to 03:00 PM
	Route 4	Lodi Station	Century	Weekday 06:00 AM to 07:00 PM. Weekend 07:45 AM to 03:00 PM
	Route 5	Lodi Station	Cherokee	Weekday 06:00 AM to 07:00 PM. Weekend 07:45 AM to 03:00 PM

7 DATA SOURCES

The data used in this report has been obtained from the following sources:

- Detection data using PeMS
- 2007 HICOMP report
- Accident statistics from TASAS
- Accident analysis from PeMS
- San Joaquin County HOV and Ramp Metering study (DKS Associates)
- I-205 Auxiliary Lanes study (Fehr and Peers)
- Public transit data from SJRTD

Appendix A
Project Description, I-5 & I-205

STATUS OF PROJECTS
COUNTY, ROUTE AND POST MILE INDEX
District 10

November 17, 2008

CO	ROUTE	POST MILE	E/A	PAGE	PHASE	DESCRIPTION	TYPE OF WORK
SJ	4	0.0 / 12.9	0Q370_	10	Candidate	IN SAN JOAQUIN COUNTY ON SR 4 FROM OLD MIDDLE BRIDGE TO JUST EAST OF WILHOIT ROAD	INSTALL RUMBLE STRIPS AND TYPE A NONREFLECTIVE MARKERS
SJ	4	4.5 / 5.6	0F070_	120	Closeout	ON ROUTE 4 IN SAN JOAQUIN COUNTY BETWEEN MIDDLE RIVER BRIDGE AND 1.6 KM EAST OF MIDDLE RIVER BRIDGE (KP 7.24/9.01)	CURVE CORRECTION
Route 4 Curve Correction - East of Middle River							
SJ	4	5.4 / R6.9	0H04U_	79	PS&E/RW	ON ROUTE 4 IN SAN JOAQUIN COUNTY NEAR STOCKTON FROM 0.8 KM WEST OF TRACY BOULEVARD TO TRAPPER ROAD	CURVE IMPROVEMENT
Tracy Blvd. / Trapper Road Curve Improvement							
SJ	4	R8.1 / T14.3	28320_	72	PS&E/RW	NEAR STOCKTON FROM 0.2 KM EAST OF BACON ISLAND ROAD TO SAN JOAQUIN RIVER BRIDGE BR# 29-50 (KP R13.0/T23.0)	PAVEMENT REHABILITATION
BACON ISLAND REHAB							
SJ	4	R12.6 /	0S110_	52	PA&ED	IN SAN JOAQUIN COUNTY IN STOCKTON ON SR 4 FROM WEST OF I-5 TO CHARTER WAY **** OVERSIGHT ONLY****	EXTEND FREEWAY
SR 4 Crosstown Freeway Extension							
SJ	4	14.1 / 15.9	0H820_	144	Candidate	IN SJ CO ON SR 4 FROM SJ RIVER BRIDGE TO I-5 INTERCHANGE. (KP 22.7/25.5)	MODIFY INTERCHANGE WIDEN TO 4 OR 5 LANES WITH INTERCHANGE IMPROVEMENTS
Rte 4/Charter Way West Improvements							
SJ	4	14.5 / 21.1	3A400_	29	PID	VARIOUS LOCATIONS THROUGHOUT SAN JOAQUIN COUNTY	INSTALL 10 CMS & WEATHER STATIONS.
CROSS-TOWN TMS							
SJ	4	15.3 / 19.4	0G330_	149	Candidate	IN SJ CO ON RTE 4 FROM FRESNO AVE TO THE JUNCTION OF RTE 99. (KP 24.6/31.3)	HIGHWAY BEAUTIFICATION AND MODERNIZATION.
Route 4 Beautification and Modernization							
SJ	4	R15.7	0N360_	159	MINOR	IN SAN JOAQUIN COUNTY IN STOCKTON AT GARFIELD STREET OVERHEAD	RECONSTRUCT BRIDGE ABUTMENT
Garfield St. OC ABUTMENT DIAPHRAGM Job							
SJ	4	R15.7 /	0N260_	79	MAINT.	IN SAN JOAQUIN COUNTY IN STOCKTON AT VARIOUS LOCATIONS FROM GARFIELD STREET OVERHEAD TO EASTBOUND ROUTE 4/NORTHBOUND ROUTE 99 CONNECTOR	TREAT BRIDGE DECKS, REPLACE JOINT SEALS
SR 4 FROM GARFIELD ST OH TO EB 4/NB 99 CONNECTOR OC							
SJ	5	0.0	0E84U_	149	Candidate	IN MER CO, STA CO, AND SJ CO AT VARIOUS LOCATIONS. SJ-5(KP22.2/63.6,42.1)SJ-99(KP9.8, 30.1,49.1)SJ-580(KP0.0)MER-5(KP 52.1)STA-5(KP43.7)STA-99(KP R25.9)	INSTALLATION OF HAR'S
HAR System							
SJ	5	0.0	0T820_	11	Candidate	IN SAN JOAQUIN COUNTY ALONG STATE ROUTES 4, 5, 12 AND 26 AT VARIOUS LOCATIONS	INSTALL ADA CURB RAMPS
SJ	5	0.1 / 47.8	0K330_	89	PS&E/RW	IN SAN JOAQUIN COUNTY ON ROUTES 5, 132 AND 580 AT VARIOUS LOCATIONS TO INSTALL TRAFFIC MONITORING STATIONS (TMS)	INSTALL TRAFFIC MONITORING STATIONS (TMS) AT VARIOUS LOCATIONS
West San Joaquin Co. Monitoring stations							
SJ	5	0.3 / 13.8	0N010_	115	MAINT.	IN SAN JOAQUIN COUNTY AT AND NEAR BANTA FROM GAFFERY ROAD UNDERCROSSING TO PARADISE CUT OVERFLOW BRIDGE	RUBBERIZED HOT MIX ASPHALT OVERLAY
SJ-5 Tracy Overlay							
SJ	5	0.3 / 6.4	0N410_	80	MAINT.	IN SAN JOAQUIN COUNTY ABOUT 7 MILES SOUTH OF LATHROP FROM GAFFERY ROAD UNDERCROSSING TO ROUTE 5/33 SEPARATION AND OVERHEAD	REMOVE EPOXY GRIT, GRIND DECKS, METHACRYLATE DECKS
gaffery rd uc to rt 5/33 sepAration grind decks and							

STATUS OF PROJECTS
COUNTY, ROUTE AND POST MILE INDEX
District 10

November 17, 2008

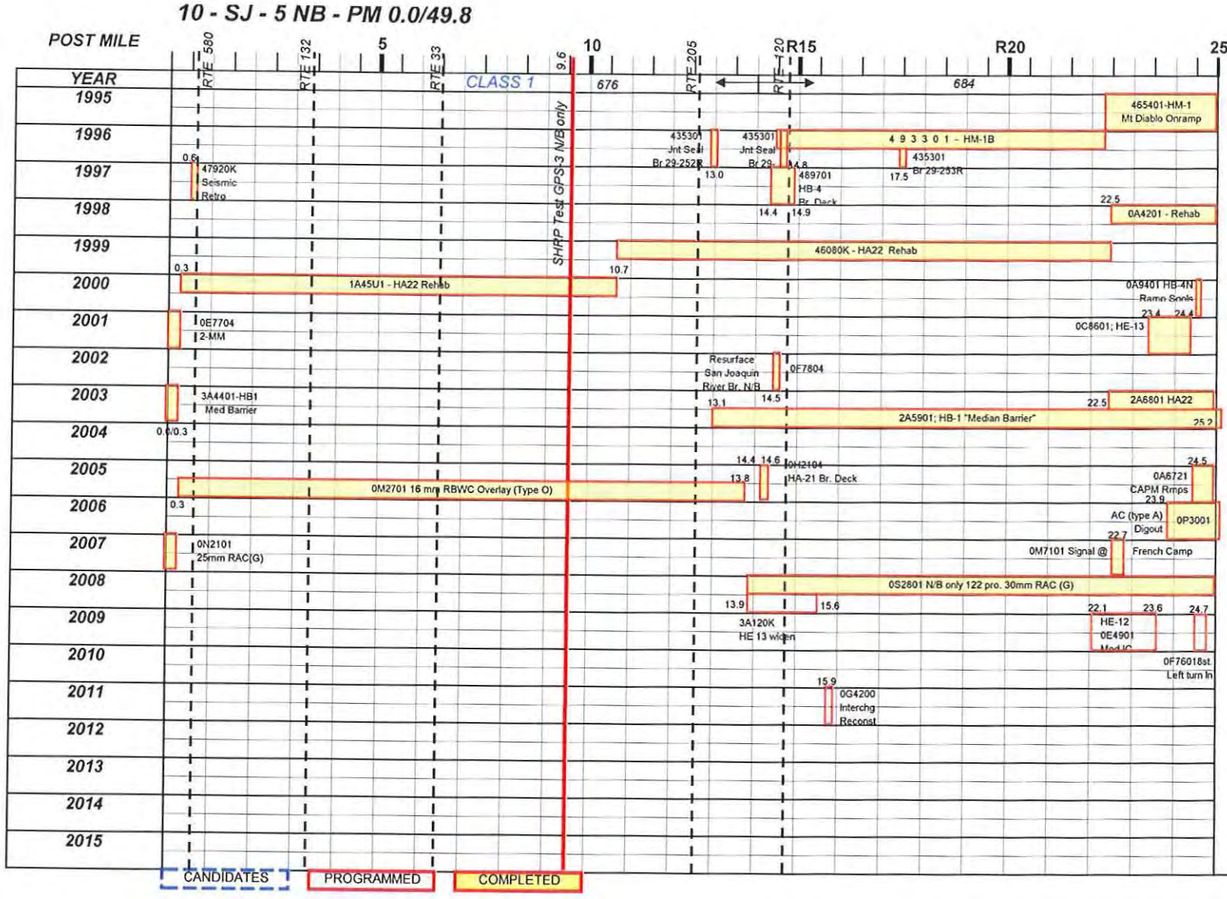
CO	ROUTE	POST MILE	E/A	PAGE	PHASE	DESCRIPTION	TYPE OF WORK
SJ	5	1.1 / 34.5	0G240_	150	Candidate	IN SAN JOAQUIN CO AT VARIOUS LOCATIONS FROM HOSPITAL CREEK BRIDGE TO PIXLEY SLOUGH BRIDGE (KP 1.8/55/5)	RESURFACE BRIDGE DECKS
SJ-5 DECK Resurface							
SJ	5	10.7 / R13.9	0N420_	107	MAINT.	IN SAN JOAQUIN COUNTY IN AND NEAR LATHROP AT VARIOUS LOCATIONS FROM DEUEL OVERHEAD TO PARADISE CUT OVERFLOW BRIDGE	TREAT BRIDGE DECKS
Deuel Overhead							
SJ	5	R11.8 / 39.6	0N300_	108	MAINT.	IN SAN JOAQUIN COUNTY AT VARIOUS LOCATIONS FROM OLD US 50 OVERCROSSING TO ROUTE 5/12 SEPARATION	REPLACE JOINTS AND APPROACH SLABS
Lathrop Rd. Interchange							
SJ	5	R13.1 / 35.3	2A590_	125	CLOSEOUT	IN SAN JOAQUIN COUNTY IN AND NEAR LATHROP, FRENCH CAMP AND STOCKTON AT VARIOUS LOCATIONS	CONSTRUCT MEDIAN BARRIER
STOCKTON I5 MEDIAN BARRIER							
SJ	5	R13.9 /	3A120_	103	CONSTRUCTIO	IN SAN JOAQUIN COUNTY IN LATHROP FROM 0.1 KM NORTH OF PARADISE CUT OVERFLOW BRIDGE TO 0.7 KM NORTH OF ROUTE 5 AND 120 SEPARATION OVERHEAD	WIDEN ROADWAY AND BRIDGES
MOSSDALE WIDENING							
SJ	5	R14.5 /	3A380_	14	Candidate	VARIOUS LOCATIONS THROUGHOUT SJ CO	CLOSED CIRCUIT TV CAMERAS, HWY ADVISORY RADIOS, CMS'
San Joaquin ITS							
SJ	5	16.4 / 16.8	0E550_	53	PA&ED	ON I-5 AT THE LOUISE AVENUE/RIVER ISLANDS PARKWAY INTERCHANGE BETWEEN LATHROP ROAD AND THE I-5/SR 120 CONNECTION	INTERCHANGE IMPROVEMENTS
I-5/LOUISE AVE I/C (was Gold Rush City)							
SJ	5	16.4 / 38.1	0S040_	141	CLOSEOUT	IN SAN JOAQUIN COUNTY IN AND NEAR TRACY, LATHROP AND STOCKTON	INSTALL MICROWAVE VEH DETECT SYS
I-5/205 Corridor Detection System							
SJ	5	17.3 / 17.8	0A630_	43	Candidate	IN SAN JOAQUIN COUNTY IN THE CITY OF LATHROP AT THE LATHROP ROAD INTERCHANGE (OVERSIGHT ONLY) (KP 10.8/11.1)	INTERCHANGE IMPROVEMENTS
I-5/LATHROP RD.							
SJ	5	22.1 / 23.6	0E490_	98	PS&E/RW	ON INTERSTATE 5, IN STOCKTON, IN SJ COUNTY FROM 0.6 KM SOUTH OF FRENCH CAMP RD INTERCHANGE TO 3.1KM NORTH OF FRENCH CAMP RD INTERCHANGE (KP 35.6/38.1)	MODIFY/RECONSTRUCT
FRENCH CAMP/SPERRY ROAD							
SJ	5	R22.5 / 25.4	0N480_	108	MAINT.	IN SAN JOAQUIN COUNTY IN STOCKTON AT VARIOUS LOCATIONS FROM FRENCH CAMP TURNPIKE UNDERCROSSING TO CHARTER WAY UNDERCROSSING	GRIND DECKS AND SEAL JOINTS
French Camp Slough							
SJ	5	R22.7	0M710_	137	CLOSEOUT	IN SAN JOAQUIN COUNTY IN AND NEAR STOCKTON AT FRENCH CAMP ROAD UNDERCROSSING	INSTALL TRAFFIC SIGNALS
FRENCH CAMP Rd I-5 TRAFFIC SIGNAL job							
SJ	5	23.9 / 25.1	0P300_	134	CLOSEOUT	IN SAN JOAQUIN COUNTY IN STOCKTON FROM 0.4 KM NORTH OF DOWNING AVENUE UNDERCROSSING TO 0.4 KM SOUTH OF CHARTER WAY UNDERCROSSING	RESURFACE ASPHALT CONCRETE
SR 5 DOWNING/CHARTER RESURFACE							
SJ	5	24.5 / 25.5	0A672_	129	CLOSEOUT	IN SAN JOAQUIN COUNTY IN STOCKTON AT EIGHTH STREET UNDERCROSSING AND AT CHARTER WAY UNDERCROSSING	REHABILITATE RAMPS
STOCKTON RAMP REHAB							

STATUS OF PROJECTS
COUNTY, ROUTE AND POST MILE INDEX
District 10

November 17, 2008

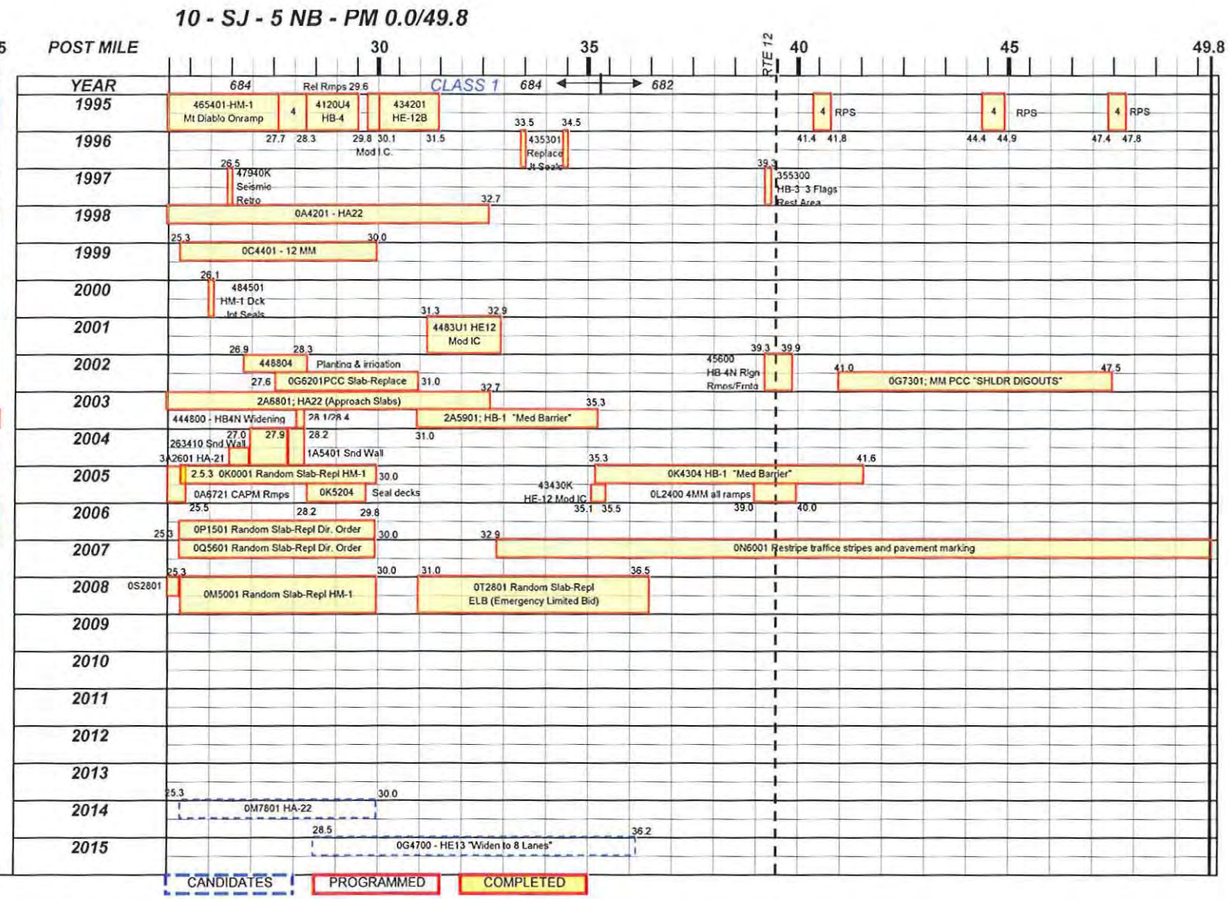
CO	ROUTE	POST MILE	E/A	PAGE	PHASE	DESCRIPTION	TYPE OF WORK
SJ	5	25.3 / 30.0	0M780_	15	Candidate	IN SAN JOAQUIN COUNTY ON SR5 FROM CHARTER WAY TO MARCH LANE NORTH AND SOUTH BOUND (KP 40.7/48.3)	ROADWAY REHABILITATION
North I-5 Rehab.							
SJ	5	25.4 / 36.2	0G470_	53	PA&ED	IN SAN JOAQUIN COUNTY ON I-5 FROM CHARTER WAY TO 1.4KM NORTH OF KM EIGHT MILE ROAD (KP 40.8/58.2)	WIDEN FROM 6 LANES TO 8 LANES.
NORTH I-5 STOCKTON WIDENING WITH HOV LANES							
SJ	5	29.5 / 30.1	0E540_	6	PID	ALONG S/B I-5 FROM CALAVERAS RIVER BRIDGE TO MARCH LANE (KP 47.5/48.4)	SOUNDWALL
CLAUDIA LANDEEN SCHOOL SOUNDWALL							
SJ	5	31.8 / 33.3	0N080_	54	PA&ED	IN SAN JOAQUIN COUNTY ON ROUTE 5 HAMMER LANE (KP 51.26/53.59)	INTERCHANGE ADDITIONS AND MODIFICATIONS
I-5 Hammer Lane Interchange							
SJ	5	34.5 / 35.7	43430_	121	CLOSEOUT	IN SAN JOAQUIN COUNTY ON INTERSTATE 5 NEAR STOCKTON FROM 1.0KM SOUTH OF EIGHT MILE ROAD TO 1.0 KM NORTH OF EIGHT MILE ROAD UNDERCROSSING. (KP 55.5/57.5)	EIGHT-MILE ROAD GE (100% LOCAL)
EIGHT MILE ROAD/ I-5 Interchange							
SJ	5	35.3 / 41.6	0K430_	134	CLOSEOUT	IN SAN JOAQUIN COUNTY NEAR STOCKTON FROM EIGHT MILE ROAD UNDERCROSSING TO TURNER ROAD UNDERCROSSING	INSTALL MEDIAN BARRIER
Eight Mile Rd/Turner Rd median barrier							
SJ	5	36.2 / 37.2	0N110_	54	PA&ED	IN SAN JOAQUIN COUNTY ON ROUTE 5 NORTH GATEWAY (KP 58.30/59.90)	INTERCHANGE ADDITIONS AND MODIFICATIONS
Interstate 5 /North gateway interchange							
SJ	5	42.0 / 44.7	0S100_	175	MINOR	IN SAN JOAQUIN COUNTY ON I-5 NORTH OF SR 12, ON SR 4 NEAR HOLT, AND ON SR 4 EAST OF FARMINGTON	REHAB/REPLACE EXISTING CULVERTS
DRAINAGE SYSTEM RESTORATION							
SJ	5	44.7 / 47.2	0S090_	175	MINOR	IN SAN JOAQUIN COUNTY ON I-5 NORTH OF SR 12, ON SR 12 NEAR THE CITY OF VICTOR, AND ON SR 26 WEST OF THE CITY OF BELLOTA	REHAB/REPLACE EXISTING CULVERTS
DRAINAGE SYSTEM RESTORATION							
SJ	5	47.2 / 49.0	0S080_	179	MINOR	IN SAN JOAQUIN COUNTY NEAR STOCKTON ON I-5 NORTH OF SR 12 AT VARIOUS LOCATIONS	REHAB/REPLACE EXISTING CULVERTS
DRAINAGE SYSTEM RESTORATION							
SJ	12	0.0	0K070_	176	MINOR	ON ROUTE 12 IN SAN JOAQUIN COUNTY ON THE MOKELUMNE RIVER BRIDGE #29-0043. (KP 0.0)	REPLACE ELECTRICAL & CONTROL SYSTEM
MOKELUMNE RIVER BRIDGE ELECTRICAL IMPROVEMENTS /							
SJ	12	0.0	0J920_	64	PA&ED	IN SAN JOAQUIN COUNTY ON ROUTE 12 AT THE MOKELUMNE RIVER BRIDGE NO 29-0043 (KP 0.01)	REPLACE DAMAGED BEAM AND CONTROL HOUSE
Mokelumne River Bridge Control House							
SJ	12	0.0 / 14.9	0K450_	138	CLOSEOUT	IN SAN JOAQUIN COUNTY AT AND NEAR TERMINOUS AT VARIOUS LOCATIONS	CONSTRUCT RUMBLE STRIP
ROUTE 12 NEAR LODI RUMBLE STRIPS JOB							
SJ	12	0.1 / 10.1	0A840_	63	PA&ED	NEAR TERMINOUS FROM SACRAMENTO COUNTY LINE TO RTE 5 (KP 0.2/16.3)	OPERATIONAL IMPROVEMENTS AT GLASSCOCK ROAD AND SMART CORRIDOR
RTE 12 Improvements							
SJ	12	0.1 / R4.4	0G800_	55	PA&ED	ON ROUTE 12 IN SAN JOAQUIN COUNTY ON BOULDIN ISLAND NEAR TERMINOUS FROM MOKELUMNE RIVER BRIDGE TO POTATO SLOUGH BRIDGE (KP 0.2/7.1)	ROADWAY REHABILITATION BY WIDENING THE SHOULDERS
Bouldin Island Rehab							

10 - SJ - 5 NB - PM 0.0/49.8



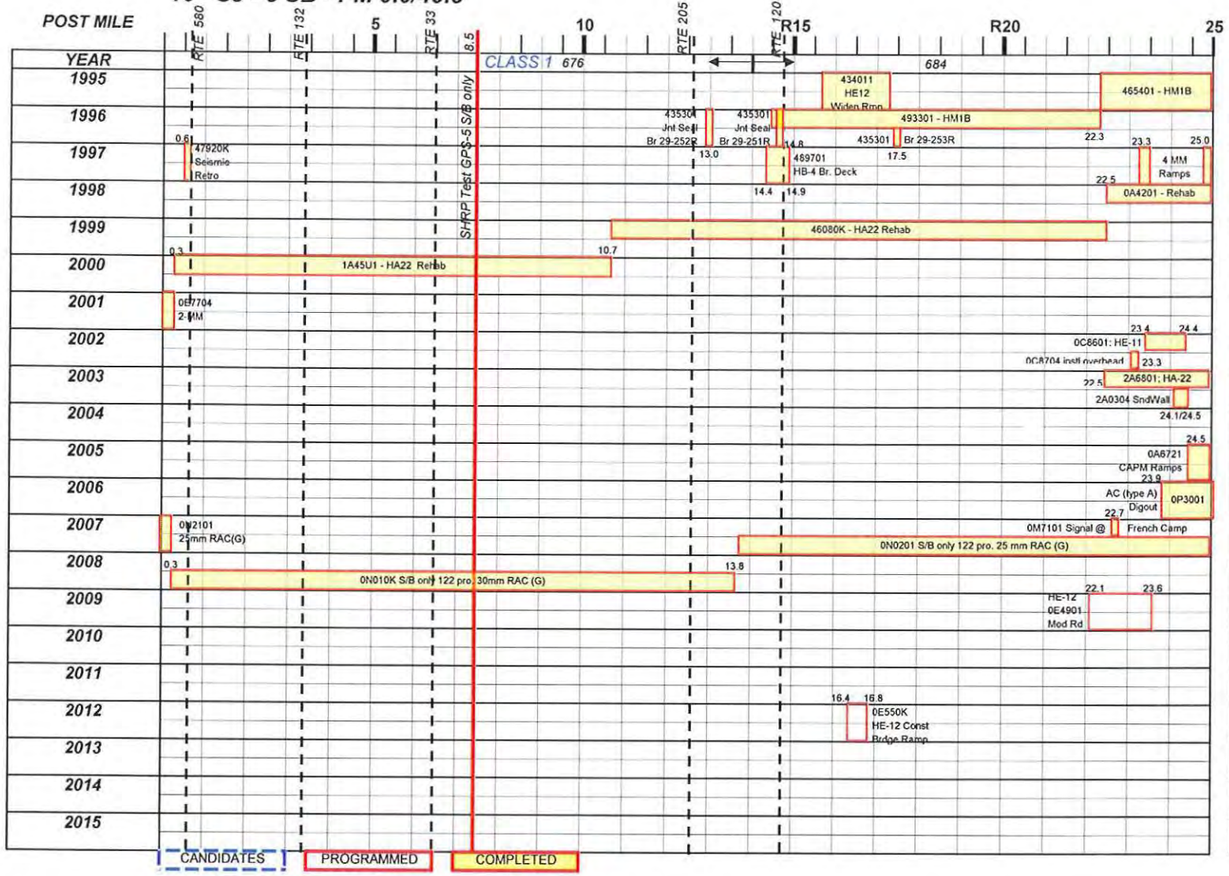
TYPE OF WORK: ***1MM*** (FOG SEAL), ***2MM*** (SLURRY SEAL), ***3MM*** (CHIP SEAL), ***4MM*** (AC SURFACING), ***5MM*** (BASE), ***6MM*** (SAND SEAL), ***7MM*** (ROAD MIX), ***8MM*** (REPROCESS), ***9MM*** (OPEN GRADED SURFACING), ***10MM*** (HEATER REMIX), ***11MM*** (REJUVENATOR), ***12MM*** (CRACK SEALING)

10 - SJ - 5 NB - PM 0.0/49.8



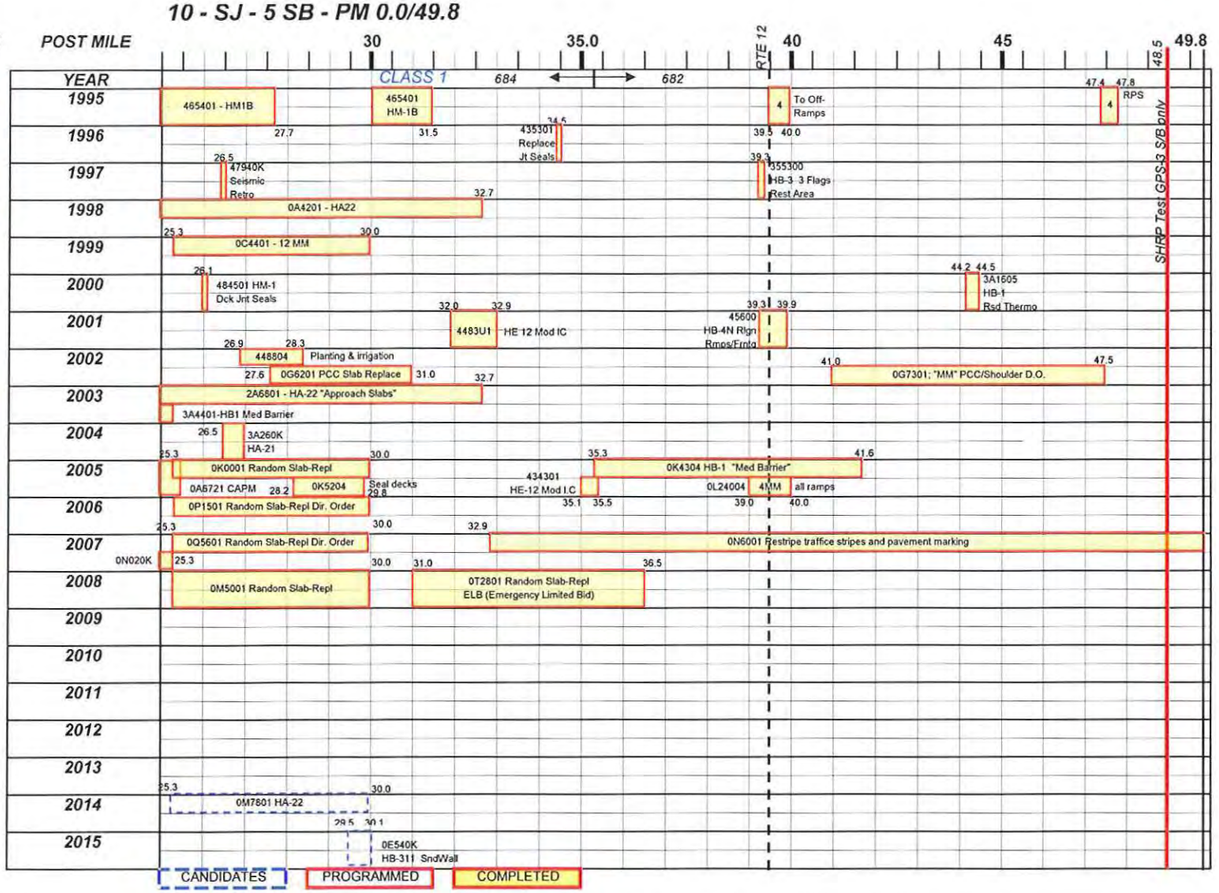
TYPE OF WORK: ***1MM*** (FOG SEAL), ***2MM*** (SLURRY SEAL), ***3MM*** (CHIP SEAL), ***4MM*** (AC SURFACING), ***5MM*** (BASE), ***6MM*** (SAND SEAL), ***7MM*** (ROAD MIX), ***8MM*** (REPROCESS), ***9MM*** (OPEN GRADED SURFACING), ***10MM*** (HEATER REMIX), ***11MM*** (REJUVENATOR), ***12MM*** (CRACK SEALING)

10 - SJ - 5 SB - PM 0.0/49.8



TYPE OF WORK: ***1MM*** (FOG SEAL), ***2MM*** (SLURRY SEAL), ***3MM*** (CHIP SEAL), ***4MM*** (AC SURFACING), ***5MM*** (BASE), ***6MM*** (SAND SEAL), ***7MM*** (ROAD MIX), ***8MM*** (REPROCESS), ***9MM*** (OPEN GRADED SURFACING), ***10MM*** (HEATER REMIX), ***11MM*** (REJUVENATOR), ***12MM*** (CRACK SEALING)

10 - SJ - 5 SB - PM 0.0/49.8



TYPE OF WORK: ***1MM*** (FOG SEAL), ***2MM*** (SLURRY SEAL), ***3MM*** (CHIP SEAL), ***4MM*** (AC SURFACING), ***5MM*** (BASE), ***6MM*** (SAND SEAL), ***7MM*** (ROAD MIX), ***8MM*** (REPROCESS), ***9MM*** (OPEN GRADED SURFACING), ***10MM*** (HEATER REMIX), ***11MM*** (REJUVENATOR), ***12MM*** (CRACK SEALING)

Appendix B
Postmile Reference Table

I-5 Approximate relationship of Absolute and San Joaquin post miles

Interchange	ABS PM	County PM
SR 12	484.9	39.5
8 Mile	480.6	35.2
Hammer	478.0	32.6
Ben Holt	476.8	31.4
March	475.3	29.9
Alpine	474.3	28.9
Country Club	473.9	28.5
Monte Diablo	473.2	27.8
Fremont	472.4	27.0
SR 4E	471.5	26.1
SR 4W	470.7	25.3
8th St	470.0	24.6
C. Weston / Downing	469.0	23.6
French Camp	467.8	22.4
Mathews	466.2	20.8
S. El Dorado	465.9	20.5
Roth	464.9	19.5
Lathrop	462.8	17.4
Louise	461.8	16.4
SR 120	460.2	14.8
Mossdale	459.4	14.0
W. Manthey	459.0	13.6
I-205	458.0	12.6

I-205 Relationship of Absolute and San Joaquin post miles

Interchange	ABS PM	County PM
I-5	13.6	13.6
MacArthur	9.2	9.2
Tracy	8.1	8.1
Grant Line	6.4	6.4
West 11th	4.0	4.0
Mountain House	2.4	2.4
Ala Co Line	1.0	1.0
I-580	0.0	0.0

Appendix C
Supplementary Transit Information

Provider	Route Number	From	To	Service Description
Manteca Transit	1	Transportation Center	KFC	
	2	Transportation Center	Main St Center St	
Escalon	95			
Tracer	Route A; B C	City Hall	Sears Mall	Weekday 06:00 AM t 07:00 PM. Weeken 07:45 AM to 03:00 PM
GrapeLine	Route 1	Lodi Station	Church/ Lowe Sacramento	Weekday 06:00 AM t 07:00 PM. Weeken 07:45 AM to 03:00 PM
	Route 2	Lodi Station	Central	Weekday 06:00 AM t 07:00 PM. Weeken 07:45 AM to 03:00 PM
	Route 3	Lodi Station	Ham	Weekday 06:00 AM t 07:00 PM. Weeken 07:45 AM to 03:00 PM
	Route 4	Lodi Station	Century	Weekday 06:00 AM t 07:00 PM. Weeken 07:45 AM to 03:00 PM
	Route 5	Lodi Station	Cherokee	Weekday 06:00 AM t 07:00 PM. Weeken 07:45 AM to 03:00 PM
SJ RTD				
	Intercity Routes			
	Route 23	Stockton	Lodi	Weekday 05:00 AM t 10:35 PM Weeken 07:03 AM to 06:02 PM
	Route 24	Stockton	Lodi	Weekday 06:00 AM t 7:04 PM
	Route 26	Stockton	Manteca	Weekday 06:00 AM t 10:54 PM Weeken 06:55 AM to 06:05 PM
	Route 96	Stockton	Escalon	Weekday 09:35 AM t

Provider	Route Number	From	To	Service Description
				04:06 PM
	Hopper Routes			
	Route 90	Walmart (Tracy)	Delta College	Weekday 05:30 AM to 07:30 PM
	Route 91	Wilma (Ripon)	Delta College	Weekday 05:15 AM to 06:18 PM
	Route 93	Delta College	Lodi Transportation Station	Weekday 09:00 AM to 07:15 PM
	Route 94	Duncan Hwy 26	Quashnick-Fresia	Weekday 07:25 AM to 04:16 PM
	Route 95	San Joaquin County Hospital	Main	Weekday 06:40 AM to 06:30 PM Weekend 08:40 AM to 03:45 PM
	Metro Routes			
	Route 40 (Express)	Hammer Ln	DTC	Weekday 05:05 AM to 10:54 PM Weekend 07:00 AM to 07:54 PM
	Route 51	El Dorada	SJ Co. Hosp.	Weekday 06:10 AM to 10:48 PM Weekend 06:23 AM to 08:23 PM
	Route 52	California	Honor Farm	Weekday 06:30 AM to 06:33 PM
	Route 53	Lincoln	Manthey	Weekday 05:57 AM to 06:56 PM
	Route 910	Lincoln	Houston	Weekday 08:08 PM to 11:05 PM
	Route 610	Lincoln	Manthey	Sat 07:08 AM to 06:12 PM Sun 07:08 AM to 5:25 PM
	Route 54	San Joaquin	8th St/ Fresno	Weekday 05:54 AM to 10:10 PM

Provider	Route Number	From	To	Service Description
	Route 55	Church	SJ Co Hospital	Weekday 05:58 AM to 08:24 PM Weekend 6:56 AM to 06:55 PM
	Route 60	West Fremont	Pixie Woods	Weekday 05:55 AM to 08:24 PM Sat 07:35 AM to 06:26 PM Sun 07:35 AM to 05:26 PM
	Route 61	Fontana	DTC	Weekday 06:10 AM to 07:02 PM Sat 06:20 AM to 07:16 PM Sun 06:20 AM to 06:16 PM
	Route 950	Fontana	Section/ Oro	Weekday 07:05 PM to 11:21 PM
	Route 62	Robinhood	Feather River	Weekday 06:13 AM to 06:48 PM Sat 07:40 AM to 06:48 PM Sun 07:40 AM to 05:48PM
	Route 63	Ponce De Leon	Otto	Weekday 05:30 AM to 08:03 PM Sat 06:31 AM to 06:13 PM Sun 06:31 AM to 07:02 PM
	Route 930	Hammer	Otto	Weekday 08:06 PM to 11:18 PM
	Route 64	Swain	Malls	Weekday 05:26 AM to 08:08 PM Weekend 07:12 AM to 06:09 PM
	Route 920	Swain	Malls	Weekday 08:06 PM to 11:16 PM
	Route 65	Meadow	Malls	Weekday 06:55 AM to 08:38 PM Sat 07:13 AM to 06:37 PM Sun 07:13 AM to 05:37 PM
	Route 930	Hammer	Otto	Weekday 08:06 PM to 11:18 PM
	Route 66	Thornton	Hammer	Weekday 05:20 AM to 08:51 PM Weekend

Provider	Route Number	From	To	Service Description
				07:00 AM to 06:25 PM
	Route 70	Kermit	Malls	Weekday 06:27 AM to 05:15 PM
	Route 71	Yokuts- Pacific	Malls	Weekday 06:30 AM to 09:12 PM Sat 06:46 AM to 06:38 PM Sun 07:15 AM to 05:38 PM
	Route 73	Hammer	Yoktus Pacific	Weekday 05:45 AM to 07:38 PM Weekend 06:48 AM to 06:38 PM
	Route 920	Hammer	Yoktus Pacific	Weekday 08:20 AM to 10:19 PM
	Route 74	Hammer	Malls	Weekday 06:15 AM to 06:10 PM
	Route 75	CalWORKs	DTC	Weekday 06:25 AM to 06:20 PM
	Route 76	Alpine-Sanguinetti	Pacific Elm	Weekday 06:08 AM to 08:09 PM Sat 06:20 AM to 05:39 PM Sun 07:30 AM to 05:39 PM
	Route 940	DTC	Main/Gertrude	Weekday 08:14 PM to 10:49 PM
	Route 77	Eastland Plaza	Main/Gertrude	Weekday 06:03 AM to 07:20 PM Sat 06:40 AM to 06:45 PM Sun 07:00 AM to 05:45 PM
	Route 80	Yoktus Pacific	Oro	Weekday 05:38 AM to 07:19 PM Weekend 07:00 AM to 07:02 PM
	Route 950	Fontana	Section/Oro	Weekday 07:05 AM to 11:21PM
	Route 81	DTC	B St	Weekday 05:33 AM to 10:43 PM Weekend 07:11 AM to 07:39 PM
	Route 82	Grant	8 th	Not Available
	Route 910	Lincoln	Houston	Not Available

Provider	Route Number	From	To	Service Description
	Route 610	Lincoln	Manthey	Not Available
	Route 83	Airport Way	Main/ Gertrude	Weekday 06:00 AM to 08:12 PM Sat 07:05 AM to 07:12 PM Sun 07:05 AM to 06:20 PM
	Route 940	Myrtle	Main/Gertrude	Weekday 08:14 PM to 10:49 PM
	Route 320	Sacramento-Thornton	Myrtle- Oro	Weekday 06:33 AM only, from Thornton 03:20 PM only, from Oro
	Route 330	Yokutus-Pacific	DTC	Weekday 06:24 AM only, from Monte Diablo 07:06 AM only from Yokuts Pacific
	Route 340	Iris- Lan Ark	Myrtle- Oro	Weekday 06:07 AM only from Hamme 03:20 PM from only from Myrtle
	Route 350	Iris- Lan Ark	Holman	Weekday 06:15 AM only from Sacramento 02:25 PM from only from Holman
	Route 360	Cherokee	Holman	Weekday 06:35 AM only from Cherokee 02:38 PM from only from Holman
	Route 390	Marfargoa	Myrtle- Oro	Weekday 05:58 AM only from Marfargoa 02:55 PM from only from Myrtle-oro
	Route 370	8 th- "B"	Myrtle- Oro	Weekday 06:05 AM only from 8th 02:25 PM from only from Myrtle-oro
	Route 380		Myrtle- Oro	Weekday 06:17 AM only from 8th 02:25 PM from only from Myrtle-oro

Provider	Route Number	From	To	Service Description
SJ Commuter	Route 151	Stockton	Livermore	05:15 AM only, from Stockton 03:30 PM only, from Livermore
	Route 152	Stockton	Livermore	06:30 AM only, from Stockton 04:30 PM only, from Livermore
	Route 153	Manteca	Livermore	05:15 AM only, from Manteca 03:35 PM only, from Livermore
	Route 154	Manteca	Livermore	06:00 AM only, from Manteca 04:15 PM only, from Livermore
	Route 157	Stockton	Pleasanton	04:26 AM only, from Stockton 05:35 PM only, from Pleasanton
	Route 160	Stockton	Pleasanton	04:26 AM only, from Stockton 05:35 PM only, from Pleasanton
	Route 162	Tracy	Sunnyvale	04:15 AM only, from Tracy 02:45 PM only, from Sunnyvale
	Route 163	Stockton	Sacramento	05:53 AM onl, from Stockton 04:40 PM only, from Sacramento
	Route 164	Manteca	Sunnyvale	04:00 AM only, from Manteca 02:45 PM only, from Sunnyvale
	Route 165	Stockton	Sacramento	05:55 AM only from Stockton 04:39 PM only, from Sacramento
	Route 166	Stockton	Sunnyvale	04:00 AM only, from Stockton 03:25 PM only, from Sunnyvale
	Route 167	Ripon	Livermore	05:20 AM only, from Ripon 03:27 PM only, from Livermore
	Route 170	Stockton	San Jose	04:10 AM only, from Stockton 03:39 PM only, from San Jose

Provider	Route Number	From	To	Service Description
	Route 171	Stockton	Pleasanton	05:03 AM & 05:05 PM only, from Stockton 06:35 PM only, from Dublin
	Route 172	Stockton	Sunnyvale	03:39 AM only, from Stockton 02:45 PM only, from Sunnyvale
	Route 173	Stockton	Sunnyvale	03:55 AM only, from Stockton 03:07 PM only, from Sunnyvale
	Route 174	Stockton	Palo Alto	03:48 AM only, from Stockton 02:30 PM only, from Palo Alto
	Route 175	Stockton	San Jose	04:10 AM only, from Stockton 03:53PM only, from Santa Clara