

# 2013

## MONITORING & CONFORMANCE REPORT



JUNE 2014



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# Executive Summary

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## INTRODUCTION

State Statute 65089 requires Congestion Management Agencies (CMAs) to conduct analysis of all Congestion Management Program (CMP) roadways every two years to ensure Member Agencies – the cities, towns and county – are developing in a manner consistent with the CMP level of service standard of LOS E. As the responsible CMA for Santa Clara County, the Valley Transportation Authority (VTA) undertakes this analysis on an annual basis. VTA prepares the annual Monitoring and Conformance Report which documents the CMP conformance findings.

The scope of data collection is reduced every other year during odd-numbered years to minimize the costs of analyzing the CMP network annually. During the “off-years,” the reduced scope of work includes only land use, freeway level of service, and Deficiency Plan Status Reports. All other CMP elements are collected biennially as part of the full scope.

The 2013 Monitoring and Conformance Report features the reduced scope as described above. The following summarizes the results of the 2013 Monitoring Program.

## LAND USE

VTA’s Member Agencies, the cities, towns and County of Santa Clara, submit land use data to VTA in the form of residential and commercial/industrial project approvals for the prior fiscal year. The data reflects changes in residential dwelling units for approvals as well as estimate changes in commercial/industrial job approvals. Job change estimates are determined by applying job density values to square footage and land use type of commercial/industrial projects in order to estimate how many jobs are likely created or lost as a result of the land use approval.

In 2013, 4,012 dwelling units were approved, a decrease of 7 percent from 2012. There was a net increase in 4,613,617 square feet of commercial, industrial and office space approved, which would result in an estimated capacity for 12,670 new jobs. This was an increase of 80 percent compared to 2012.

## FREEWAY

Aerial photography was used to collect traffic data to document congestion on all 313 directional miles of Santa Clara County’s freeway system. The photographs are analyzed to determine the peak period of vehicle density which is used to determine level of service. Mixed-flow lanes are treated as separate facilities from HOV lanes and their levels of service are calculated separately.

This year, there were 75 AM freeway segments (73 directional miles) and 81 PM freeway segments (75 directional miles) that operated at LOS F. These numbers are close to numbers recorded in 2012 when 85 AM freeway segments (85 directional miles) and 74 PM freeway segments (70 directional miles) operated at LOS F.

Segments that operated at LOS F when monitoring began in 1991 are exempt from CMP level of service standards. Of the freeway segments operating at LOS F, only 52 AM and 55 PM freeway segments are considered deficient due to 1991 baseline exemption. Member Agencies with non-conforming facilities within their jurisdiction are encouraged to implement strategies listed in the Immediate Implementation Action List found in VTA's *CMP Deficiency Plan Requirements*.

## CONFORMANCE FINDINGS

The 2013 Monitoring and Conformance Report finds all Member Agencies in compliance with the CMP monitoring requirements.



# 1

## INTRODUCTION

### INTRODUCTION

California State Government Code 65089 mandates the creation of a Congestion Management Program (CMP) for each county to manage the effects of transportation and land use. It requires that all elements of the CMP be monitored at least biennially by the designated Congestion Management Agency (CMA) to determine if the county and city governments, known collectively as Member Agencies, are conforming to the level of service standard set by the CMA.

The Santa Clara Valley Transportation Authority (VTA) is the designated CMA for Santa Clara County and is charged with monitoring the CMP network. VTA exceeds the state requirement by collecting data each year and producing an annual Monitoring and Conformance Report. The 2013 report covers land use, freeways, and mandatory conformance findings.

### LEVEL OF SERVICE

Traffic congestion is monitored on the CMP roadway network which is comprised of freeways, state highways, expressways and principal arterials. Congestion is monitored in terms of level of service (LOS), a sliding scale from A through F where LOS A represents best traffic flow and LOS F represent significant traffic delay. Santa Clara County's LOS standard is LOS E. Table 1.1 provides a description of LOS standards.

**TABLE 1.1 | LEVEL OF SERVICE DESCRIPTION**

Level of Service	Description
A   B   C	Traffic can move relatively freely without significant delay
D	Delay becomes more noticeable
E	Traffic volumes are at or close to capacity, resulting in unstable flow, significant delays and reduced average speeds
F	Traffic demand exceeds available capacity. Very slow speeds (stop-and-go), long delays (over one minute) and standing queues at signalized intersections

### CONFORMANCE STANDARD

To comply with the CMP standard, Member Agencies must demonstrate that all CMP roadways (excluding freeways) within their jurisdictions are operating at or above the CMP traffic level of service standard of LOS E. Member Agencies that do not maintain the CMP LOS standard risk having their Proposition 111 (1991) gas tax subvention withheld. If the LOS standard cannot be met, a deficiency plan must be approved by VTA. Freeway segments and CMP intersections that

operated at LOS F when monitoring began in 1991 are exempt from meeting the LOS E standard. Freeway LOS thresholds are taken from the Highway Capacity Manual with the exception of D/E and E/F thresholds which are calibrated by VTA for Santa Clara County conditions.

# 2

## LAND USE

### INTRODUCTION

California State CMA legislation requires each Congestion Management Agency to monitor land use changes within its jurisdiction. Each year, VTA monitors land use changes within Santa Clara County by requesting land use data from Member Agencies in terms of residential and commercial/industrial projects that have been approved.

### METHODOLOGY

VTA collects land use data from Member Agencies each year to track decisions jurisdictions are making about land use. Member Agencies submit land use data for the prior fiscal year in the form of changes in dwelling units for residential approvals and changes in square footage for commercial and industrial approvals. This data is limited to tracking approvals only, even if those approvals do not result in construction during the reporting year.

For commercial and industrial approvals, changes in square footage are used to estimate the number of jobs created or lost. Jobs are estimated by applying a job density value (measured in jobs per 1,000 sq. ft.) to the size of the site. Job density values vary depending on the specific land use type. Table 2.1 shows the job density values per type of land use.

**TABLE 2.1 | COMMERCIAL AND INDUSTRIAL JOB DENSITIES (JOBS PER 1,000 SQ. FT.)**

Density	Land Use
3.4	Office/Educational/Institutional/Hospital
3.1	Transportation
2.5	R&D Office
2.0	Hotel/Motel
1.75	Retail/Manufacturing
0.75	Non-Manufacturing
0	Park/Recreation/Agriculture/Cemetery/Urban Reserve

The focus of VTA’s land use analysis is development approvals that provide the capacity to accommodate population and employment growth. The data is not a reflection in actual changes in residents or job creation. Rather, it is a measure of the trend in allocation of land for different purposes. In addition to the analyses included in this report, the data can be used to understand the current and projected demand in housing and employment. To better understand the employment data it is helpful to understand limitations that affect the data quality but are beyond the control of VTA and the Member Agencies:

- The job change estimates described below are based on full potential occupancy of commercial/industrial square footage.

- In some cases, there may be an overestimate in job losses for commercial/industrial sites that are either underutilized or vacant at the time they are redeveloped. To compensate for this, VTA requests Member Agencies to indicate in their land use data submittal whether jobs were lost during land use conversions. Where this data was not provided, our methodology assumes full employment for commercial/ industrial conversions, which may negatively impact the job change estimate reported.

Despite these limitations, the analysis provides valuable information to illustrate trends in land use development and where Member Agencies are targeting housing and employment growth.

## LAND USE ANALYSIS

As shown in Table 2.2, Member Agencies approved 4,012 residential units in 2013, a 7% decrease from the previous year when 4,334 units were approved. Notably, the City of Milpitas saw a decline from 2,243 residential units approved in 2012 to 793 units approved in 2013, as the multi-year trend of large residential approvals in the Transit Area Specific Plan near the planned Milpitas BART station began to slow down. Milpitas still saw the largest number of approvals in the County in 2013, while several other Member Agencies including the Cities of Gilroy, Morgan Hill, Mountain View, San Jose, Santa Clara, Sunnyvale, and Santa Clara County saw significant increases in housing approvals from 2012. In the City of Cupertino, a previous mixed use approval was modified to reduce the number of residential units allowed, resulting in a net negative impact on residential capacity even though no existing units were removed.

**TABLE 2.2 | APPROVED RESIDENTIAL UNITS, 2009-2013**

Member Agency	2009	2010	2011	2012	2013
Campbell	109	1	27	195	12
Cupertino	161	0	1	0	-30
Gilroy	244	59	35	101	278
Los Altos	4	2	69	204	20
Los Altos Hills	5	0	5	1	7
Los Gatos	24	17	31	116	20
Milpitas	1,013	54	2,531	2,243	793
Monte Sereno	0	0	0	0	0
Morgan Hill	46	24	96	268	544
Mountain View	1,542	256	273	298	537
Palo Alto	36	86	47	1	2
San Jose	1,467	598	2,496	536	729
Santa Clara	3	766	102	48	140
Santa Clara County	29	2	0	0	369
Saratoga	0	3	0	2	8
Sunnyvale	471	2	315	321	583
<b>Total</b>	<b>5,154</b>	<b>1,870</b>	<b>6,028</b>	<b>4,334</b>	<b>4,012</b>

In 2013, there was a net increase in 4,613,615 square feet of commercial, industrial and office space approved by Member Agencies. Approximately 63% of the total square footage was approved in just two cities, San Jose and Santa Clara. The Cities of Los Gatos, Mountain View, Palo Alto and Sunnyvale as well as the County of Santa Clara also saw significant employment project approvals in 2013. Milpitas was the only city to see a net decrease in employment-generating land are in 2013, due to residential/mixed use approvals on underutilized retail and office sites near the planned Milpitas BART station.

Overall, office/R&D development was the most prominent category of non-residential development, accounting for 83% of the net increase in square footage. Table 2.3, below, provides the net square footage approved by land use and Member Agency.

**TABLE 2.3 | SQUARE FOOTAGE OF NON-RESIDENTIAL DEVELOPMENT APPROVALS, 2013**

<b>Member Agency</b>	<b>Retail</b>	<b>Office/R&amp;D</b>	<b>Hotel/Motel</b>	<b>Industrial</b>	<b>Other<sup>1</sup></b>	<b>Total</b>
Campbell	0	0	0	0	0	0
Cupertino	158,312	0	0	0	0	158,312
Gilroy	4,315	9,142	0	0	0	13,457
Los Altos	12,460	32,640	0	0	23,050	68,150
Los Altos Hills	0	0	0	0	0	0
Los Gatos	0	212,340	0	0	0	212,340
Milpitas	-164,024	-44,584	0	0	0	-208,608
Morgan Hill	0	22,840	0	0	0	22,840
Monte Sereno	0	0	0	0	0	0
Mountain View	-31,972	328,071	0	-73,000	14,726	237,825
Palo Alto	127,063	153,302	72,957	5,672	37,804	396,798
San Jose	15,600	1,468,500	128,000	28,000	-12,900	1,627,200
Santa Clara	2,011	1,118,694	0	119,124	73,128	1,312,957
Santa Clara County	0	0	0	0	314,915	314,915
Saratoga	0	0	0	0	0	0
Sunnyvale	15,353	495,770	0	-57,534	3,840	457,429
<b>Total</b>	<b>139,118</b>	<b>3,796,715</b>	<b>200,957</b>	<b>22,262</b>	<b>454,563</b>	<b>4,613,615</b>

<sup>1</sup> Includes medical, educational and institutional land uses

Based on standard assumptions of job density (see Table 2.1), the net square footage of non-residential development approved in 2013 would result in an estimated capacity for 12,670 jobs. The job estimates by Member Agency are shown below in Table 2.4.

**TABLE 2.4 | JOB CHANGE ESTIMATES BASED ON COMMERCIAL/INDUSTRIAL APPROVALS, 2009-2013**

Member Agency	2009	2010	2011	2012	2013
Campbell	23	7	-179	-140	0
Cupertino	465	89	-3	432	277
Gilroy	6	227	56	0	39
Los Altos	0	0	-40	50	211
Los Altos Hills	0	0	0	0	0
Los Gatos	203	260	264	70	555
Milpitas	1,536	81	706	-1,176	-399
Monte Sereno	0	0	0	0	0
Morgan Hill	-16	8	10	0	57
Mountain View	-1,102	581	598	798	1,151
Palo Alto	-58	656	4,584	585	924
San Jose	861	733	853	1,247	4,211
Santa Clara	9,199	6,603	460	2,583	3,394
Santa Clara County	0	0	693	80	1,071
Saratoga	1,034	11	0	0	0
Sunnyvale	256	645	635	2,524	1,179
<b>Total</b>	<b>12,407</b>	<b>9,902</b>	<b>8,636</b>	<b>7,053</b>	<b>12,670</b>

## PROXIMITY TO CORES, CORRIDORS AND STATION AREAS

In 2003, VTA in partnership with Member Agencies developed the Community Design & Transportation (CDT) program to craft best practices for land use and transportation. The CDT program established a framework of Cores, Corridors and Station Areas as priority areas identified by VTA and Member Agencies for targeting future growth and transportation investments. These areas are most likely to benefit from concentrated development due to their location near major transit corridors.

Spatial analysis was conducted on the land use data submitted by Member Agencies to determine the proximity of approved developments to the CDT Cores, Corridors and Station Areas. Proximity is defined as within 1/3 mile of major transit stations and 1/4 mile from the cores and future Bus Rapid Transit (BRT) corridors. The purpose of the spatial analysis is to illustrate where housing and employment growth is occurring relative to the core transit network in Santa Clara County.

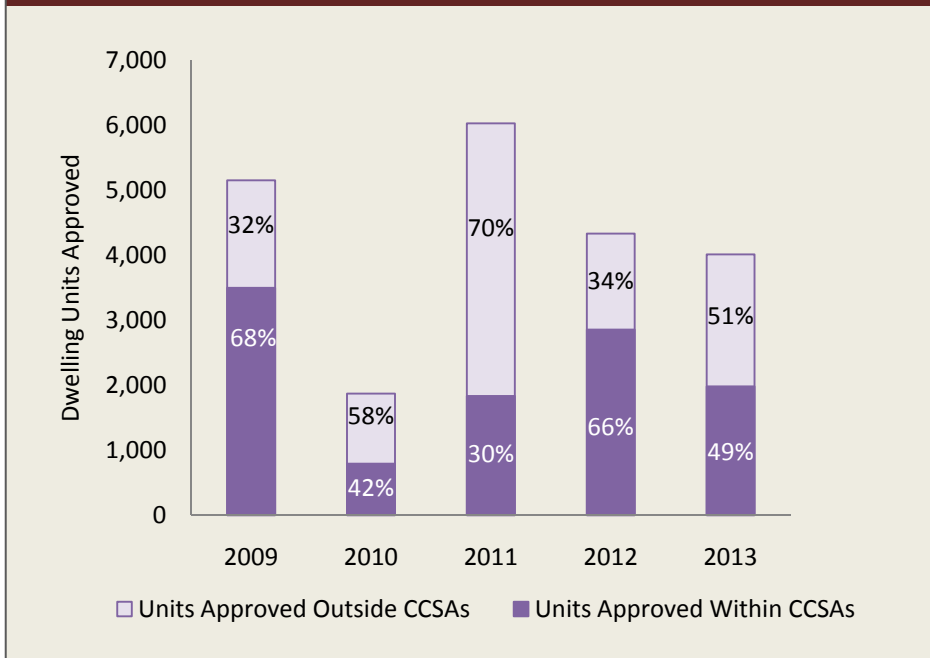
As shown in Table 2.4 and Figure 2.1, there were 4,012 total residential units approved in 2013, of which 1,982 units or 49 percent were located within the Cores, Corridors and Station Areas. This is a decrease from 2012 when 66 percent of residential approvals were near these targeted areas for investment, but represents an increase over the percentages recorded in 2010 and 2011.

Of the 12,683 estimated increased jobs due to commercial/industrial development, 6,966 jobs or 55 percent were located within the Cores, Corridors and Station Areas (see Table 2.4 and Figure 2.2). This is an increase from 2012 when 37 percent of the estimated new jobs were within these areas.

**TABLE 2.5 | LAND USE APPROVALS NEAR CORES, CORRIDORS AND STATION AREAS, 2009-2013**

	2009	2010	2011	2012	2013
Residential Unit Approvals within CCSAs	3,498	792	1,835	2,855	1,982
Total Units	5,154	1,870	6,028	4,334	4,012
% near CCSAs	68%	42%	30%	66%	49%
Job Change Estimates within CCSAs	112	7,282	1,109	2,610	6,966
Total Estimated Job Capacity	12,407	9,902	8,636	7,053	12,683
% near CCSAs	1%	74%	13%	37%	55%

**Figure 2.1 Land Use Approvals within CCSAs**



**Figure 2.2 Job Change Estimates within CCSAs**

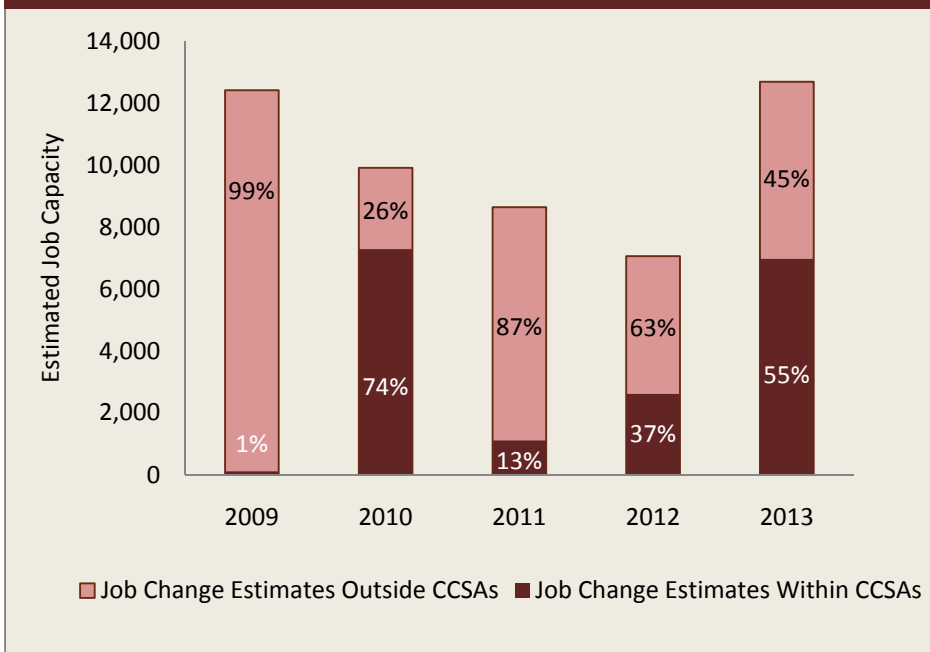




FIGURE 2.3 | APPROVED RESIDENTIAL UNITS NEAR VTA'S CORES, CORRIDORS AND STATION AREAS (2013 NET CHANGE)

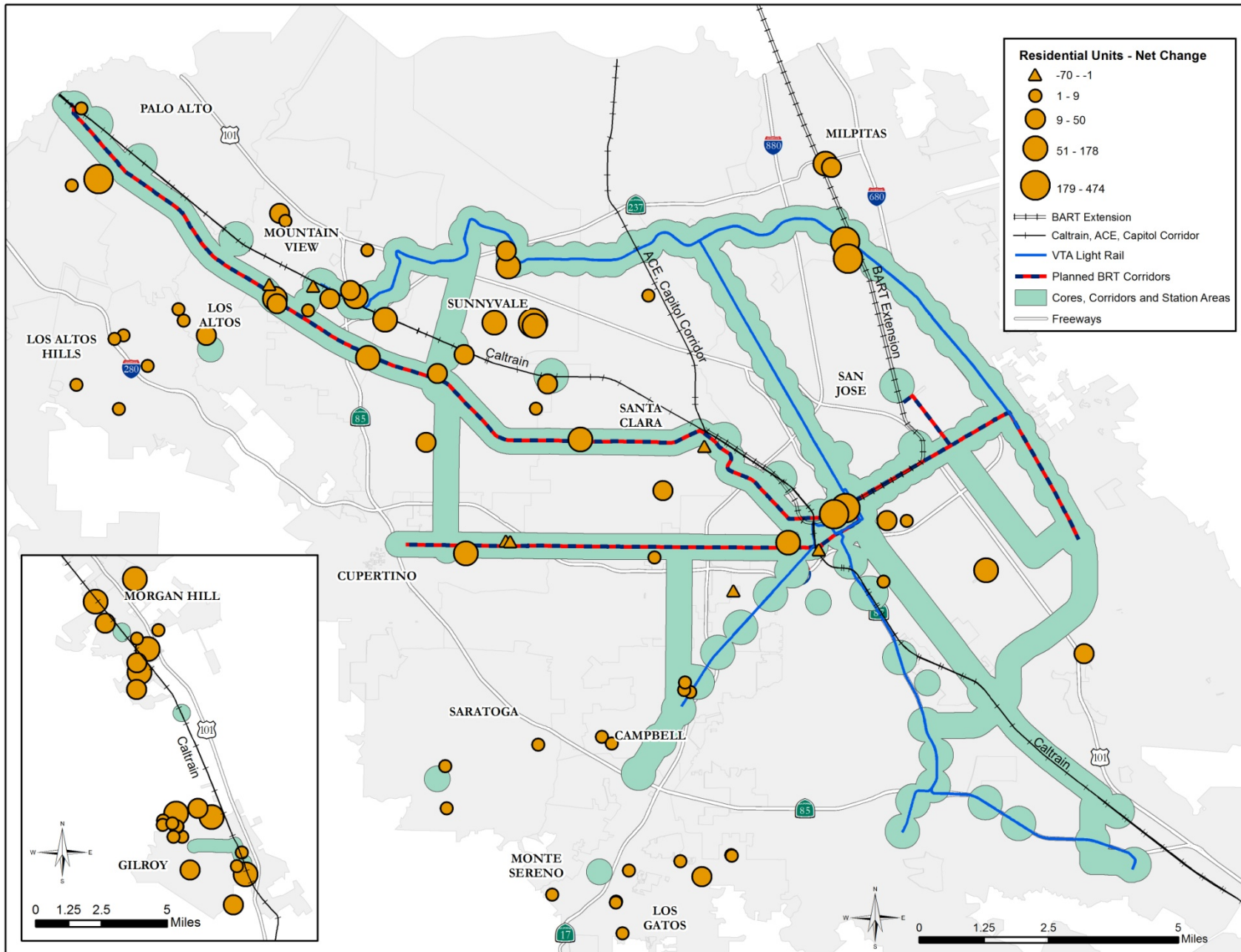


FIGURE 2.4 | JOB CHANGE ESTIMATES NEAR VTA'S CORES, CORRIDORS AND STATION AREAS (2013 NET CHANGE)

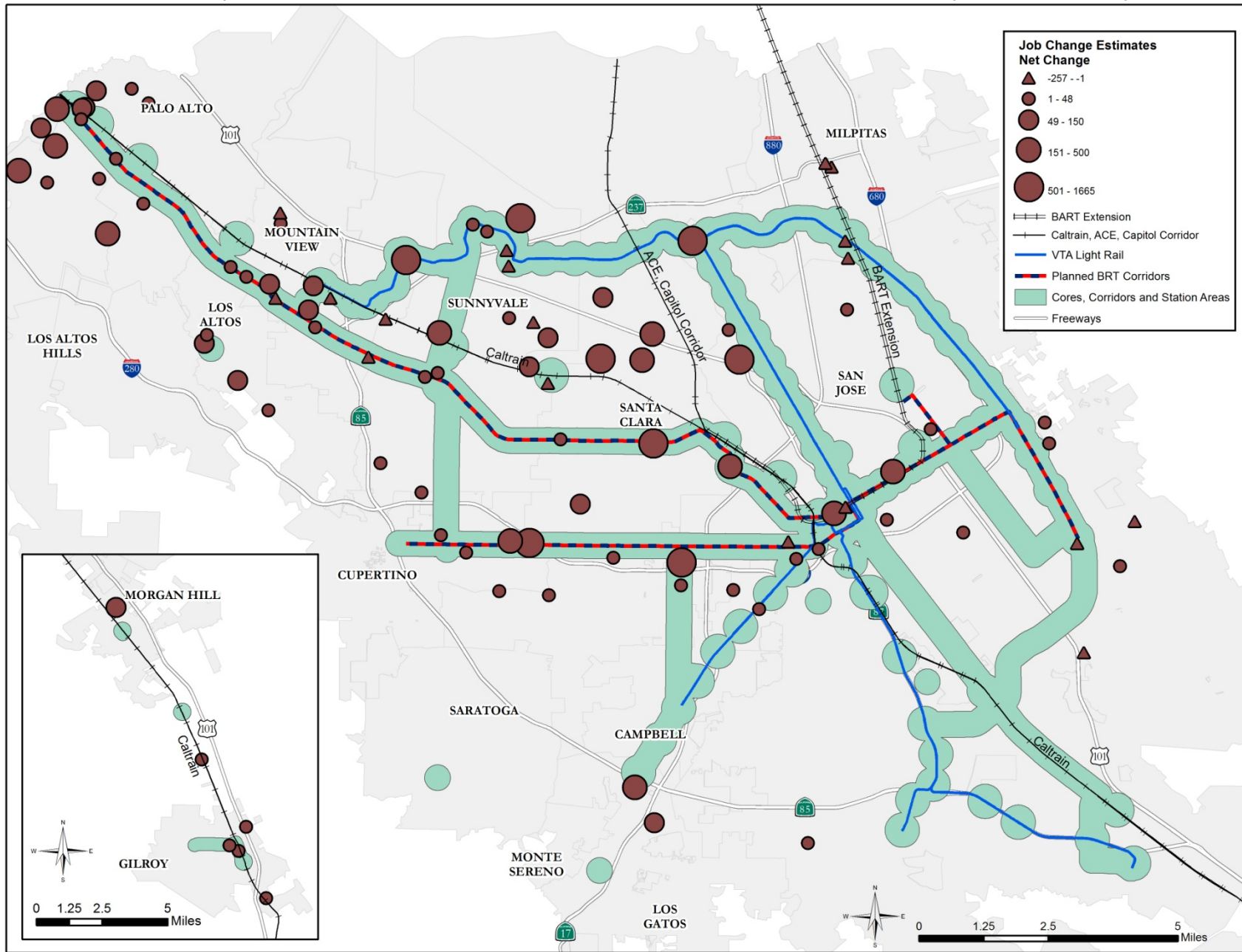


FIGURE 2.5 | RESIDENTIAL APPROVALS NEAR VTA'S CORES, CORRIDORS AND STATION AREAS (2010-2013)

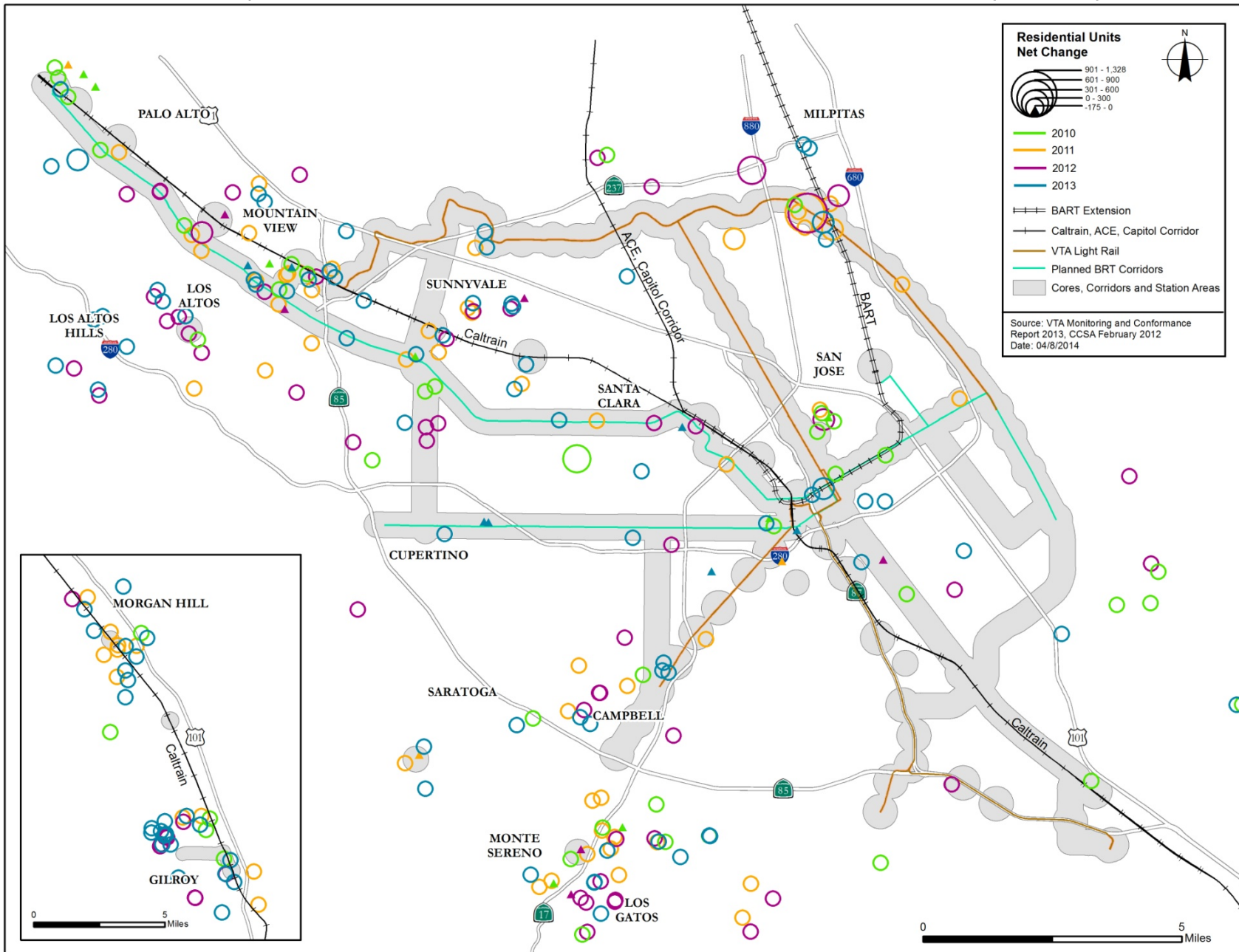
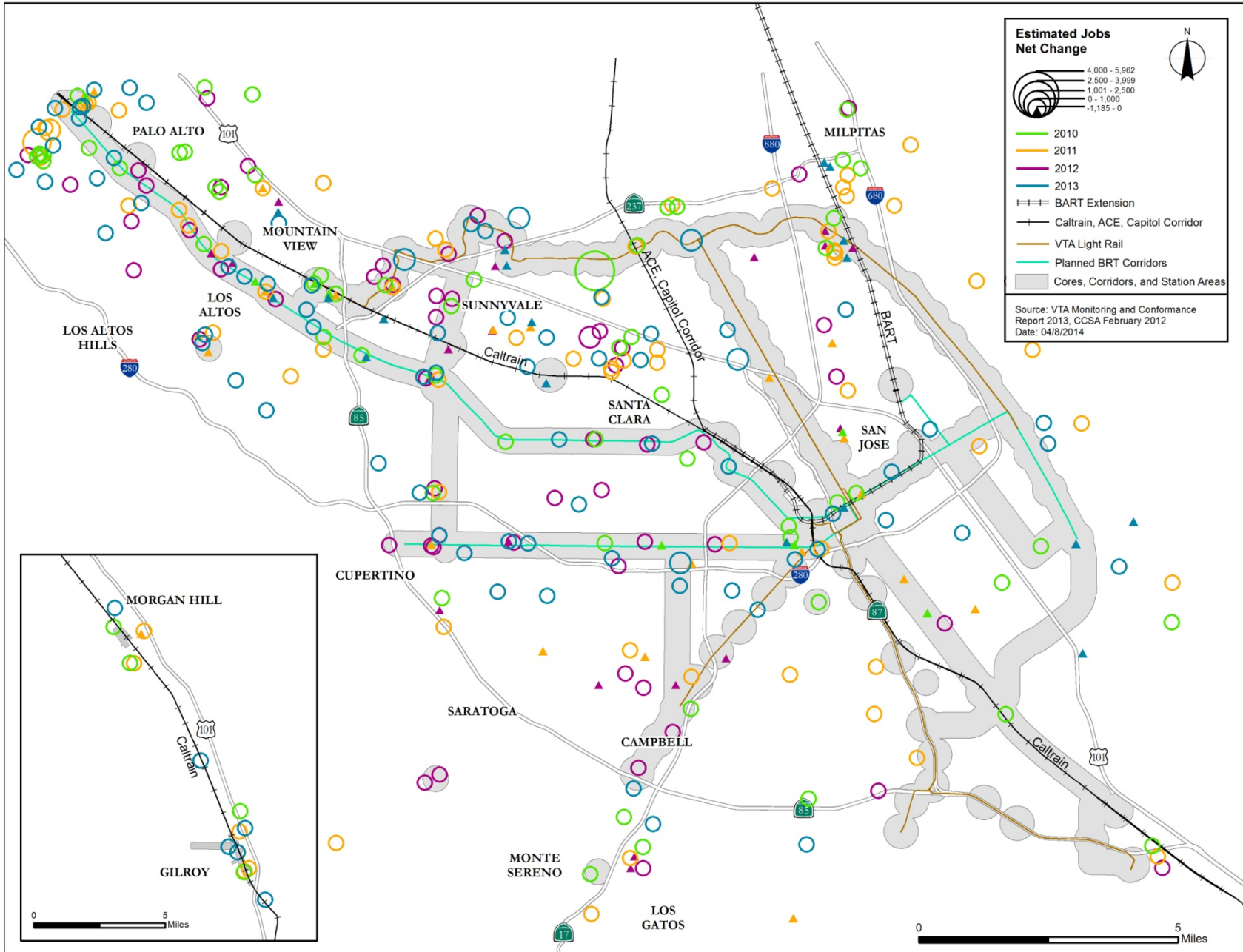


FIGURE 2.6 | JOB CHANGE ESTIMATES NEAR VTA'S CORES, CORRIDORS AND STATION AREAS (2010-2013)



## INTRODUCTION

Level of service data is collected each year for all freeway segments in Santa Clara County. Two travel directions for each freeway produce approximately 313 directional miles and multiple travel lanes in each direction yield 860 mixed-flow and 170 HOV lane miles.

Since 1991, level of service data has been collected for freeway segments in the County to identify those segments that are operating below the CMP standard of LOS E. This chapter features an analysis of traffic conditions during the AM and PM peak periods for the freeway system in Santa Clara County. For the purpose of this analysis, mixed-flow and HOV lanes are treated as separate facilities. In addition to collecting freeway level of service data, traffic counts were collected at six freeway “gateway” locations at or near the county line to measure traffic flows in and out of Santa Clara County.

## METHODOLOGY

Since 1997, VTA has used aerial photography to collect traffic data for freeway segments. This approach allows for the collection of a set of data that could be used to determine density, travel speed and flow rate for each freeway segment in both the AM and PM peak periods. From the aerial photographs, density is directly measured by counting vehicles in the freeway segments. Travel speeds and flow rate, or traffic volumes, are estimated using classic speed-density-volume equations calibrated for Santa Clara County conditions.

VTA is currently evaluating new methodologies for collecting freeway data, including commercially available travel-time data and other “Big Data” methodologies that could potentially provide a more comprehensive data set for a lower cost than aerial photography. As a starting point for comparison, the aerial photography data collected for the 2013 Monitoring and Conformance Report will be compared side-by-side with data collected at the same times and locations by INRIX (commercial travel-time data from a variety of sources) as well as Wavetronix and the Caltrans Performance Measurement System (PeMS) for validation. This comparison will assist VTA in determining the usefulness of commercial travel-time data for future monitoring studies. VTA also plans to use INRIX data to compare historical trends in transit and automobile travel times along key transit corridors in Santa Clara County. These analyses will be incorporated into technical memos released separately from the 2013 Monitoring and Conformance Report, but may inform the data collection methodology used in the 2014 and future Reports.

VTA envisions that a transition to Big Data could improve the Monitoring Program, not only by potentially providing more data for a lower cost, but also by widening the scope of congestion analysis

in Santa Clara County. Over the coming years VTA staff will evaluate the suitability of Big Data to conduct research in the following areas:

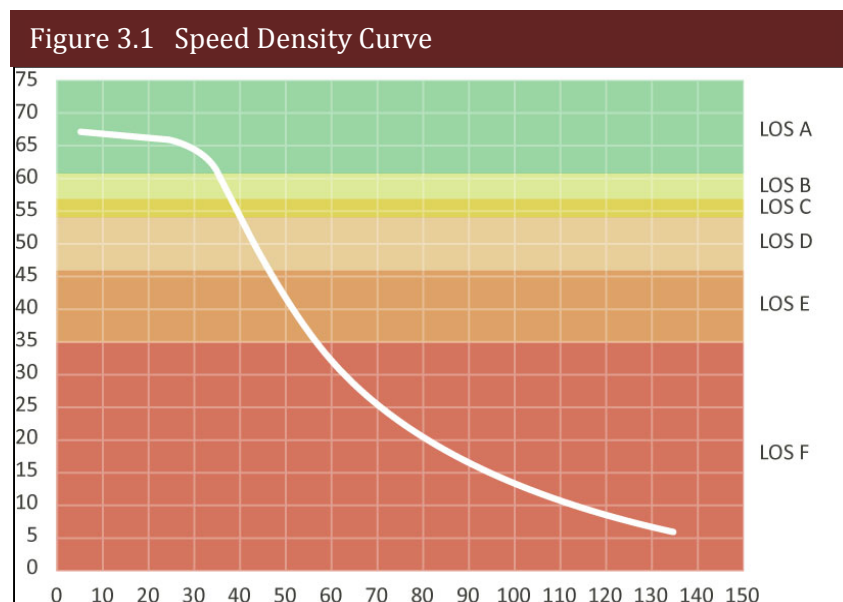
- Duration of congestion
- Automobile travel times and reliability
- Congestion spillover to alternate routes
- Causes of congestion
- Transit travel times and reliability
- Modal split
- Automobile trip generation
- Vehicle miles traveled

## LEVEL OF SERVICE DEFINITIONS

Table 3.1 defines the level of service thresholds used for freeway segments. Level of service is determined based on density in terms of passenger cars per mile per lane. The LOS density thresholds are based on VTA's Level of Service Analysis Guidelines (June 2003), which adopts the Highway Capacity Manual's (2000) values for LOS A/B, B/C and C/D. The D/E and E/F thresholds are calibrated for Santa Clara County conditions.

## SPEED MODEL CALIBRATION

While research shows that there is a direct relationship between speed and density, this relationship is less straightforward than the relationship between density and speed and volume when two of the three are known. The speed density curve was last re-calibrated in 2001. Research and review of several speed-density curves resulted in a new, single regime curve based on the Van Aerde equation which is shown in Figure 3.1.



**Table 3.1 | Freeway Level of Service Definitions**

Level of Service	Density (passenger cars/mile/lane)	Travel Speed (MPH)	Description
A	≤ 11	60 – 65	Free Flow. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. The effects of minor incidents are easily absorbed.
B	11 < density ≤ 18	57 – 60	Reasonably Free Flow. The ability to maneuver within the traffic stream is only slightly restricted, and the general level of physical and psychological comfort provided to drivers is still high. The effects of minor incidents are easily absorbed.
C	18 < density ≤ 26	54 – 57	Stable Flow. Flows are approaching the range where small increases in traffic flows will cause substantial deterioration in service. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require additional care and vigilance by the driver.
D	26 < density ≤ 46	46 – 54	Unstable Flow. Small increases in traffic flows cause substantial deterioration in service. Freedom to maneuver within the traffic stream is limited, and the driver experiences reduced psychological comfort levels. Minor incidents can be expected to create substantial queuing because the traffic stream has little space to absorb disruptions.
E	46 < density ≤ 58	35 – 46	Capacity Flow. Operations are unstable, because there are virtually no usable gaps in the traffic stream. Any incident can be expected to produce a serious breakdown with extensive queuing.
F	> 58	< 35	Forced Flow. Such conditions generally exist within queues forming behind breakdown points. Such breakdowns occur for a number of reasons: a temporary reduction in capacity caused by a traffic incident, or recurring congestion caused by a merge, a weave segment, or lane drop.

## DATA COLLECTION

Two flight patterns were used to photograph Santa Clara County’s freeway system. These patterns were defined such that each freeway segment could be photographed at a frequency of approximately one sample every 40 minutes, or four times each flight. The morning surveys were conducted approximately from 6:15 AM to 9:45 AM and the evening surveys were conducted from approximately 3:15 PM to 6:45 PM. Two morning and two evening flights were scheduled for each freeway, providing a total of 16 photographs – 8 morning and 8 evening – of each segment.

Aerial photography is traditionally scheduled for September but on occasion, can extend into October depending on the weather. This year, weather was not an encumbrance during the data collection effort. Table 3.2 shows the data collection dates for the morning and evening flights.

**Table 3.2 | Aerial Photography Data Collection Schedule**

AM Flights	PM Flights
Wednesday, September 4 <sup>th</sup>	Wednesday, September 4 <sup>th</sup>
Wednesday, September 4 <sup>th</sup>	Wednesday, September 4 <sup>th</sup>
Wednesday, September 11 <sup>th</sup>	

The density of traffic between each pair of interchanges was estimated by counting the number of vehicles between each interchange in each photo. The photo that displayed the greatest vehicle density for each freeway segment was considered to represent the peak period and was selected for analysis in the chapter. The corresponding lengths and the number of lanes were also verified from the photos. Vehicle counts were performed using four different categories: cars, buses, trucks and tractor-trailers. The buses, trucks and tractor-trailers were assigned passenger car equivalents (PCE) by applying a 1.5 PCE for trucks and buses, and 2.0 PCE for tractor-trailers.

The AM and PM peak period densities were compared to identify the most congested time for each segment. Then, using the speed-density curve described previously, the peak density is converted to speed, level of service and volume for each freeway segment. The LOS was determined directly from the density value using the thresholds listed in Table 3.1.

## QUALITY ASSURANCE AND QUALITY CONTROL

A two-step quality control process was performed to assure the quality of the freeway LOS results. Skycomp, the company responsible for taking aerial photographs of the study facilities, provided initial oversight to review density measurements taken using the aerial photographs and to ensure lane configurations are correct. Skycomp also gathered information regarding collisions and other freeway incidents that could cause atypical congestion. Traffic volume data from the vicinity of those incidents were not included in the density calculations.

Kittelson & Associates, Inc. performed the second step review of the results to check for near consistency with results from studies during previous years. The following four conditions were considered to compare the 2013 results with past results:

- Segments operating at LOS F in 2013 that were LOS E or better in 2012
- Segments that improve from LOS F in 2012 to LOS E in 2013 without a clear cause
- Segments that change two levels of service (improving or worsening) between 2012 and 2013
- LOS D, E and F segments that changed one level of service from 2012 to 2013

Each segment that met one of the conditions above was checked to see if the segment has a history of density fluctuation. For those segments that do not show a history of fluctuation or for which past fluctuation has not reached the level of service found in 2013, historical downstream congestion was reviewed and it was determined whether a downstream queue observed in the past could have presented longer this year than it has presented historically. For the remaining segments, which neither have displayed historical fluctuation nor appeared to be affected by downstream congestion, the aerial photographs were reviewed to confirm that no errors had occurred in collecting and reducing the data.



## FREEWAY IMPROVEMENT PROJECTS SINCE 2012

Three freeway improvement projects may have impacted the LOS results in this Report:

**I-880 HOV Lanes** – New HOV lanes opened on I-880 between US-101 and SR 237 on June 21, 2013, increasing the total directional HOV lane miles in Santa Clara County from 176 miles to 185 miles. Based on the 2013 Monitoring data, these new HOV lanes operated with relatively low levels of congestion, with all directional segments operating at LOS B in the AM peak period and operating between LOS A and LOS D in the PM peak period. Adjacent mixed flow lanes generally showed either the same or less congested LOS as compared to 2012, which is an expected result of overall increased capacity on the affected segments.

**I-280/I-880/Stevens Creek Boulevard Improvements Project** - This project began construction in late Fall 2012 and is estimated to be completed in late 2014. The project will reconfigure the existing I-880/Stevens Creek Boulevard interchange to widen and realign ramps, widen the overcrossing at Stevens Creek Boulevard over I-880, construct a new direct connector from northbound I-280 to northbound I-880, and construct direct off ramps to Monroe Street from Southbound I-880. When data was collected for the 2013 Monitoring and Conformance Report, the project was still under construction, and may have impacted traffic through the area. This is consistent with the PM peak period mixed flow LOS results in this Report showing that both eastbound and westbound I-280 between Winchester Boulevard and I-880 went from LOS D in 2012 to LOS F in 2013. Similarly, the PM peak period HOV results show that eastbound I-280 between Meridian Avenue and I-880 went from LOS D to LOS F. These congestion increases may be partially explained by construction activities associated with the interchange project.

**US 101 Auxiliary Lanes Project** - This project began construction in Spring 2012 and is estimated to be completed in Summer 2014. The project will construct auxiliary lanes in each direction of a 3.2-mile segment of US 101 between State Route 85 in Mountain View and Embarcadero Road in Palo Alto, including widening and modifying the on-ramps and off-ramps at each interchange in this section to improve efficiency. This section of US 101 is highly congested, with most freeway segments operating at LOS F in both the AM and PM peak periods. These segments generally either showed no change or fluctuated by one LOS letter grade in either direction, suggesting that the construction of the US 101 Auxiliary Lanes did not measurably impact the LOS results.

## DEFICIENT FREEWAY SEGMENTS

Directional miles represent the number of miles of freeway for the two travel directions. For the 2013 Monitoring Program, 75 segments, with a combined length of 73 miles, are operating at LOS F in the AM peak hour and 81 segments, with a combined length of 75 miles, are at LOS F in the PM peak hour. In total, 149 out of 313 directional miles of freeway segments were found to be operating at LOS F in at least one of the peak periods. This is about 2 more lane-miles than the 2012 results.

Of these miles, 20 miles during the AM peak and 26 miles during the PM peak operated at LOS F in the baseline year and therefore considered LOS-exempt. The remaining 53 directional miles during the AM peak and 49 directional miles during the PM peak are considered deficient.

Table 3.3 presents the mixed-flow freeway segments that were operating at LOS F in 2013 and operated at LOS F under the 1991 baseline conditions, which make the latter exempt from CMP conformance requirements. Freeway mixed-flow segments operating at LOS F in 2013 but not operating at LOS F in 1991 are non-exempt from CMP requirements and are shown in Table 3.4. The duration of congestion, in hours, is shown in parentheses in each of these tables.

**Table 3.3 | Exempt Mixed-Flow Segments Operating at LOS F in 2013**

#	Fwy	Dir	AM/PM	Segment	Length	Duration of Congestion
125	I-280	WB	AM	Meridian Ave to SR 17 (I-880)	1.40	(2.0)
124	I-280	WB	AM	SR 17 (I-880) to Winchester Blvd	0.55	(1.0)
123	I-280	WB	AM	Winchester Blvd to Saratoga Ave	1.37	(2.0)
122	I-280	WB	AM	Saratoga Ave to Lawrence Expwy	1.19	(2.0)
121	I-280	WB	AM	Lawrence Expwy to Wolfe Rd	1.24	(1.0)
45	I-680	SB	AM	Capitol Expwy to King Rd	1.00	(1.0)
39	I-680	SB	AM	King Rd to US 101	0.40	(2.0)
32	I-880	NB	AM	I-280 to Stevens Creek Blvd	0.41	(0.5)
30	SR 17	NB	AM	Bear Creek to Saratoga - Los Gatos	2.90	(1.0)
89	SR 237	WB	AM	I-880 to McCarthy Blvd	0.40	(2.5)
90	SR 237	WB	AM	McCarthy Blvd to Zanker Rd	0.94	(3.0)
171	SR 85	NB	AM	I-280 to Homestead Rd	0.34	(2.0)
170	SR 85	NB	AM	Homestead Rd to Fremont Rd	1.00	(1.0)
289	US 101	NB	AM	I-280 to Santa Clara St	0.88	(1.5)
290	US 101	NB	AM	Santa Clara St to McKee Rd	0.39	(2.5)
291	US 101	NB	AM	McKee Rd to Old Oakland Rd	1.58	(1.5)
292	US 101	NB	AM	Old Oakland Rd to I-880	0.57	(1.0)
293	US 101	NB	AM	I-880 to Old Bayshore Rd	0.50	(2.5)
294	US 101	NB	AM	Old Bayshore Rd to N First St	0.49	(2.5)
295	US 101	NB	AM	N First St to Guadalupe (SR 87)	0.64	(1.5)
305	US 101	NB	AM	SR 85 to Shoreline Blvd	0.28	(2.5)
306	US 101	NB	AM	Shoreline Blvd to Rengstorff Ave	1.01	(1.5)
275	US 101	SB	AM	Embarcadero to Oregon Expwy	0.15	(0.5)
136	I-280	EB	PM	SR 85 to DeAnza Blvd	1.31	(0.5)
137	I-280	EB	PM	DeAnza Blvd to Wolfe Rd	1.06	(0.5)
138	I-280	EB	PM	Wolfe Rd to Lawrence Expwy	1.24	(0.5)
139	I-280	EB	PM	Lawrence Expwy to Saratoga Rd	1.19	(0.5)
3	I-880	NB	PM	Montague Expwy to Great Mall	0.98	(0.5)
2	I-880	NB	PM	Great Mall to SR 237	0.72	(1.0)
1	I-880	NB	PM	SR 237 to Dixon Landing Rd	1.99	(1.5)
16	I-880	SB	PM	Montague Expy to Brokaw Rd	1.35	(1.5)
17	I-880	SB	PM	Brokaw Rd to US 101	1.29	(2.5)
18	I-880	SB	PM	US 101 to N First St	0.49	(1.0)
19	I-880	SB	PM	N First St to SR 87	0.40	(1.5)
20	I-880	SB	PM	SR 87 to Coleman Rd	0.51	(1.5)
81	SR 237	EB	PM	Lawrence Expwy to Great America	1.27	(2.5)
79	SR 237	EB	PM	First St to Zanker Rd	1.61	(2.0)
77	SR 237	EB	PM	McCarthy Blvd to I-880	0.40	(3.5)
187	SR 85	SB	PM	SR 237 to El Camino Real	0.41	(3.0)
188	SR 85	SB	PM	El Camino Real to Fremont Rd	1.89	(3.0)
274	US 101	SB	PM	Oregon Exp to San Antonio Rd	1.85	(2.0)
273	US 101	SB	PM	S Antonio Rd to Rengstorff Ave	0.71	(2.5)
264	US 101	SB	PM	Great America Pkwy to Montague Expwy	0.75	(3.5)
263	US 101	SB	PM	Montague Expwy to De La Cruz Blvd	1.28	(3.5)
262	US 101	SB	PM	De La Cruz Blvd to SR 87	0.77	(0.5)
261	US 101	SB	PM	SR 87 to N First St	0.64	(2.0)
260	US 101	SB	PM	N First St to Old Bayshore Rd	0.49	(3.0)
259	US 101	SB	PM	Old Bayshore Rd to I-880	0.50	(3.0)
258	US 101	SB	PM	I-880 to Old Oakland Rd	0.57	(3.5)

**Table 3.4 | Non-Exempt Mixed-Flow Segments Operating at LOS F in 2013**

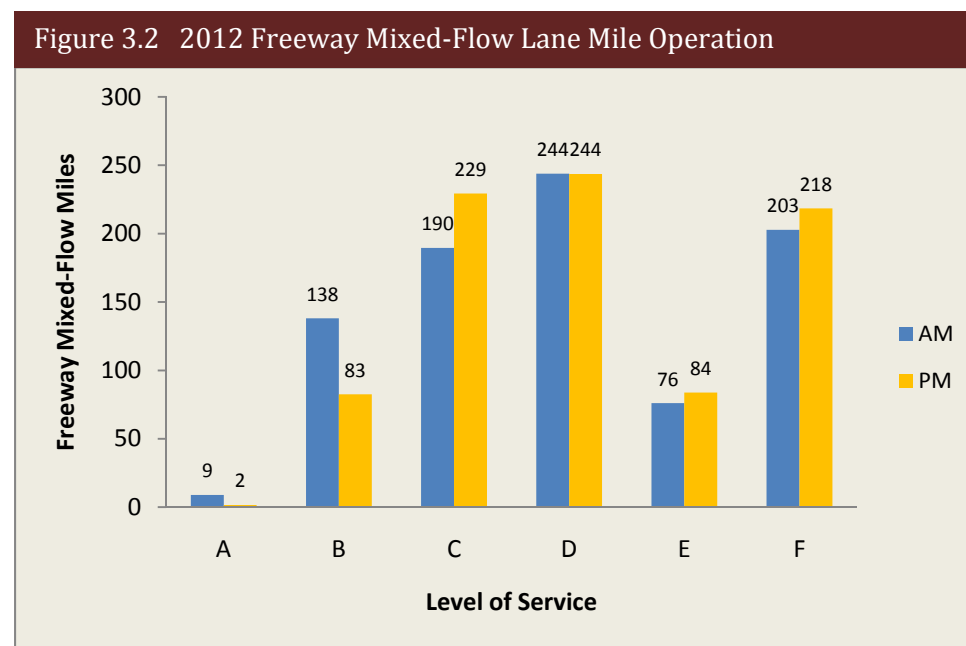
#	Fwy	Dir	AM/PM	Segment	Length	Duration of Congestion
130	I-280	WB	AM	US 101 to McLaughlin	0.37	(2.5)
129	I-280	WB	AM	McLaughlin to 10th St.	0.92	(2.0)
128	I-280	WB	AM	10th St. to SR 87	1.20	(2.0)
127	I-280	WB	AM	SR 87 to Bird Av.	0.35	(2.0)
126	I-280	WB	AM	Bird Av. to Meridian Av.	1.07	(2.0)
119	I-280	WB	AM	De Anza Blvd. To SR 85	1.31	(1.0)
118	I-280	WB	AM	SR 85 to Foothill Expwy	0.70	(1.0)
52	I-680	NB	AM	King Rd. to Capitol Expwy	1.00	(0.5)
53	I-680	NB	AM	Capitol Expwy to Alum Rock Av	0.31	(1.0)
54	I-680	NB	AM	Alum Rock Av. to McKee Rd.	0.64	(0.5)
11	I-880	NB	AM	Stevens Cr to N. Bascom Ave	0.84	(1.0)
18	I-880	SB	AM	US 101 to N. 1st ST	0.49	(1.0)
19	I-880	SB	AM	N. 1st ST to SR 87	0.40	(1.5)
26	SR 17	NB	AM	San Tomas/Camden to Hamilton	1.82	(0.5)
95	SR 237	WB	AM	N. Fair Oaks Ave to Mathilda Ave	0.96	(1.0)
182	SR 85	NB	AM	Blossom Hill Rd. to SR 87	1.27	(0.5)
181	SR 85	NB	AM	SR 87 to Almaden Expressway	0.94	(2.0)
180	SR 85	NB	AM	Almaden Expwy to Camden	1.97	(0.5)
179	SR 85	NB	AM	Camden to Union	1.17	(1.5)
178	SR 85	NB	AM	Union to Bascom	1.13	(1.0)
177	SR 85	NB	AM	Bascom to SR 17	0.27	(2.0)
176	SR 85	NB	AM	SR 17 to Winchester	0.50	(2.0)
175	SR 85	NB	AM	Winchester to Saratoga Av.	2.68	(0.5)
172	SR 85	NB	AM	Stevens Creek Blvd. to I-280	0.75	(1.5)
169	SR 85	NB	AM	Fremont Av. to El Camino Real	1.89	(0.5)
70	SR 87	NB	AM	SR 85 to Capitol Expwy	1.09	(1.0)
71	SR 87	NB	AM	Capitol Expwy to Curtner	1.49	(2.0)
72	SR 87	NB	AM	Curtner to Almaden Expwy	0.73	(3.0)
73	SR 87	NB	AM	Almaden Expwy to Alma	0.69	(1.5)
75	SR 87	NB	AM	I-280 to Julian St.	0.96	(1.5)
76	SR 87	NB	AM	Julian St. to Coleman St	0.38	(2.0)
414	SR 87	NB	AM	Coleman St to Taylor	0.41	(1.0)
416	SR 87	NB	AM	Taylor St to Airport Pkwy	1.87	(1.0)
418	SR 87	NB	AM	Airport to US 101	0.67	(2.0)
309.02	US 101	NB	AM	San Martin Ave to Tennant Ave	3.55	(1.5)
309.01	US 101	NB	AM	Tennant to E. Dunne	0.96	(2.0)
282	US 101	NB	AM	Bernal to Silver Crk Valley Rd	1.57	(0.5)
283	US 101	NB	AM	Silver Crk Valley Rd to Hellyer Rd	1.84	(1.5)
284	US 101	NB	AM	Hellyer Rd TO Yerba Buena Rd	0.90	(2.0)
285	US 101	NB	AM	Yerba Buena Rd. to Capitol Expwy	0.80	(2.0)
286	US 101	NB	AM	Capitol Expwy to Tully Rd.	1.33	(1.5)
287	US 101	NB	AM	Tully Rd. to Story Rd	1.46	(0.5)
288	US 101	NB	AM	Story Rd to I-280	0.38	(0.5)
296	US 101	NB	AM	SR 87 (Guadalupe) to De La Cruz Blvd.	0.77	(2.5)
297	US 101	NB	AM	De La Cruz Bld. to Montague	1.28	(0.5)
298	US 101	NB	AM	Montague to Bower / Great American Pkwy	0.75	(0.5)
300	US 101	NB	AM	Lawrence Expwy to N. Fair Oaks Ave	0.98	(0.5)
301	US 101	NB	AM	N. Fair Oaks to N. Mathilda Ave	0.85	(0.5)
302	US 101	NB	AM	Mathilda to SR 237	0.35	(0.5)

#	Fwy	Dir	AM/PM	Segment	Length	Duration of Congestion
303	US 101	NB	AM	SR 237 to Moffett Blvd.	1.68	(2.5)
304	US 101	NB	AM	Moffett Blvd. to SR 85	0.33	(2.5)
307	US 101	NB	AM	Rengstorff to San Antonio Rd.	0.71	(0.5)
131	I-280	EB	PM	Page Mill to La BARRANCA	1.73	(0.5)
132	I-280	EB	PM	La BARRANCA to El Monte	1.60	(2.5)
133	I-280	EB	PM	El Monte to Magdalena	0.95	(2.5)
141	I-280	EB	PM	Winchester to I-880	0.55	(0.5)
142	I-280	EB	PM	I-880 to Meridian	1.40	(1.0)
143	I-280	EB	PM	Meridian to Bird	1.07	(2.5)
144	I-280	EB	PM	Bird Av. to SR 87	0.35	(1.5)
145	I-280	EB	PM	SR 87 to 10th	1.20	(1.0)
126	I-280	WB	PM	SR 87 to Bird	0.35	(0.5)
124	I-280	WB	PM	I-880 to Winchester	0.55	(0.5)
113.1	I-280	WB	PM	Page Mill to Alpine	2.25	(0.5)
48	I-680	SB	PM	SR 237 to Yosemite	0.69	(0.5)
47	I-680	SB	PM	Yosemite to Montague Expwy	0.77	(1.0)
46	I-680	SB	PM	Montague Exp. to Capitol Av.	1.00	(1.5)
45	I-680	SB	PM	Capitol Av. to Hostetter Rd.	0.31	(1.5)
44	I-680	SB	PM	Hostetter Rd. to Berryessa Rd.	0.94	(1.5)
22	I-880	NB	PM	The Alameda to Coleman	0.59	(0.5)
21	I-880	SB	PM	Coleman Av. to The Alameda	0.59	(1.5)
22	I-880	SB	PM	The Alameda to Bascom Av.	0.82	(1.5)
23	I-880	SB	PM	Bascom Av. to Stevens Crk	0.84	(1.0)
36	SR 17	SB	PM	Lark to Saratoga	1.81	(0.5)
83	SR 237	EB	PM	Mathilda Ave to N. Fair Oaks Ave	0.96	(1.0)
82	SR 237	EB	PM	N. Fair Oaks Ave to Lawrence Expwy	0.63	(1.5)
80	SR 237	EB	PM	Gr America Pkwy to N. First St.	1.00	(3.5)
90	SR 237	WB	PM	McCarthy Blvd. To Zanker Rd.	0.94	(0.5)
97	SR 237	WB	PM	US 101 to Maude	0.71	(0.5)
98	SR 237	WB	PM	Maude to Central	0.80	(1.5)
100	SR 237	WB	PM	SR 85 to El Camino Real	0.40	(2.0)
185	SR 85	SB	PM	US 101 to Central Exp	1.24	(0.5)
186	SR 85	SB	PM	Central Expwy to SR 237	0.47	(1.0)
191	SR 85	SB	PM	I-280 to Stevens Creek Blvd.	0.75	(0.5)
192	SR 85	SB	PM	Stvns Crk Blv. to Saratga-Snnvl	1.83	(2.5)
193	SR 85	SB	PM	Saratoga-Sunny to Saratoga Av	1.83	(0.5)
195	SR 85	SB	PM	Winchester to SR 17	0.50	(0.5)
196	SR 85	SB	PM	SR 17 to Bascom	0.27	(1.0)
197	SR 85	SB	PM	Bascom to Union	1.13	(3.0)
417	SR 87	SB	PM	Airport Pkwy to Taylor		(0.5)
415	SR 87	SB	PM	Taylor to Coleman	0.41	(1.5)
69	SR 87	SB	PM	Coleman to Julian	0.38	(0.5)
68	SR 87	SB	PM	Julian St. to I-280	0.96	(0.5)
67	SR 87	SB	PM	I-280 to Alma	0.90	(1.0)
66	SR 87	SB	PM	Alma to Almaden Expwy	0.69	(1.5)
65	SR 87	SB	PM	Almaden Expwy to Curtner	0.73	(1.0)
303	US 101	NB	PM	SR 237 to Moffett	1.68	(0.5)
304	US 101	NB	PM	Moffett to SR 85	0.33	(1.5)
305	US 101	NB	PM	SR 85 to Shoreline	0.38	(2.0)
306	US 101	NB	PM	Shoreline to Rengstorff	1.01	(3.0)
307	US 101	NB	PM	Rengstorff to San Antonio	0.71	(3.0)
243	US 101	SB	PM	Burnett Ave (Lane Drop) to Cochrane	0.87	(1.0)

#	Fwy	Dir	AM/PM	Segment	Length	Duration of Congestion
275.08	US 101	SB	PM	Monterey Rd to Bloomfield Ave	1.85	(1.0)
265	US 101	SB	PM	Lawrence to Gr America Pkwy	1.12	(3.5)
266	US 101	SB	PM	N. Fair Oaks to Lawrence	0.98	(0.5)
267	US 101	SB	PM	Mathilda to N. Fair Oaks	0.85	(0.5)
269	US 101	SB	PM	Moffett to SR 237	1.68	(0.5)
275	US 101	SB	PM	Embarcadero to Oregon Expwy	0.15	(2.0)

## MIXED-FLOW LEVEL OF SERVICE ANALYSIS

In 2013, there were 859 mixed-flow lane-miles of freeway in Santa Clara County. Figure 3.2 summarizes the overall operation of the freeway system, including lane miles operating at each LOS, regardless of CMP exemption. These values are based on the most congested time recorded for each segment during the aerial data collection.



In total, 203 (24%) and 218 (25%) lane-miles operated at LOS F in the AM and PM time periods, respectively, in 2013. Compared to 2012, there were 34 fewer lane-miles at LOS F in the AM peak hour. However, the PM peak hour showed an increase of similar magnitude of 28 additional lane-miles operating at LOS F as compared to 2012.

The percentages of lane-miles operating at each LOS for the AM time period remained within 3% of the percentages found in the 2012 Monitoring Report for all LOS grades, except for LOS D which increased by 7% and LOS F which decreased by 4%. The LOS results in the PM time period were

within 3% of 2012 values, except LOS C which decreased by 4%. See Figures 4.3 and 4.4, below, for historical information on the LOS results for mixed flow lane-miles over the past five years.

Figure 3.3 Mixed Flow Lane Miles at Each LOS, 2009-2013 (AM Peak)

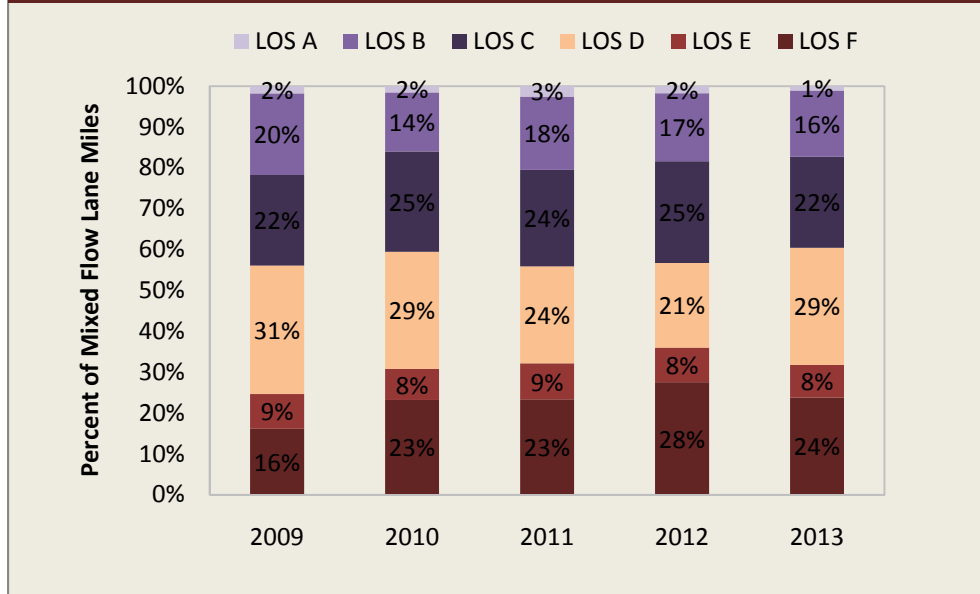


Figure 3.4 Mixed Flow Lane Miles at Each LOS, 2009-2013 (PM Peak)

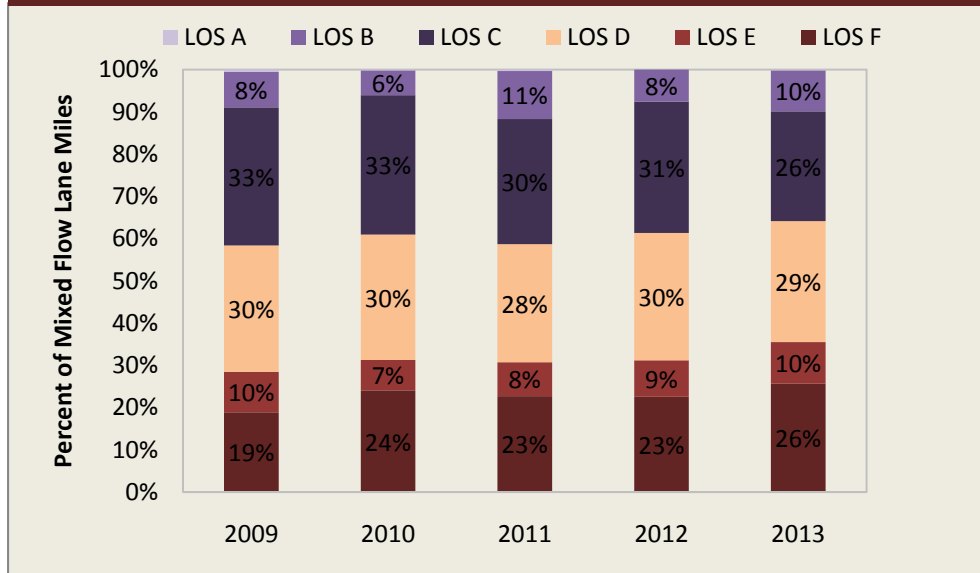


Figure 3.5 Mixed Flow Level of Service in the AM Peak Period

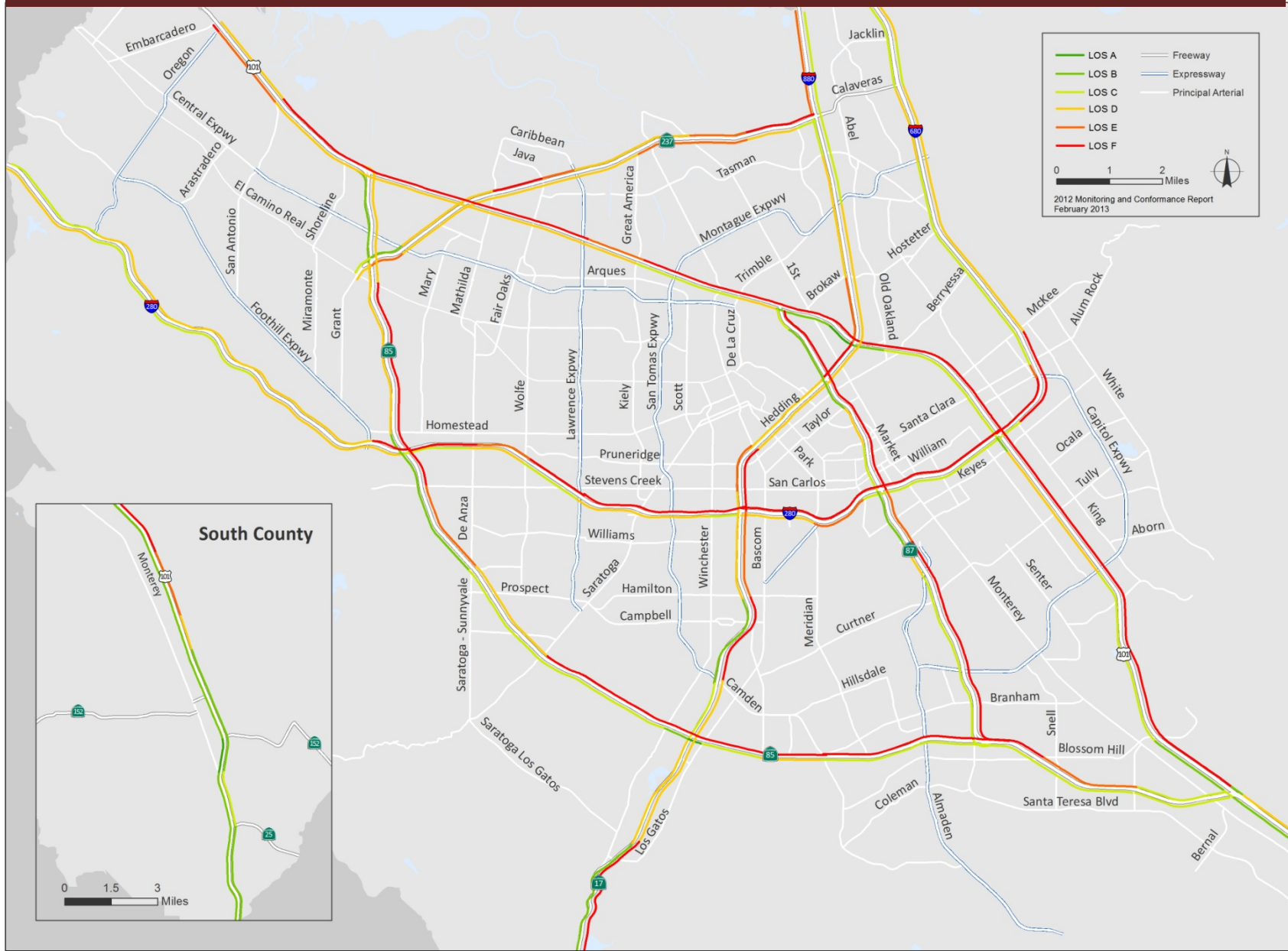
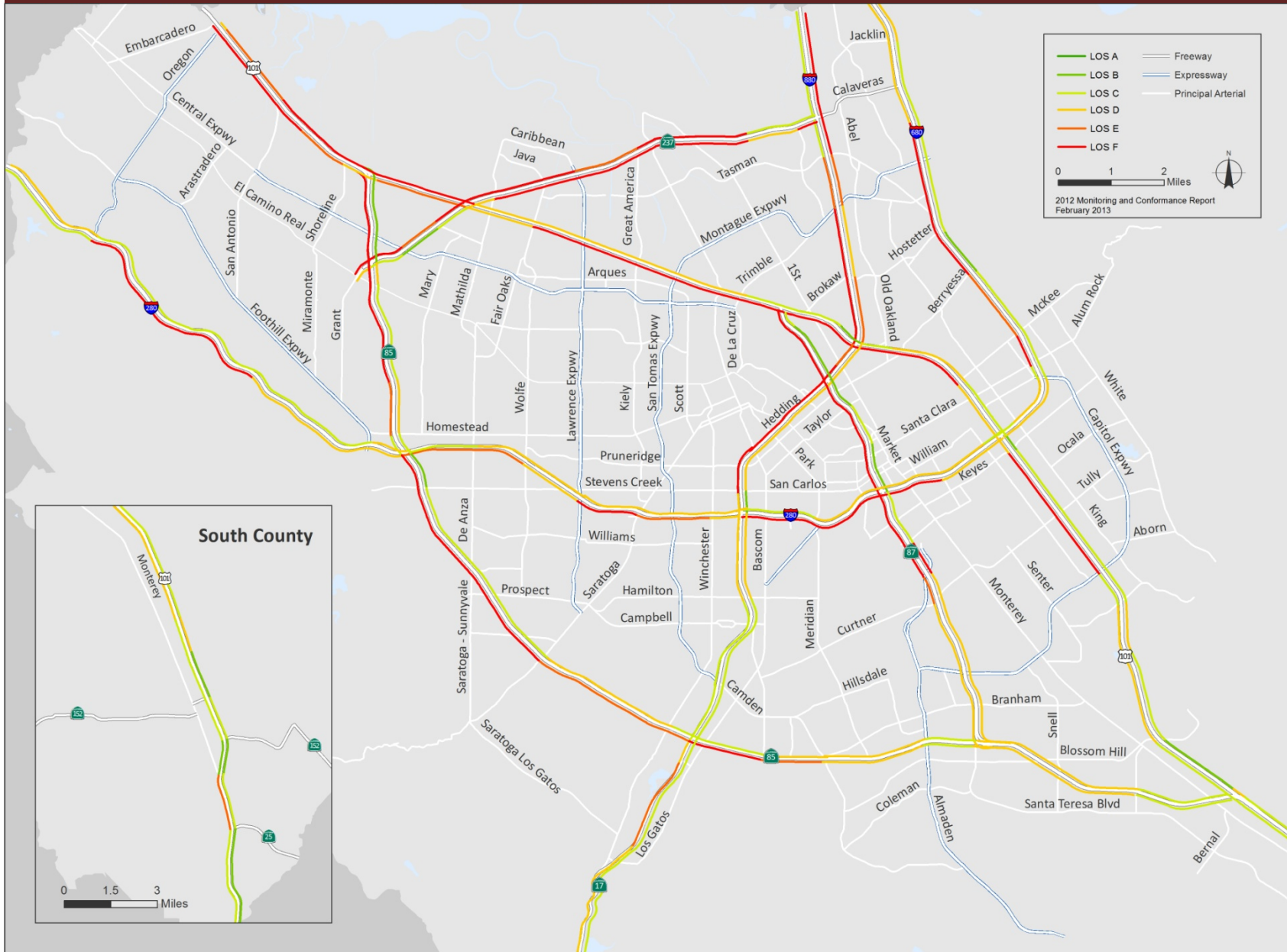




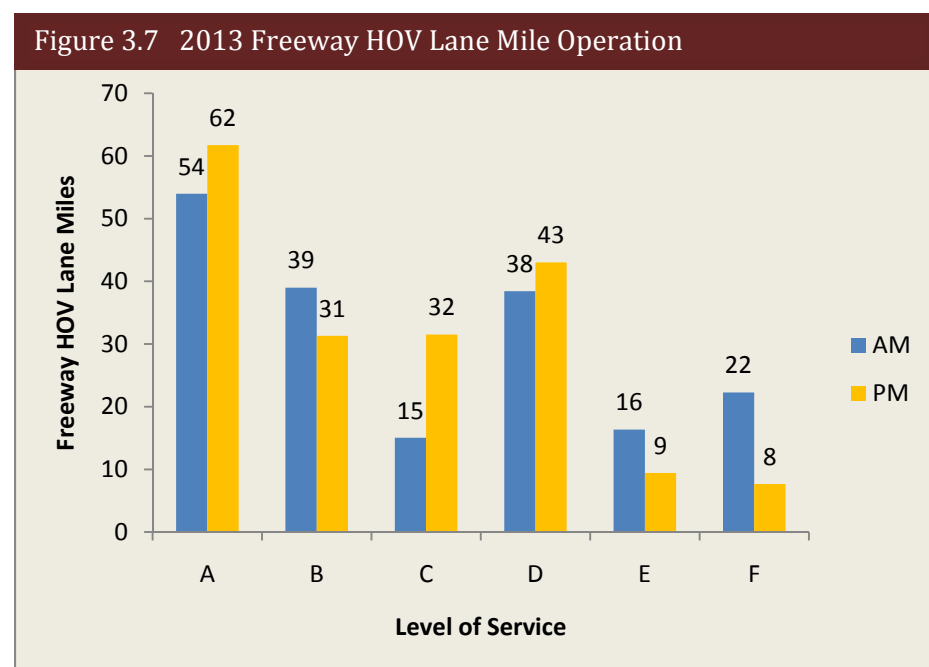
Figure 3.6 Mixed Flow Level of Service in the PM Peak Period



## HOV LEVEL OF SERVICE ANALYSIS

There are 185 directional miles of HOV lanes throughout the freeway network in Santa Clara County. New HOV lanes opened on I-880 between US-101 and SR 237 on June 21, 2013, resulting in eight additional HOV segments and nine additional total HOV lane miles compared to the HOV network analyzed in the 2012 CMP Monitoring and Conformance Report.

Figure 3.7 shows the results of the HOV lane LOS analysis for 2013. About 79% of the HOV lanes operate at LOS D or better in the AM peak, up from 73% in 2012, while 91% operate at LOS D or better in the PM peak hour, down from 96% in 2012. Fewer segments operating at LOS E and LOS F in the PM peak suggests that HOV lane use is more concentrated in the AM peak, resulting in slower speeds and a worse LOS.

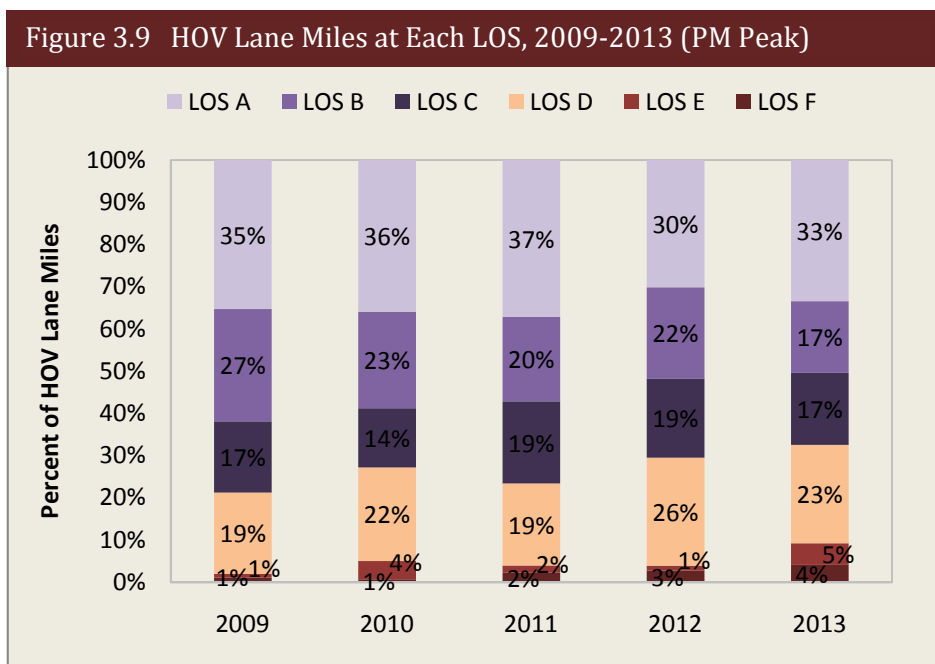
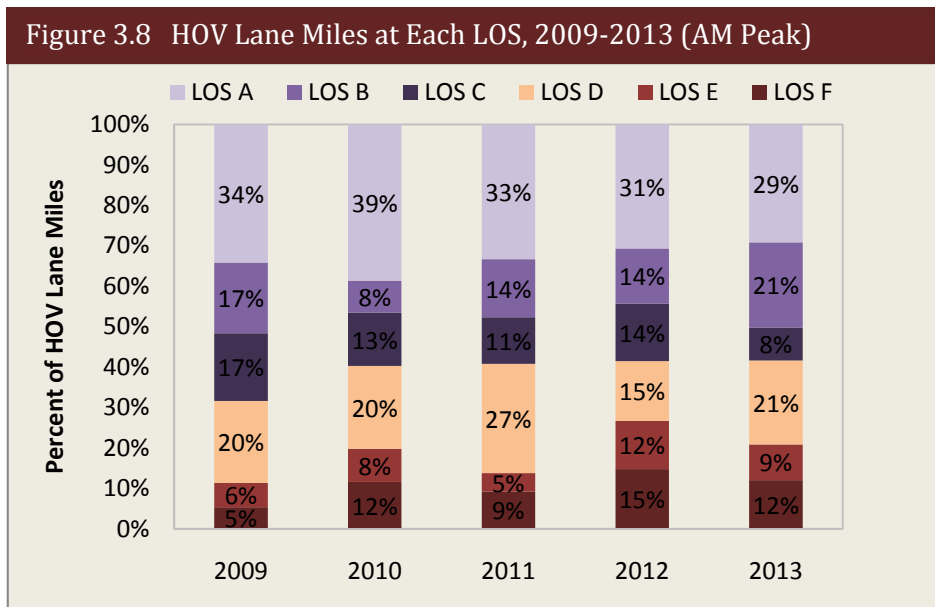


HOV lanes operate at a much higher level of service, on average, compared to mixed-flow lanes. However, the HOV system does include segments that operate at LOS F. In 2013, there were 36 deficient segments accounting for 23 directional miles (3 fewer than in 2012) during the AM peak and 6 deficient segments accounting for 8 directional miles (3 more than in 2012) during the PM peak. This is approximately 13% of the HOV system in the AM peak and 4% of the HOV system in the PM peak.

In 2013, all segments in which the HOV lane operated at LOS F also had mixed-flow operations at LOS F. HOV lanes experience weaving movements from vehicles wishing to enter and exit the HOV lane from adjacent mixed-flow lanes, which can slow down vehicles in the HOV lane, especially when the adjacent mixed-flow lanes are congested. Therefore, LOS F results in the HOV lanes are not entirely caused by excess demand, but by weaving movements as well. This cause of congestion

could be reduced through operational improvements such as direct interchange HOV lane connections or direct HOV-lane-to-off-ramp connections.

Figure 3.8 and Figure 3.9 provide a historical perspective on the percentage of HOV lane miles operating at each LOS over the last five years for the AM and PM peak period, respectively. Comparing the 2013 results to the previous years, the percentage of lane miles operating at LOS D, LOS E, or LOS F has seen a gradual upward trend in the AM peak period from 31% in 2009 to 41% in 2013, while such lane miles increased from 21% to 33% over the same period in the PM peak period.



Tables 4.5 and 4.6 present the complete list of all HOV segments operating at LOS F in the AM and PM peak, respectively. The LOS results are also represented graphically in Figures 4.10 and 4.11. The complete freeway monitoring results are presented in Table 3.7, below.

**Table 3.5 | HOV Segments at LOS F – AM Peak Period**

ID	Freeway	Dir	From	To	Length
118	I-280	WB	SR 85	Foothill Expwy	0.7
123	I-280	WB	Winchester Blvd	Saratoga Ave	1.4
122	I-280	WB	Saratoga Ave	Lawrence Expwy	1.2
89	SR 237	WB	I-880	McCarthy Blvd	0.4
181	SR 85	NB	SR 87	Almaden Expwy	0.9
176	SR 85	NB	SR 17	Winchester Blvd	0.5
172	SR 85	NB	Stevens Creek Blvd	I-280	0.8
169	SR 85	NB	W. Fremont Ave	EL Camino Real	1.9
171	SR 85	NB	I-280	W. Homestead Rd	0.3
170	SR 85	NB	W. Homestead Rd	W. Fremont Ave	1.0
71	SR 87	NB	Capitol Expwy	Curtner Ave	1.5
72	SR 87	NB	Curtner Ave	Almaden Rd	0.7
75	SR 87	NB	I-280	Julian St	1.0
76	SR 87	NB	Julian St	Coleman Ave	0.4
414	SR 87	NB	Coleman Ave	Taylor St	0.4
288	US 101	NB	Story Rd	I-280	0.4
302	US 101	NB	N. Mathilda Ave	SR 237	0.4
304	US 101	NB	Moffett Blvd	SR 85	0.3
307	US 101	NB	Rengstorff Ave	San Antonio Ave	0.7
295	US 101	NB	N. First St	Guadalupe Pkwy	0.6
269	US 101	SB	Moffett Blvd	SR 237	1.7
303	US 101	NB	SR 237	Moffett Blvd	1.7
289	US 101	NB	I-280	Santa Clara St	0.9
290	US 101	NB	Santa Clara St	McKee Rd	0.4
292	US 101	NB	Oakland Rd	I-880	0.6
293	US 101	NB	I-880	Old Bayshore Hwy	0.5
294	US 101	NB	Old Bayshore Hwy	N. First St	0.5
305	US 101	NB	SR 85	N. Shoreline Blvd	0.4
306	US 101	NB	N. Shoreline Blvd	Rengstorff Ave	1.0
275	US 101	SB	Embarcadero Rd	Oregon Expwy	0.2
Total Congested HOV Lane Miles on I-280					3.3
Total Congested HOV Lane Miles on SR-237					0.4
Total Congested HOV Lane Miles on SR-85					5.4
Total Congested HOV Lane Miles on SR-87					4.0
Total Congested HOV Lane Miles on US-101					10.1

**Table 3.6 | HOV Segments at LOS F – PM Peak Period**

<b>ID</b>	<b>Freeway</b>	<b>Dir</b>	<b>From</b>	<b>To</b>	<b>Length</b>
142	I-280	EB	I-880	Meridian Ave	1.4
1	I-880	NB	SR 237	Dixon Landing	2.0
274	US 101	SB	Oregon Expwy	San Antonio Ave	1.9
265	US 101	SB	Lawrence Expwy	Bower Ave / Great American Pkwy	1.1
264	US 101	SB	Bower Ave / Great American Pkwy	Montague Expwy / San Tomas Expwy	0.8
258	US 101	SB	I-880	Oakland Rd	0.6
Total Congested HOV Lane Miles on I-280					1.4
Total Congested HOV Lane Miles on I-880					2.0
Total Congested HOV Lane Miles on US-101					4.3

Figure 3.10 HOV Level of Service in the AM Peak Period

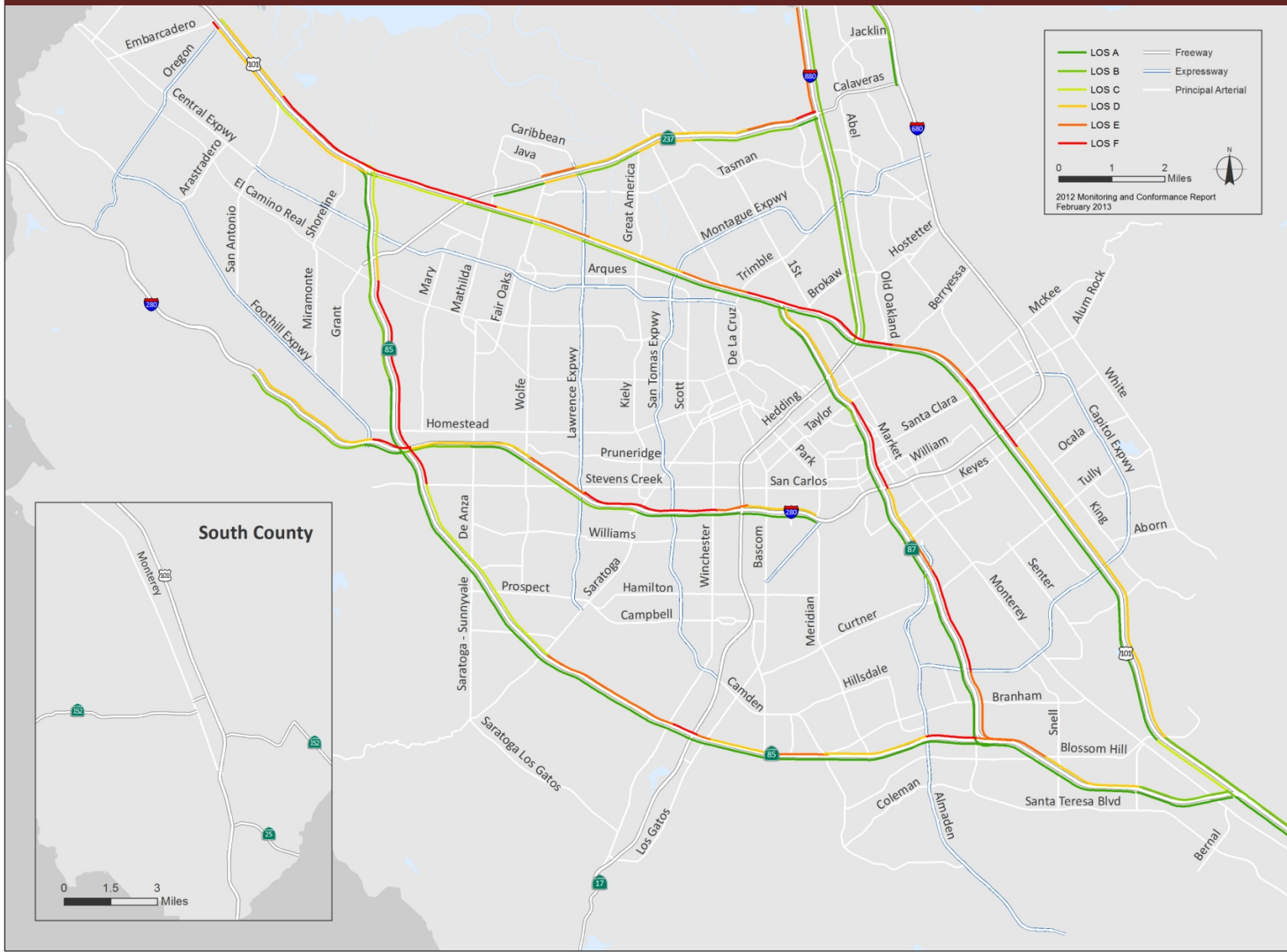
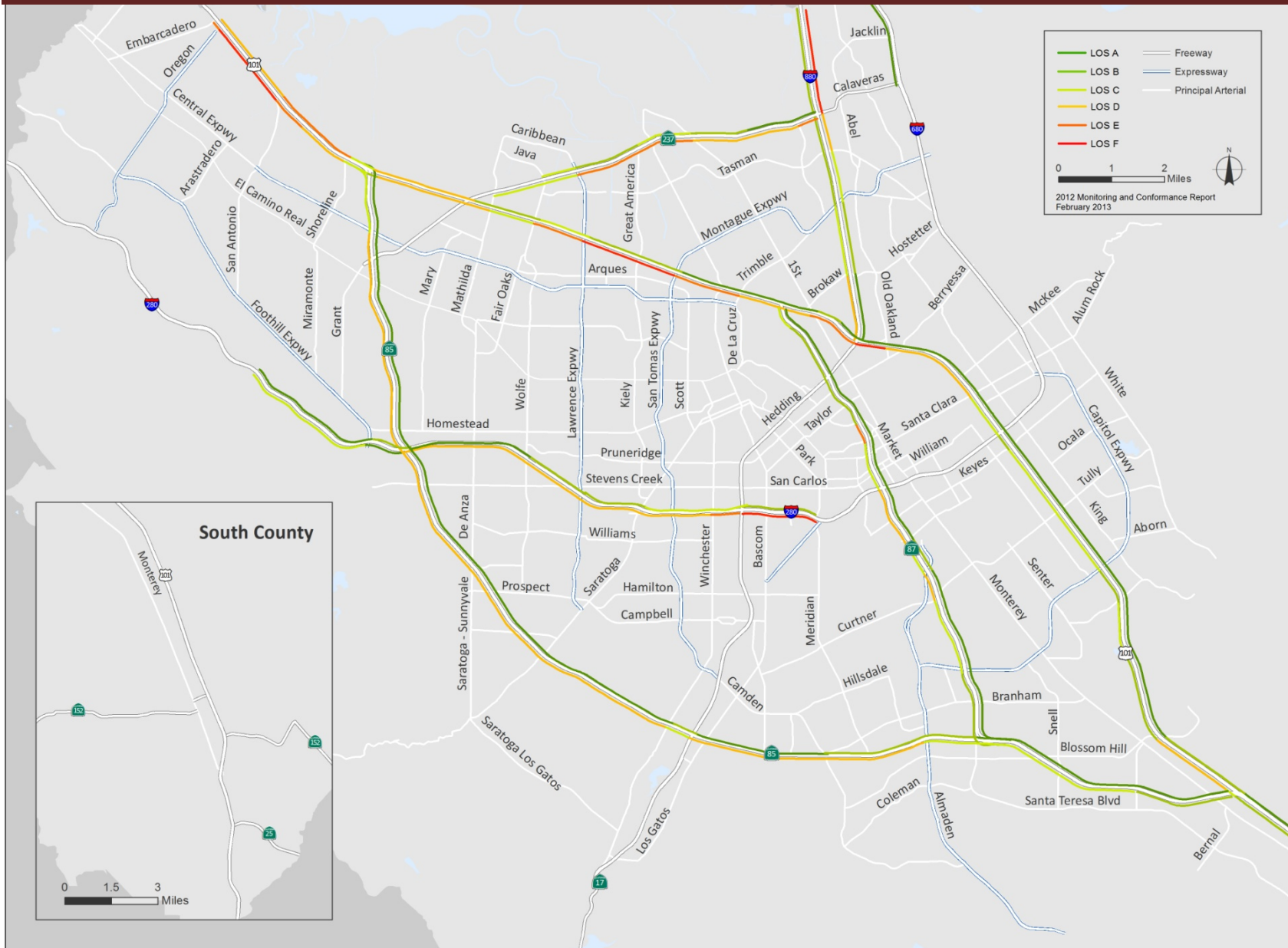


Figure 3.11 HOV Level of Service in the PM Peak Period



**Table 3.7 | 2013 Freeway LOS – AM Peak Period**

ID	Facility	Dir	From/To	From/To	Miles	Number of Lanes			Peak Photo Time	Max Density		LOS (Density)		Speed		Flow	
						Total	Mixed	HOV		Mixed	HOV	Mixed	HOV	Mixed	HOV	Mixed	HOV
31	SR 17	NB	Summit Rd	Bear Creek Rd	4.06	2	2	0	08:00 - 08:20	51	0	E		41		4190	
30	SR 17	NB	Bear Creek Rd	Saratoga Ave	2.90	2	2	0	09:20 - 09:40	67	0	F		28		3760	
29	SR 17	NB	Saratoga Ave	Lark Ave	1.81	2	2	0	07:20 - 07:40	42	0	D		52		4370	
28	SR 17	NB	Lark Ave	SR 85	0.46	2	2	0	07:20 - 07:40	41	0	D		54		4430	
27	SR 17	NB	SR 85	San Tomas Expwy / Camden Ave	1.17	3	3	0	08:40 - 09:00	27	0	D		66		5310	
26	SR 17	NB	San Tomas Expwy / Camden Ave	Hamilton Ave	1.82	3	3	0	09:00 - 09:20	69	0	F		27		5590	
25	SR 17	NB	Hamilton Ave	I-280	1.61	3	3	0	07:20 - 07:40	53	0	E		39		6210	
184	SR 85	NB	US 101	Cottle Rd	1.79	3	2	1	07:40 - 08:00	24	16	C	B	66	67	3170	1080
183	SR 85	NB	Cottle Rd	Blossom Hill Rd	1.96	3	2	1	07:40 - 08:00	50	29	E	D	42	65	4200	1890
182	SR 85	NB	Blossom Hill Rd	SR 87	1.27	3	2	1	07:20 - 07:40	62	55	F	E	32	37	3970	2040
181	SR 85	NB	SR 87	Almaden Expwy	0.94	3	2	1	07:20 - 07:40	94	74	F	F	16	24	3010	1780
180	SR 85	NB	Almaden Expwy	Camden Ave	1.97	3	2	1	07:40 - 08:00	62	43	F	D	32	51	3970	2200
179	SR 85	NB	Camden Ave	Union Ave	1.17	3	2	1	08:00 - 08:20	66	57	F	E	29	36	3830	2060
178	SR 85	NB	Union Ave	S. Bascom Ave	1.13	3	2	1	07:40 - 08:00	72	43	F	D	25	51	3600	2200
177	SR 85	NB	S. Bascom Ave	SR 17	0.27	3	2	1	08:00 - 08:20	105	55	F	E	13	37	2730	2040
176	SR 85	NB	SR 17	Winchester Blvd	0.50	3	2	1	07:00 - 07:20	82	88	F	F	20	18	3280	1590
175	SR 85	NB	Winchester Blvd	Saratoga Ave	2.68	3	2	1	07:20 - 07:40	64	50	F	E	30	42	3840	2100
174	SR 85	NB	Saratoga Ave	Saratoga-Sunnyvale Rd	2.19	3	2	1	07:20 - 07:40	43	26	D	C	51	66	4390	1720
173	SR 85	NB	Saratoga-Sunnyvale Rd	Stevens Creek Blvd	1.83	3	2	1	07:20 - 07:40	47	26	E	C	46	66	4330	1720
172	SR 85	NB	Stevens Creek Blvd	I-280	0.75	3	2	1	08:20 - 08:40	127	82	F	F	8	20	2040	1640
171	SR 85	NB	I-280	W. Homestead Rd	0.34	3	2	1	08:20 - 08:40	125	114	F	F	8	10	2400	1140
170	SR 85	NB	W. Homestead Rd	W. Fremont Ave	1.00	3	2	1	08:40 - 09:00	93	78	F	F	16	22	2980	1720
169	SR 85	NB	W. Fremont Ave	EL Camino Real	1.89	3	2	1	08:00 - 08:20	66	62	F	F	29	32	3830	1990
168	SR 85	NB	EL Camino Real	SR 237	0.41	3	2	1	09:20 - 09:40	46	41	D	D	47	54	4330	2220
167	SR 85	NB	SR 237	Central Expwy	0.47	3	2	1	07:40 - 08:00	29	21	D	C	65	66	3770	1390
166	SR 85	NB	Central Expwy	US 101	1.24	3	2	1	08:20 - 08:40	41	19	D	C	54	66	4430	1260
70	SR 87	NB	SR 85	Capitol Expwy	1.09	3	2	1	07:40 - 08:00	128	55	F	E	8	37	2050	2040
71	SR 87	NB	Capitol Expwy	Curtner Ave	1.49	3	2	1	07:40 - 08:00	110	77	F	F	11	23	2420	1780



**Table 3.7 | 2013 Freeway LOS – AM Peak Period**

ID	Facility	Dir	From/To	From/To	Miles	Number of Lanes			Peak Photo Time	Max Density		LOS (Density)		Speed		Flow	
						Total	Mixed	HOV		Mixed	HOV	Mixed	HOV	Mixed	HOV		
72	SR 87	NB	Curtner Ave	Almaden Rd	0.73	3	2	1	07:40 - 08:00	89	69	F	F	18	27	3210	1870
73	SR 87	NB	Almaden Rd	Alma Ave	0.69	3	2	1	08:40 - 09:00	63	52	F	E	31	40	3910	2080
74	SR 87	NB	Alma Ave	I-280	0.90	3	2	1	08:40 - 09:00	49	34	E	D	43	63	4220	2150
75	SR 87	NB	I-280	Julian St	0.96	3	2	1	08:20 - 08:40	116	67	F	F	10	28	2320	1880
76	SR 87	NB	Julian St	Coleman Ave	0.38	3	2	1	08:20 - 08:40	131	73	F	F	7	25	1840	1830
414	SR 87	NB	Coleman St	Taylor St	0.41	3	2	1	09:00 - 09:20	79	87	F	F	22	18	3480	1570
416	SR 87	NB	Taylor St	Skyport Dr	1.87	3	2	1	08:20 - 08:40	70	32	F	D	26	64	3640	2050
418	SR 87	NB	Skyport Dr	US 101	0.67	3	2	1	07:20 - 07:40	152	43	F	D	6	51	1830	2200
309.11	US 101	NB	SR 156	SR 129	1.78	2	2	0	06:20 - 06:40	13	0	B		67		1730	
309.1	US 101	NB	SR 129	Betabel Rd	1.61	2	2	0	09:00 - 09:20	19	0	C		66		2510	
309.09	US 101	NB	Betabel Rd	Bloomfield Ave	4.15	2	2	0	09:00 - 09:20	14	0	B		67		1870	
309.08	US 101	NB	Bloomfield Ave	Monterey Rd	1.85	2	2	0	07:20 - 07:40	22	0	C		66		2910	
309.07	US 101	NB	Monterey Rd	Pacheco Pass Hwy	1.11	3	3	0	07:40 - 08:00	13	0	B		67		2600	
309.06	US 101	NB	Pacheco Pass Hwy	Leavesley Rd	1.46	3	3	0	07:40 - 08:00	18	0	B		67		3600	
309.05	US 101	NB	Leavesley Rd	Buena Vista Ave	1.60	3	3	0	07:20 - 07:40	17	0	B		67		3400	
309.04	US 101	NB	Buena Vista Ave	Masten Ave	1.16	3	3	0	06:20 - 06:40	27	0	D		66		5310	
309.03	US 101	NB	Masten Ave	San Martin Ave	2.17	3	3	0	06:20 - 06:40	48	0	E		45		6480	
309.02	US 101	NB	San Martin Ave	Tennant Ave	3.55	3	3	0	07:20 - 07:40	79	0	F		22		5220	
309.01	US 101	NB	Tennant Ave	East Dunne Ave	0.96	3	3	0	06:40 - 07:00	81	0	F		21		5110	
276	US 101	NB	East Dunne Ave	Cochrane Rd	1.82	3	3	0	09:00 - 09:20	54	0	E		38		6160	
277	US 101	NB	Cochrane Rd	Burnett Ave (Lane Drop)	0.87	4	3	1	06:20 - 06:40	38	29	D	D	58	65	6620	1890
278	US 101	NB	Burnett Ave (Lane Drop)	Sheller Ave	2.57	4	3	1	06:20 - 06:40	28	28	D	D	66	66	5510	1850
279	US 101	NB	Sheller Ave	Lane Drop (SB)	4.32	4	3	1	07:20 - 07:40	25	25	C	C	66	66	4950	1650
280	US 101	NB	Lane Drop (SB)	SR 85	1.00	4	3	1	06:40 - 07:00	32	18	D	B	64	67	6150	1210
281	US 101	NB	SR 85	Bernal Rd	0.20	4	3	1	06:40 - 07:00	18	15	B	B	67	67	3600	1010

**Table 3.7 | 2013 Freeway LOS – AM Peak Period**

ID	Facility	Dir	From/To	From/To	Miles	Number of Lanes			Peak Photo Time	Max Density		LOS (Density)		Speed		Flow	
						Total	Mixed	HOV		Mixed	HOV	Mixed	HOV	Mixed	HOV		
282	US 101	NB	Bernal Rd	Silver Creek Valley Rd	1.48	4	3	1	08:20 - 08:40	88	16	F	B	18	67	4760	1080
283	US 101	NB	Silver Creek Valley Rd	Hellyer Ave	1.84	4	3	1	07:40 - 08:00	109	28	F	D	12	66	3930	1850
284	US 101	NB	Hellyer Ave	Yerba Buena Rd	0.90	4	3	1	08:20 - 08:40	79	33	F	D	22	64	5220	2120
285	US 101	NB	Yerba Buena Rd	Capitol Expwy	0.80	4	3	1	07:20 - 07:40	72	30	F	D	25	65	5400	1950
286	US 101	NB	Capitol Expwy	Tully Rd	1.33	4	3	1	06:20 - 06:40	64	36	F	D	30	61	5760	2200
287	US 101	NB	Tully Rd	Story Rd	1.46	4	3	1	08:20 - 08:40	91	33	F	D	17	64	4650	2120
288	US 101	NB	Story Rd	I-280	0.38	4	3	1	08:20 - 08:40	93	68	F	F	16	27	4470	1840
289	US 101	NB	I-280	Santa Clara St	0.88	4	3	1	07:40 - 08:00	87	85	F	F	18	19	4700	1620
290	US 101	NB	Santa Clara St	McKee Rd	0.39	4	3	1	07:40 - 08:00	100	71	F	F	14	26	4200	1850
291	US 101	NB	McKee Rd	Oakland Rd	1.58	4	3	1	08:20 - 08:40	72	51	F	E	25	41	5400	2100
292	US 101	NB	Oakland Rd	I-880	0.57	4	3	1	08:20 - 08:40	93	64	F	F	16	30	4470	1920
293	US 101	NB	I-880	Old Bayshore Hwy	0.50	4	3	1	07:40 - 08:00	112	100	F	F	11	14	3700	1400
294	US 101	NB	Old Bayshore Hwy	N. First St	0.49	4	3	1	08:20 - 08:40	109	91	F	F	12	17	3930	1550
295	US 101	NB	N. First St	Guadalupe Pkwy	0.64	4	3	1	09:00 - 09:20	90	85	F	F	17	19	4590	1620
296	US 101	NB	Guadalupe Pkwy	De La Cruz Blvd	0.77	4	3	1	07:20 - 07:40	111	85	F	F	11	19	3670	1620
297	US 101	NB	De La Cruz Blvd	Montague Expwy / Santa Tomas Expwy	1.28	4	3	1	08:20 - 08:40	68	53	F	E	27	39	5510	2070
298	US 101	NB	Montague Expwy / Santa Tomas Expwy	Bower Ave / Great America Pkwy	0.75	4	3	1	08:20 - 08:40	70	37	F	D	26	59	5460	2190
299	US 101	NB	Bower Ave / Great American Pkwy	Lawrence Expwy	1.12	4	3	1	07:20 - 07:40	58	40	E	D	35	55	6090	2200
300	US 101	NB	Lawrence Expwy	N. Fair Oaks Ave	0.98	4	3	1	07:20 - 07:40	71	55	F	E	26	37	5540	2040
301	US 101	NB	N. Fair Oaks Ave	N. Mathilda Ave	0.85	4	3	1	07:20 - 07:40	69	36	F	D	27	61	5590	2200
302	US 101	NB	N. Mathilda Ave	SR 237	0.35	4	3	1	08:20 - 08:40	72	102	F	F	25	13	5400	1330
303	US 101	NB	SR 237	Moffett Blvd	1.68	4	3	1	07:40 - 08:00	82	73	F	F	20	25	4920	1830
304	US 101	NB	Moffett Blvd	SR 85	0.33	4	3	1	07:20 - 07:40	105	95	F	F	13	15	4100	1430
305	US 101	NB	SR 85	N. Shoreline Blvd	0.38	5	4	1	07:40 - 08:00	108	65	F	F	12	29	5190	1890
306	US 101	NB	N. Shoreline Blvd	Rengstorff Ave	1.01	4	3	1	07:20 - 07:40	84	82	F	F	19	20	4790	1640
307	US 101	NB	Rengstorff Ave	San Antonio Ave	0.71	4	3	1	07:40 - 08:00	77	65	F	F	23	29	5320	1890
308	US 101	NB	San Antonio Ave	Oregon Expwy	1.85	4	3	1	07:20 - 07:40	46	44	D	D	47	50	6490	2200
309	US 101	NB	Oregon Expwy	Embarcadero Rd	0.15	4	3	1	06:20 - 06:40	31	22	D	C	65	66	6050	1460

**Table 3.7 | 2013 Freeway LOS – AM Peak Period**

ID	Facility	Dir	From/To	From/To	Miles	Number of Lanes			Peak Photo Time	Max Density		LOS (Density)		Speed		Flow	
						Total	Mixed	HOV		Mixed	HOV	Mixed	HOV	Mixed	HOV		
88	SR 237	EB	El Camino Real	SR 85	0.40	2	2	0	09:00 - 09:20	38	0	D		58		4410	
87	SR 237	EB	SR 85	Central Pkwy	0.63	2	2	0	09:00 - 09:20	56	0	E		36		4040	
86	SR 237	EB	Central Pkwy	Maude Ave	0.80	2	2	0	09:00 - 09:20	35	0	D		62		4340	
85	SR 237	EB	Maude Ave	US 101	0.71	2	2	0	08:20 - 08:40	29	0	D		65		3770	
84	SR 237	EB	US 101	Mathilda Ave	0.53	2	2	0	08:00 - 08:20	35	0	D		62		4340	
83	SR 237	EB	Mathilda Ave	N. Fair Oaks Ave	0.96	3	2	1	08:20 - 08:40	37	11	D	A	59	67	4370	740
82	SR 237	EB	N. Fair Oaks Ave	Lawrence Expwy	0.63	3	2	1	08:00 - 08:20	30	28	D	D	65	66	3900	1850
81	SR 237	EB	Lawrence Expwy	Great America Pkwy	1.27	3	2	1	08:20 - 08:40	39	14	D	B	57	67	4450	940
80	SR 237	EB	Great America Pkwy	N. First St	1.00	3	2	1	08:00 - 08:20	48	33	E	D	45	64	4320	2120
79	SR 237	EB	N. First St	Zanker Rd	1.61	3	2	1	08:00 - 08:20	51	13	E	B	41	67	4190	880
78	SR 237	EB	Zanker Rd	McCarthy Blvd	0.94	3	2	1	07:40 - 08:00	28	12	D	B	66	67	3670	810
77	SR 237	EB	McCarthy Blvd	I-880	0.40	3	2	1	07:40 - 08:00	21	8	C	A	66	67	2860	540
130.1	I-280	EB	Alpine Rd	Page Mill Rd	2.25	4	4	0	08:40 - 09:00	30	0	D		65		7800	
131	I-280	EB	Page Mill Rd	La BARRANCA Rd	1.73	4	4	0	08:40 - 09:00	25	0	C		66		6600	
132	I-280	EB	La BARRANCA Rd	El Monte Rd	1.60	4	4	0	08:20 - 08:40	20	0	C		66		5280	
133	I-280	EB	El Monte Rd	Magdalena Ave	0.95	4	4	0	09:00 - 09:20	22	0	C		66		5810	
134	I-280	EB	Magdalena Ave	Foothill Expwy	2.65	4	3	1	08:40 - 09:00	28	14	D	B	66	67	5510	940
135	I-280	EB	Foothill Expwy	SR 85	0.70	4	3	1	07:40 - 08:00	30	11	D	A	65	67	5850	740
136	I-280	EB	SR 85	De Anza Blvd	1.31	4	3	1	08:40 - 09:00	26	15	C	B	66	67	5150	1010
137	I-280	EB	De Anza Blvd	Wolfe Rd	1.06	4	3	1	08:40 - 09:00	27	8	D	A	66	67	5310	540
138	I-280	EB	Wolfe Rd	Lawrence Expwy	1.24	4	3	1	08:40 - 09:00	24	12	C	B	66	67	4760	810
139	I-280	EB	Lawrence Expwy	Saratoga Ave	1.19	4	3	1	08:40 - 09:00	28	13	D	B	66	67	5510	880
140	I-280	EB	Saratoga Ave	Winchester Blvd	1.37	4	3	1	08:20 - 08:40	42	10	D	A	52	67	6560	670
141	I-280	EB	Winchester Blvd	I-880	0.55	4	3	1	08:40 - 09:00	24	10	C	A	66	67	4760	670
142	I-280	EB	I-880	Meridian Ave	1.40	4	3	1	08:40 - 09:00	29	7	D	A	65	67	5660	470
143	I-280	EB	Meridian Ave	Bird Ave	1.07	4	4	0	08:40 - 09:00	49	0	E		43		8430	
144	I-280	EB	Bird Ave	SR 87	0.35	4	4	0	07:20 - 07:40	19	0	C		66		5020	
145	I-280	EB	SR 87	10th St	1.20	4	4	0	07:40 - 08:00	19	0	C		66		5020	

**Table 3.7 | 2013 Freeway LOS – AM Peak Period**

ID	Facility	Dir	From/To	From/To	Miles	Number of Lanes			Peak Photo Time	Max Density		LOS (Density)		Speed		Flow	
						Total	Mixed	HOV		Mixed	HOV	Mixed	HOV	Mixed	HOV		
146	I-280	EB	10th St	McLaughlin Ave	0.92	4	4	0	08:40 - 09:00	24	0	C		66		6340	
147	I-280	EB	McLaughlin Ave	US 101	0.37	4	4	0	07:20 - 07:40	21	0	C		66		5550	
51	I-680	NB	US 101	King Rd	0.40	4	4	0	07:40 - 08:00	22	0	C		66		5810	
52	I-680	NB	King Rd	Capitol Expwy	1.00	4	4	0	08:00 - 08:20	78	0	F		22		6870	
53	I-680	NB	Capitol Expwy	Alum Rock Ave	0.31	4	4	0	08:00 - 08:20	83	0	F		20		6640	
54	I-680	NB	Alum Rock Ave	McKee Rd	0.64	4	4	0	07:40 - 08:00	63	0	F		31		7820	
55	I-680	NB	McKee Rd	Berryessa Rd	1.47	4	4	0	08:00 - 08:20	43	0	D		51		8780	
56	I-680	NB	Berryessa Rd	Hostetter Rd	0.94	4	4	0	06:40 - 07:00	30	0	D		65		7800	
57	I-680	NB	Hostetter Rd	Capitol Ave	0.31	4	4	0	08:20 - 08:40	38	0	D		58		8820	
58	I-680	NB	Capitol Ave	Montague Expwy	1.00	4	4	0	08:20 - 08:40	38	0	D		58		8820	
59	I-680	NB	Montague Expwy	Yosemite Dr	0.77	4	4	0	08:20 - 08:40	30	0	D		65		7800	
60	I-680	NB	Yosemite Dr	Calaveras Blvd / SR 237	0.69	4	4	0	09:00 - 09:20	29	0	D		65		7540	
61	I-680	NB	Calaveras Blvd / SR 237	Jacklin Rd	0.85	3	3	0	09:00 - 09:20	25	0	C		66		4950	
62	I-680	NB	Jacklin Rd	Scott Creek Rd	1.57	3	3	0	07:20 - 07:40	27	0	D		66		5310	
12	I-880	NB	I-280	Stevens Cr	0.41	3	3	0	09:00 - 09:20	69	0	F		27		5590	
11	I-880	NB	Stevens Cr	N. Bascom Ave	0.84	3	3	0	08:40 - 09:00	66	0	F		29		5750	
10	I-880	NB	N. Bascom Ave	The Alameda	0.82	3	3	0	08:00 - 08:20	42	0	D		52		6560	
9	I-880	NB	The Alameda	Coleman Ave	0.59	3	3	0	08:00 - 08:20	36	0	D		61		6590	
8	I-880	NB	Coleman Ave	SR 87	0.51	3	3	0	08:00 - 08:20	46	0	D		47		6490	
7	I-880	NB	SR 87	N. 1st ST	0.40	3	3	0	08:00 - 08:20	41	0	D		54		6650	
6	I-880	NB	N. 1st ST	US 101	0.49	3	3	0	08:40 - 09:00	41	0	D		54		6650	
5	I-880	NB	US 101	E. Brokaw Rd	1.29	3	3	0	07:40 - 08:00	39	0	D		57		6670	
4	I-880	NB	E. Brokaw Rd	Montague Expwy	1.35	3	3	0	07:40 - 08:00	30	0	D		65		5850	
3	I-880	NB	Montague Expwy	Great Mall Pkwy	0.98	3	3	0	08:40 - 09:00	24	0	C		66		4760	
2	I-880	NB	Great Mall Pkwy	SR 237	0.72	3	3	0	07:20 - 07:40	22	0	C		66		4360	
1	I-880	NB	SR 237	Dixon Landing	1.99	4	3	1	07:20 - 07:40	19	15	C	B	66	67	4270	1010
32	SR 17	SB	I-280	Hamilton Ave	1.61	3	3	0	07:40 - 08:00	27	0	D		66		5310	
33	SR 17	SB	Hamilton Ave	San Tomas Expwy / Camden Ave	1.82	3	3	0	07:40 - 08:00	17	0	B		67		3850	

**Table 3.7 | 2013 Freeway LOS – AM Peak Period**

ID	Facility	Dir	From/To	From/To	Miles	Number of Lanes			Peak Photo Time	Max Density		LOS (Density)		Speed		Flow	
						Total	Mixed	HOV		Mixed	HOV	Mixed	HOV	Mixed	HOV		
34	SR 17	SB	San Tomas Expwy / Camden Ave	SR 85	1.17	3	3	0	07:40 - 08:00	21	0	C		66		4160	
35	SR 17	SB	SR 85	Lark Ave	0.46	2	2	0	07:40 - 08:00	28	0	D		66		3670	
36	SR 17	SB	Lark Ave	Saratoga Ave	1.81	2	2	0	09:00 - 09:20	33	0	D		64		4230	
37	SR 17	SB	Saratoga Ave	Bear Creek Rd	2.90	2	2	0	08:40 - 09:00	16	0	B		67		2130	
38	SR 17	SB	Bear Creek Rd	Summit Rd	4.06	2	2	0	07:40 - 08:00	27	0	D		66		3540	
185	SR 85	SB	US 101	Central Expwy	1.24	3	2	1	08:40 - 09:00	18	7	B	A	67	67	2400	470
186	SR 85	SB	Central Expwy	SR 237	0.47	3	2	1	08:00 - 08:20	18	3	B	A	67	67	2400	210
187	SR 85	SB	SR 237	EL Camino Real	0.41	4	3	1	08:00 - 08:20	29	12	D	B	65	67	4720	810
188	SR 85	SB	EL Camino Real	W. Fremont Ave	1.89	3	2	1	08:00 - 08:20	41	14	D	B	54	67	4430	940
189	SR 85	SB	W. Fremont Ave	W. Homestead Rd	1.00	3	2	1	08:20 - 08:40	31	7	D	A	65	67	4030	470
190	SR 85	SB	W. Homestead Rd	I-280	0.41	3	2	1	08:40 - 09:00	14	7	B	A	67	67	1870	470
191	SR 85	SB	I-280	Stevens Creek Blvd	0.75	3	2	1	08:40 - 09:00	13	6	B	A	67	67	2080	410
192	SR 85	SB	Stevens Creek Blvd	Saratoga-Sunnyvale Rd	1.83	3	2	1	08:40 - 09:00	18	7	B	A	67	67	2400	470
193	SR 85	SB	Saratoga-Sunnyvale Rd	Saratoga Ave	2.19	3	2	1	07:40 - 08:00	19	5	C	A	66	67	2510	340
194	SR 85	SB	Saratoga Ave	Winchester Blvd	2.68	3	2	1	08:20 - 08:40	24	4	C	A	66	67	3170	270
195	SR 85	SB	Winchester Blvd	SR 17	0.50	3	2	1	08:00 - 08:20	17	4	B	A	67	67	2270	270
196	SR 85	SB	SR 17	S. Bascom Ave	0.27	3	2	1	07:20 - 07:40	11	7	A	A	67	67	1480	470
197	SR 85	SB	S. Bascom Ave	Union Ave	1.13	3	2	1	08:40 - 09:00	25	6	C	A	66	67	3300	410
198	SR 85	SB	Union Ave	Camden Ave	1.17	3	2	1	07:40 - 08:00	27	5	D	A	66	67	3540	340
199	SR 85	SB	Camden Ave	Almaden Expwy	1.97	3	2	1	08:20 - 08:40	25	10	C	A	66	67	3300	670
200	SR 85	SB	Almaden Expwy	SR 87	0.94	3	2	1	08:00 - 08:20	19	5	C	A	66	67	2510	340
201	SR 85	SB	SR 87	Blossom Hill Rd	1.27	3	2	1	07:40 - 08:00	20	5	C	A	66	67	2640	340
202	SR 85	SB	Blossom Hill Rd	Cottle Rd	1.96	3	2	1	08:20 - 08:40	26	11	C	A	66	67	3440	740
203	SR 85	SB	Cottle Rd	US 101	1.79	3	2	1	08:00 - 08:20	20	3	C	A	66	67	2640	210
419	SR 87	SB	US 101	Skyport Dr	0.67	3	2	1	07:40 - 08:00	22	12	C	B	66	67	2910	810
417	SR 87	SB	Skyport Dr	Taylor St	1.87	3	2	1	08:40 - 09:00	12	2	B	A	67	67	1600	140
415	SR 87	SB	Taylor St	Coleman St	0.41	3	2	1	08:00 - 08:20	30	12	D	B	65	67	3900	810
69	SR 87	SB	Coleman Ave	Julian St	0.38	3	2	1	07:40 - 08:00	30	5	D	A	65	67	3900	340

**Table 3.7 | 2013 Freeway LOS – AM Peak Period**

ID	Facility	Dir	From/To	From/To	Miles	Number of Lanes			Peak Photo Time	Max Density		LOS (Density)		Speed		Flow	
						Total	Mixed	HOV		Mixed	HOV	Mixed	HOV	Mixed	HOV		
68	SR 87	SB	Julian St	I-280	0.96	3	2	1	07:20 - 07:40	19	5	C	A	66	67	2510	340
67	SR 87	SB	I-280	Alma Ave	0.90	3	2	1	08:00 - 08:20	15	6	B	A	67	67	2000	410
66	SR 87	SB	Alma Ave	Almaden Ave	0.69	3	2	1	07:20 - 07:40	27	9	D	A	66	67	3540	610
65	SR 87	SB	Almaden Ave	Curtner Ave	0.73	3	2	1	07:00 - 07:20	20	12	C	B	66	67	2640	810
64	SR 87	SB	Curtner Ave	Capitol Expwy	1.49	3	2	1	07:00 - 07:20	19	6	C	A	66	67	2510	410
63	SR 87	SB	Capitol Expwy	SR 85	1.09	3	2	1	08:00 - 08:20	25	9	C	A	66	67	3300	610
275	US 101	SB	Embarcadero Rd	Oregon Expwy	0.15	4	3	1	08:20 - 08:40	65	61	F	F	29	32	5660	1960
274	US 101	SB	Oregon Expwy	San Antonio Ave	1.85	4	3	1	08:20 - 08:40	48	41	E	D	45	54	6480	2220
273	US 101	SB	San Antonio Ave	Rengstorff Ave	0.71	4	3	1	07:40 - 08:00	30	25	D	C	65	66	5850	1650
272	US 101	SB	Rengstorff Ave	N. Shoreline Blvd	1.01	4	3	1	09:00 - 09:20	36	32	D	D	61	64	6590	2050
271	US 101	SB	N. Shoreline Blvd	SR 85	0.38	4	3	1	08:20 - 08:40	34	32	D	D	63	64	6430	2050
270	US 101	SB	SR 85	Moffett Blvd	0.33	4	3	1	06:20 - 06:40	33	15	D	B	64	67	6340	1010
269	US 101	SB	Moffett Blvd	SR 237	1.68	4	3	1	07:40 - 08:00	31	20	D	C	65	66	6050	1320
268	US 101	SB	SR 237	N. Mathilda Ave	0.35	4	3	1	08:20 - 08:40	32	14	D	B	64	67	6150	940
267	US 101	SB	N. Mathilda Ave	N. Fair Oaks Ave	0.85	4	3	1	07:40 - 08:00	27	16	D	B	66	67	5310	1080
266	US 101	SB	N. Fair Oaks Ave	Lawrence Expwy	0.98	4	3	1	08:20 - 08:40	27	19	D	C	66	66	5310	1260
265	US 101	SB	Lawrence Expwy	Bower Ave / Great American Pkwy	1.12	4	3	1	08:20 - 08:40	35	16	D	B	62	67	6510	1080
264	US 101	SB	Bower Ave / Great American Pkwy	Montaque Expwy / Santa Tomas Expwy	0.75	4	3	1	08:20 - 08:40	25	10	C	A	66	67	4950	670
263	US 101	SB	Montaque Expwy / Santa Tomas Expwy	De La Cruz Blvd	1.28	4	3	1	07:40 - 08:00	23	9	C	A	66	67	4560	610
262	US 101	SB	De La Cruz Blvd	Guadalupe Pkwy	0.77	4	3	1	08:20 - 08:40	28	7	D	A	66	67	5510	470
261	US 101	SB	Guadalupe Pkwy	N. First St	0.64	4	3	1	07:40 - 08:00	18	8	B	A	67	67	3600	540
260	US 101	SB	N. First St	Old Bayshore Hwy	0.49	4	3	1	06:20 - 06:40	15	6	B	A	67	67	3000	410
259	US 101	SB	Old Bayshore Hwy	I-880	0.50	4	3	1	06:40 - 07:00	10	4	A	A	67	67	2010	270
258	US 101	SB	I-880	Oakland Rd	0.57	4	3	1	07:40 - 08:00	16	5	B	A	67	67	3200	340
257	US 101	SB	Oakland Rd	McKee Rd	1.58	4	3	1	07:00 - 07:20	22	5	C	A	66	67	4360	340
256	US 101	SB	McKee Rd	Santa Clara St	0.39	4	3	1	07:20 - 07:40	20	12	C	B	66	67	3960	810

**Table 3.7 | 2013 Freeway LOS – AM Peak Period**

ID	Facility	Dir	From/To	From/To	Miles	Number of Lanes			Peak Photo Time	Max Density		LOS (Density)		Speed		Flow	
						Total	Mixed	HOV		Mixed	HOV	Mixed	HOV	Mixed	HOV		
255	US 101	SB	Santa Clara St	I-280	0.88	4	3	1	07:20 - 07:40	19	4	C	A	66	67	3770	270
254	US 101	SB	I-280	Story Rd	0.38	4	3	1	07:40 - 08:00	12	2	B	A	67	67	2400	140
253	US 101	SB	Story Rd	Tully Rd	1.46	4	3	1	08:20 - 08:40	46	4	D	A	47	67	6490	270
252	US 101	SB	Tully Rd	Capitol Expwy	1.33	4	3	1	07:40 - 08:00	30	10	D	A	65	67	5850	670
251	US 101	SB	Capitol Expwy	Yerba Buena Rd	0.80	4	3	1	08:20 - 08:40	24	6	C	A	66	67	4760	410
250	US 101	SB	Yerba Buena Rd	Hellyer Ave	0.90	4	3	1	09:00 - 09:20	24	11	C	A	66	67	4760	740
249	US 101	SB	Hellyer Ave	Silver Creek Valley Rd	1.84	4	3	1	07:40 - 08:00	22	7	C	A	66	67	4360	470
248	US 101	SB	Silver Creek Valley Rd	Bernal Rd	1.48	4	3	1	07:40 - 08:00	15	21	B	C	67	66	3000	1390
247	US 101	SB	Bernal Rd	SR 85	0.20	4	3	1	06:20 - 06:40	19	15	C	B	66	67	3770	1010
246	US 101	SB	SR 85	Lane Drop (SB)	1.00	5	4	1	07:40 - 08:00	15	8	B	A	67	67	3990	540
245	US 101	SB	Lane Drop (SB)	Sheller Ave	4.32	4	3	1	07:40 - 08:00	17	12	B	B	67	67	3400	810
244	US 101	SB	Sheller Ave	Burnett Ave (Lane Drop)	2.57	4	3	1	07:40 - 08:00	22	11	C	A	66	67	4360	740
243	US 101	SB	Burnett Ave (Lane Drop)	Cochrane Rd	0.87	3	3	0	08:20 - 08:40	18	0	B		67		3600	
242	US 101	SB	Cochrane Rd	East Dunne Ave	1.82	3	3	0	07:40 - 08:00	16	0	B		67		3200	
275.01	US 101	SB	East Dunne Ave	Tennant Ave	0.96	3	3	0	07:40 - 08:00	17	0	B		67		3400	
275.02	US 101	SB	Tennant Ave	San Martin Ave	3.55	3	3	0	08:20 - 08:40	14	0	B		67		2800	
275.03	US 101	SB	San Martin Ave	Masten Ave	2.17	3	3	0	07:20 - 07:40	12	0	B		67		2400	
275.04	US 101	SB	Masten Ave	Buena Vista Ave	1.16	3	3	0	08:20 - 08:40	12	0	B		67		2400	
275.05	US 101	SB	Buena Vista Ave	Leavesley Rd	1.60	3	3	0	07:40 - 08:00	13	0	B		67		2600	
275.06	US 101	SB	Leavesley Rd	Pacheco Pass Hwy	1.46	3	3	0	09:20 - 09:40	12	0	B		67		2400	
275.07	US 101	SB	Pacheco Pass Hwy	Monterey Rd	1.11	3	3	0	07:40 - 08:00	10	0	A		67		2010	
275.08	US 101	SB	Monterey Rd	Bloomfield Ave	1.85	2	2	0	08:20 - 08:40	14	0	B		67		1870	
275.09	US 101	SB	Bloomfield Ave	Betabel Rd	4.15	2	2	0	07:40 - 08:00	13	0	B		67		1730	
275.1	US 101	SB	Betabel Rd	SR 129	1.61	2	2	0	07:40 - 08:00	15	0	B		67		2000	
275.11	US 101	SB	SR 129	SR 156	1.78	2	2	0	07:20 - 07:40	10	0	A		67		1340	

**Table 3.7 | 2013 Freeway LOS – AM Peak Period**

ID	Facility	Dir	From/To	From/To	Miles	Number of Lanes			Peak Photo Time	Max Density		LOS (Density)		Speed		Flow	
						Total	Mixed	HOV		Mixed	HOV	Mixed	HOV	Mixed	HOV		
89	SR 237	WB	I-880	McCarthy Blvd	0.40	3	2	1	07:20 - 07:40	116	66	F	F	10	29	2320	1920
90	SR 237	WB	McCarthy Blvd	Zanker Rd	0.94	3	2	1	08:00 - 08:20	108	50	F	E	12	42	3120	2100
91	SR 237	WB	Zanker Rd	N. 1st St	1.61	3	2	1	07:40 - 08:00	56	35	E	D	36	62	4040	2170
92	SR 237	WB	N. 1st St	Great America Pkwy	1.00	3	2	1	07:40 - 08:00	39	32	D	D	57	64	4450	2050
93	SR 237	WB	Great America Pkwy	Lawrence Expwy	1.27	3	2	1	07:20 - 07:40	28	29	D	D	66	65	3670	1890
94	SR 237	WB	Lawrence Expwy	N. Fair Oaks Ave	0.63	3	2	1	07:20 - 07:40	54	58	E	E	38	35	4110	2030
95	SR 237	WB	N. Fair Oaks Ave	Mathilda Ave	0.96	3	3	0	07:40 - 08:00	86	0	F		19		4910	
96	SR 237	WB	Mathilda Ave	US 101	0.53	2	2	0	07:20 - 07:40	42	0	D		52		4370	
97	SR 237	WB	US 101	Maude Ave	0.71	2	2	0	09:00 - 09:20	32	0	D		64		4100	
98	SR 237	WB	Maude Ave	Central Pkwy	0.80	2	2	0	08:20 - 08:40	28	0	D		66		3670	
99	SR 237	WB	Central Pkwy	SR 85	0.63	2	2	0	09:20 - 09:40	18	0	B		67		2400	
100	SR 237	WB	SR 85	El Camino Real	0.40	2	2	0	08:20 - 08:40	23	0	C		66		3040	
130	I-280	WB	US 101	McLaughlin Ave	0.37	4	4	0	08:40 - 09:00	96	0	F		15		5760	
129	I-280	WB	McLaughlin Ave	10th St	0.92	4	4	0	07:40 - 08:00	87	0	F		18		6270	
128	I-280	WB	10th St	SR 87	1.20	4	4	0	07:20 - 07:40	71	0	F		26		7390	
127	I-280	WB	SR 87	Bird Ave	0.35	4	4	0	07:40 - 08:00	115	0	F		10		4600	
126	I-280	WB	Bird Ave	Meridian Ave	1.07	4	4	0	07:00 - 07:20	117	0	F		10		4680	
125	I-280	WB	Meridian Ave	I-880	1.40	4	3	1	07:00 - 07:20	109	42	F	D	12	52	4450	2190
124	I-280	WB	I-880	Winchester Blvd	0.55	4	3	1	07:20 - 07:40	112	54	F	E	11	38	3700	2060
123	I-280	WB	Winchester Blvd	Saratoga Ave	1.37	4	3	1	07:20 - 07:40	74	71	F	F	24	26	5330	1850
122	I-280	WB	Saratoga Ave	Lawrence Expwy	1.19	4	3	1	07:40 - 08:00	94	66	F	F	16	29	4520	1920
121	I-280	WB	Lawrence Expwy	Wolfe Rd	1.24	4	3	1	07:20 - 07:40	70	53	F	E	26	39	5460	2070
120	I-280	WB	Wolfe Rd	De Anza Blvd	1.06	4	3	1	08:20 - 08:40	55	39	E	D	37	57	6110	2230
119	I-280	WB	De Anza Blvd	SR 85	1.31	4	3	1	08:40 - 09:00	83	34	F	D	20	63	4980	2150
118	I-280	WB	SR 85	Foothill Expwy	0.70	4	3	1	08:20 - 08:40	84	61	F	F	19	32	4790	1960
117	I-280	WB	Foothill Expwy	Magdalena Ave	2.65	4	3	1	08:20 - 08:40	37	43	D	D	59	51	6550	2200
116	I-280	WB	Magdalena Ave	El Monte Rd	0.95	4	4	0	09:20 - 09:40	44	0	D		50		8800	
115	I-280	WB	El Monte Rd	La BARRANCA Rd	1.60	4	4	0	09:20 - 09:40	45	0	D		48		8640	



**Table 3.7 | 2013 Freeway LOS – AM Peak Period**

ID	Facility	Dir	From/To	From/To	Miles	Number of Lanes			Peak Photo Time	Max Density		LOS (Density)		Speed		Flow	
						Total	Mixed	HOV		Mixed	HOV	Mixed	HOV	Mixed	HOV		
114	I-280	WB	La Barranca Rd	Page Mill Rd	1.73	4	4	0	07:40 - 08:00	30	0	D		65		7800	
113.1	I-280	WB	Page Mill Rd	Alpine Rd	2.25	4	4	0	08:20 - 08:40	21	0	C		66		5550	
50	I-680	SB	Scott Creek Rd	Jacklin Rd	1.57	4	3	1	08:00 - 08:20	23	17	C	B	66	67	4560	1140
49	I-680	SB	Jacklin Rd	Calaveras Blvd / SR 237	0.85	4	3	1	07:40 - 08:00	25	10	C	A	66	67	4950	670
48	I-680	SB	Calaveras Blvd / SR 237	Yosemite Dr	0.69	4	4	0	09:40 - 10:00	32	0	D		64		8200	
47	I-680	SB	Yosemite Dr	Montague Expwy	0.77	4	4	0	09:40 - 10:00	39	0	D		57		8900	
46	I-680	SB	Montague Expwy	Capitol Ave	1.00	4	4	0	08:00 - 08:20	22	0	C		66		5810	
45	I-680	SB	Capitol Ave	Hostetter Rd	0.31	4	4	0	07:20 - 07:40	22	0	C		66		5810	
44	I-680	SB	Hostetter Rd	Berryessa Rd	0.94	4	4	0	07:40 - 08:00	19	0	C		66		5020	
43	I-680	SB	Berryessa Rd	McKee Rd	1.47	4	4	0	09:40 - 10:00	21	0	C		66		5550	
42	I-680	SB	McKee Rd	Alum Rock Ave	0.64	4	4	0	08:20 - 08:40	26	0	C		66		6870	
41	I-680	SB	Alum Rock Ave	Capitol Expwy	0.31	4	4	0	08:40 - 09:00	54	0	E		38		8210	
40	I-680	SB	Capitol Expwy	King Rd	1.00	4	4	0	08:00 - 08:20	82	0	F		20		7220	
39	I-680	SB	King Rd	US 101	0.40	4	4	0	07:40 - 08:00	96	0	F		15		5760	
13	I-880	SB	Dixon Landing	SR 237	1.99	4	3	1	09:40 - 10:00	54	50	E	E	38	42	6980	2100
14	I-880	SB	SR 237	Great Mall Pkwy	0.72	3	3	0	07:20 - 07:40	25	0	C		66		4950	
15	I-880	SB	Great Mall Pkwy	Montague Expwy	0.98	3	3	0	07:40 - 08:00	33	0	D		64		6340	
16	I-880	SB	Montague Expwy	E. Brokaw Rd	1.35	3	3	0	06:40 - 07:00	29	0	D		65		5660	
17	I-880	SB	E. Brokaw Rd	US 101	1.29	3	3	0	08:40 - 09:00	50	0	E		42		6300	
18	I-880	SB	US 101	N. 1st ST	0.49	3	3	0	08:00 - 08:20	84	0	F		19		4790	
19	I-880	SB	N. 1st ST	SR 87	0.40	3	3	0	08:40 - 09:00	70	0	F		26		5460	
20	I-880	SB	SR 87	Coleman Ave	0.51	3	3	0	08:00 - 08:20	32	0	D		64		6150	
21	I-880	SB	Coleman Ave	The Alameda	0.59	3	3	0	07:20 - 07:40	34	0	D		63		6430	
22	I-880	SB	The Alameda	N. Bascom Ave	0.82	3	3	0	07:20 - 07:40	39	0	D		57		6670	
23	I-880	SB	N. Bascom Ave	Stevens Creek Blvd	0.84	3	3	0	07:20 - 07:40	53	0	E		39		6210	
24	I-880	SB	Stevens Creek Blvd	I-280	0.41	3	3	0	07:40 - 08:00	29	0	D		65		5660	

**Table 3.8 | 2013 Freeway LOS – PM Peak Period**

ID	Facility	Dir	From/To	From/To	Miles	Number of Lanes			Peak Photo Time	Max Density		LOS (Density)		Speed		Flow	
						Total	Mixed	HOV		Mixed	HOV	Mixed	HOV	Mixed	HOV		
31	SR 17	NB	Summit Rd	Bear Creek rd	4.06	2	2	0	15:20 - 15:40	24	0	C		66		3170	
30	SR 17	NB	Bear Creek Rd	Saratoga Ave	2.90	2	2	0	16:40 - 17:00	37	0	D		59		4370	
29	SR 17	NB	Saratoga Ave	Lark Ave	1.81	2	2	0	17:00 - 17:20	30	0	D		65		3900	
28	SR 17	NB	Lark Ave	SR 85	0.46	2	2	0	16:40 - 17:00	27	0	D		66		3540	
27	SR 17	NB	SR 85	San Tomas Expwy / Camden Ave	1.17	3	3	0	16:40 - 17:00	17	0	B		67		3400	
26	SR 17	NB	San Tomas Expwy / Camden Ave	Hamilton Ave	1.82	3	3	0	17:00 - 17:20	27	0	D		66		5310	
25	SR 17	NB	Hamilton Ave	I-280	1.61	3	3	0	17:00 - 17:20	24	0	C		66		4760	
184	SR 85	NB	US 101	Cottle Rd	1.79	3	2	1	17:00 - 17:20	22	6	C	A	66	70	2910	420
183	SR 85	NB	Cottle Rd	Blossom Hill Rd	1.96	3	2	1	17:20 - 17:40	31	9	D	A	65	70	4030	630
182	SR 85	NB	Blossom Hill Rd	SR 87	1.27	3	2	1	17:20 - 17:40	31	10	D	A	65	70	4030	700
181	SR 85	NB	SR 87	Almaden Expwy	0.94	3	2	1	17:40 - 18:00	30	12	D	B	65	70	3900	840
180	SR 85	NB	Almaden Expwy	Camden Ave	1.97	3	2	1	15:40 - 16:00	28	12	D	B	66	70	3670	840
179	SR 85	NB	Camden Ave	Union Ave	1.17	3	2	1	15:20 - 15:40	31	11	D	A	65	70	4030	770
178	SR 85	NB	Union Ave	S. Bascom Ave	1.13	3	2	1	15:40 - 16:00	24	7	C	A	66	70	3170	490
177	SR 85	NB	S. Bascom Ave	SR 17	0.27	3	2	1	17:00 - 17:20	14	3	B	A	67	70	1870	210
176	SR 85	NB	SR 17	Winchester Blvd	0.50	3	2	1	16:40 - 17:00	20	18	C	B	66	70	2640	1260
175	SR 85	NB	Winchester Blvd	Saratoga Ave	2.68	3	2	1	17:40 - 18:00	30	8	D	A	65	70	3900	560
174	SR 85	NB	Saratoga Ave	Saratoga-Sunnyvale Rd	2.19	3	2	1	17:20 - 17:40	20	6	C	A	66	70	2640	420
173	SR 85	NB	Saratoga-Sunnyvale Rd	Stevens Creek Blvd	1.83	3	2	1	17:20 - 17:40	25	5	C	A	66	70	3300	350
172	SR 85	NB	Stevens Creek Blvd	I-280	0.75	3	2	1	16:40 - 17:00	10	4	A	A	67	70	1340	280
171	SR 85	NB	I-280	W. Homestead Rd	0.34	3	2	1	17:40 - 18:00	25	7	C	A	66	70	3960	490
170	SR 85	NB	W. Homestead Rd	W. Fremont Ave	1.00	3	2	1	15:40 - 16:00	29	10	D	A	65	70	3770	700
169	SR 85	NB	W. Fremont Ave	EL Camino Real	1.89	3	2	1	15:20 - 15:40	25	7	C	A	66	70	3300	490
168	SR 85	NB	EL Camino Real	SR 237	0.41	3	2	1	18:20 - 18:40	26	9	C	A	66	70	3440	630
167	SR 85	NB	SR 237	Central Expwy	0.47	3	2	1	17:40 - 18:00	20	5	C	A	66	70	2640	350
166	SR 85	NB	Central Expwy	US 101	1.24	3	2	1	17:20 - 17:40	17	6	B	A	67	70	2270	420

**Table 3.8 | 2013 Freeway LOS – PM Peak Period**

ID	Facility	Dir	From/To	From/To	Miles	Number of Lanes			Peak Photo Time	Max Density		LOS (Density)		Speed		Flow	
						Total	Mixed	HOV		Mixed	HOV	Mixed	HOV	Mixed	HOV		
70	SR 87	NB	SR 85	Capitol Expwy	1.09	3	2	1	18:00 - 18:20	27	10	D	A	66	70	3540	700
71	SR 87	NB	Capitol Expwy	Curtner Ave	1.49	3	2	1	17:40 - 18:00	25	9	C	A	66	70	3300	630
72	SR 87	NB	Curtner Ave	Almaden Rd	0.73	3	2	1	17:40 - 18:00	26	10	C	A	66	70	3440	700
73	SR 87	NB	Almaden Ave	Alma Ave	0.69	3	2	1	17:20 - 17:40	50	12	E	B	42	70	4200	840
74	SR 87	NB	Alma Ave	I-280	0.90	3	2	1	17:40 - 18:00	33	8	D	A	64	70	4230	560
75	SR 87	NB	I-280	Julian St	0.96	3	2	1	16:00 - 16:20	14	8	B	A	67	70	1870	560
76	SR 87	NB	Julian St	Coleman Ave	0.38	3	2	1	17:20 - 17:40	26	7	C	A	66	70	3440	490
414	SR 87	NB	Coleman Ave	Taylor St	0.41	3	2	1	17:20 - 17:40	28	7	D	A	66	70	3670	490
416	SR 87	NB	Taylor St	Skyport Dr	1.87	3	2	1	17:40 - 18:00	17	6	B	A	67	70	2270	420
418	SR 87	NB	Skyport Dr	US 101	0.67	3	2	1	17:40 - 18:00	20	4	C	A	66	70	2640	280
309.11	US 101	NB	SR 156	SR 129	1.78	2	2	0	15:40 - 16:00	13	0	B		67		1730	
309.1	US 101	NB	SR 129	Betabel Rd	1.61	2	2	0	15:40 - 16:00	18	0	B		67		2400	
309.09	US 101	NB	Betabel Rd	Bloomfield Ave	4.15	2	2	0	17:20 - 17:40	15	0	B		67		2000	
309.08	US 101	NB	Bloomfield Ave	Monterey Rd	1.85	2	2	0	15:40 - 16:00	25	0	C		66		3300	
309.07	US 101	NB	Monterey Rd	Pacheco Pass Hwy	1.11	3	3	0	16:40 - 17:00	29	0	D		65		5660	
309.06	US 101	NB	Pacheco Pass Hwy	Leavesley Rd	1.46	3	3	0	15:40 - 16:00	14	0	B		67		2800	
309.05	US 101	NB	Leavesley Rd	Buena Vista Ave	1.60	3	3	0	15:40 - 16:00	15	0	B		67		3000	
309.04	US 101	NB	Buena Vista Ave	Masten Ave	1.16	3	3	0	17:20 - 17:40	20	0	C		66		3960	
309.03	US 101	NB	Masten Ave	San Martin Ave	2.17	3	3	0	17:20 - 17:40	20	0	C		66		3960	
309.02	US 101	NB	San Martin Ave	Tennant Ave	3.55	3	3	0	17:20 - 17:40	19	0	C		66		3770	
309.01	US 101	NB	Tennant Ave	East Dunne Ave	0.96	3	3	0	18:20 - 18:40	19	0	C		66		3770	
276	US 101	NB	East Dunne Ave	Cochrane Rd	1.82	3	3	0	17:00 - 17:20	22	0	C		66		4360	
277	US 101	NB	Cochrane Rd	Burnett Ave (Lane Drop)	0.87	4	3	1	17:20 - 17:40	21	8	C	A	66	70	4160	560
278	US 101	NB	Burnett Ave (Lane Drop)	Sheller Ave	2.57	4	3	1	16:20 - 16:40	18	11	B	A	67	70	3600	770

**Table 3.8 | 2013 Freeway LOS – PM Peak Period**

ID	Facility	Dir	From/To	From/To	Miles	Number of Lanes			Peak Photo Time	Max Density		LOS (Density)		Speed		Flow	
						Total	Mixed	HOV		Mixed	HOV	Mixed	HOV	Mixed	HOV		
279	US 101	NB	Sheller Ave	Lane Drop (SB)	4.32	4	3	1	17:00 - 17:20	17	8	B	A	67	70	3400	560
280	US 101	NB	Lane Drop (SB)	SR 85	1.00	4	3	1	15:40 - 16:00	19	8	C	A	66	70	3770	560
281	US 101	NB	SR 85	Bernal Rd	0.20	4	3	1	17:00 - 17:20	16	15	B	B	67	70	3200	1050
282	US 101	NB	Bernal Rd	Silver Creek Valley Rd	1.48	4	3	1	17:20 - 17:40	16	14	B	B	67	70	3200	980
283	US 101	NB	Silver Creek Valley Rd	Hellyer Ave	1.84	4	3	1	17:00 - 17:20	22	5	C	A	66	70	4360	350
284	US 101	NB	Hellyer Ave	Yerba Buena Rd	0.90	4	3	1	17:00 - 17:20	31	9	D	A	65	70	6050	630
285	US 101	NB	Yerba Buena Rd	Capitol Expwy	0.80	4	3	1	17:20 - 17:40	19	8	C	A	66	70	3770	560
286	US 101	NB	Capitol Expwy	Tully Rd	1.33	4	3	1	16:40 - 17:00	29	10	D	A	65	70	5660	700
287	US 101	NB	Tully Rd	Story Rd	1.46	4	3	1	17:20 - 17:40	26	8	C	A	66	70	5150	560
288	US 101	NB	Story Rd	I-280	0.38	4	3	1	17:20 - 17:40	15	7	B	A	67	70	3000	490
289	US 101	NB	I-280	Santa Clara St	0.88	4	3	1	15:20 - 15:40	20	9	C	A	66	70	3960	630
290	US 101	NB	Santa Clara St	McKee Rd	0.39	4	3	1	15:20 - 15:40	22	7	C	A	66	70	4360	490
291	US 101	NB	McKee Rd	Oakland Rd	1.58	4	3	1	15:20 - 15:40	19	6	C	A	66	70	3770	420
292	US 101	NB	Oakland Rd	I-880	0.57	4	3	1	15:20 - 15:40	15	8	B	A	67	70	3000	560
293	US 101	NB	I-880	Old Bayshore Hwy	0.50	4	3	1	15:40 - 16:00	15	8	B	A	67	70	3000	560
294	US 101	NB	Old Bayshore Hwy	N. First St	0.49	4	3	1	17:00 - 17:20	22	18	C	B	66	70	4360	1260
295	US 101	NB	N. First St	Guadalupe Pkwy	0.64	4	3	1	17:00 - 17:20	14	9	B	A	67	70	2800	630
296	US 101	NB	Guadalupe Pkwy	De La Cruz Blvd	0.77	4	3	1	17:00 - 17:20	22	9	C	A	66	70	4360	630
297	US 101	NB	De La Cruz Blvd	Montague Expwy / Santa Tomas Expwy	1.28	4	3	1	17:00 - 17:20	30	7	D	A	65	70	5850	490
298	US 101	NB	Montague Expwy / Santa Tomas Expwy	Bower Ave / Great America Pkwy	0.75	4	3	1	17:00 - 17:20	32	14	D	B	64	70	6150	980
299	US 101	NB	Bower Ave / Great American Pkwy	Lawrence Expwy	1.12	4	3	1	17:20 - 17:40	39	14	D	B	57	70	6670	980
300	US 101	NB	Lawrence Expwy	N. Fair Oaks Ave	0.98	4	3	1	17:00 - 17:20	29	22	D	C	65	70	5660	1540
301	US 101	NB	N. Fair Oaks Ave	N. Mathilda Ave	0.85	4	3	1	16:40 - 17:00	30	17	D	B	65	70	5850	1190
302	US 101	NB	N. Mathilda Ave	SR 237	0.35	4	3	1	15:20 - 15:40	22	17	C	B	66	70	4360	1190
303	US 101	NB	SR 237	Moffett Blvd	1.68	4	3	1	17:20 - 17:40	78	38	F	D	22	60	5150	2280
304	US 101	NB	Moffett Blvd	SR 85	0.33	4	3	1	17:20 - 17:40	97	38	F	D	15	60	4370	2280
305	US 101	NB	SR 85	N. Shoreline Blvd	0.38	5	4	1	16:40 - 17:00	84	20	F	C	19	70	6390	1400

**Table 3.8 | 2013 Freeway LOS – PM Peak Period**

ID	Facility	Dir	From/To	From/To	Miles	Number of Lanes			Peak Photo Time	Max Density		LOS (Density)		Speed		Flow	
						Total	Mixed	HOV		Mixed	HOV	Mixed	HOV	Mixed	HOV	Mixed	HOV
306	US 101	NB	N. Shoreline Blvd	Rengstorff Ave	1.01	4	3	1	18:00 - 18:20	116	55	F	E	10	40	3480	2200
307	US 101	NB	Rengstorff Ave	San Antonio Ave	0.71	4	3	1	16:40 - 17:00	76	54	F	E	23	40	5250	2160
308	US 101	NB	San Antonio Ave	Oregon Expwy	1.85	4	3	1	18:00 - 18:20	53	38	E	D	39	60	6210	2280
309	US 101	NB	Oregon Expwy	Embarcadero Rd	0.15	4	3	1	17:00 - 17:20	31	38	D	D	65	60	6050	2280
88	SR 237	EB	El Camino Real	SR 85	0.40	2	2	0	17:20 - 17:40	16	0	B		67		2130	
87	SR 237	EB	SR 85	Central Pkwy	0.63	2	2	0	15:40 - 16:00	22	0	C		66		2910	
86	SR 237	EB	Central Pkwy	Maude Ave	0.80	2	2	0	15:20 - 15:40	20	0	C		66		2640	
85	SR 237	EB	Maude Ave	US 101	0.71	2	2	0	17:00 - 17:20	14	0	B		67		1870	
84	SR 237	EB	US 101	Mathilda Ave	0.53	2	2	0	17:40 - 18:00	52	0	E		40		4160	
83	SR 237	EB	Mathilda Ave	N. Fair Oaks Ave	0.96	3	2	1	17:40 - 18:00	73	22	F	C	25	70	3650	1540
82	SR 237	EB	N. Fair Oaks Ave	Lawrence Expwy	0.63	3	2	1	17:20 - 17:40	94	25	F	C	16	70	3010	1750
81	SR 237	EB	Lawrence Expwy	Great America Pkwy	1.27	3	2	1	17:40 - 18:00	86	50	F	E	19	50	3270	2500
80	SR 237	EB	Great America Pkwy	N. First St	1.00	3	2	1	15:40 - 16:00	84	48	F	E	19	50	3200	2400
79	SR 237	EB	N. First St	Zanker Rd	1.61	3	2	1	17:40 - 18:00	70	37	F	D	26	60	3640	2220
78	SR 237	EB	Zanker Rd	McCarthy Blvd	0.94	3	2	1	17:40 - 18:00	34	31	D	D	63	70	4290	2170
77	SR 237	EB	McCarthy Blvd	I-880	0.40	3	2	1	15:40 - 16:00	126	54	F	E	8	40	2080	2160
130.	I-280	EB	Alpine Rd	Page Mill Rd	2.25	4	4	0	17:40 - 18:00	51	0	E		41		8370	
1																	
131	I-280	EB	Page Mill Rd	La Barranta Rd	1.73	4	4	0	16:40 - 17:00	72	0	F		25		7200	
132	I-280	EB	La Barranta Rd	El Monte Rd	1.60	4	4	0	17:40 - 18:00	77	0	F		23		7090	
133	I-280	EB	El Monte Rd	Magdalena Ave	0.95	4	4	0	17:40 - 18:00	80	0	F		21		6720	
134	I-280	EB	Magdalena Ave	Foothill Expwy	2.65	4	3	1	17:40 - 18:00	32	26	D	C	64	70	6150	1820
135	I-280	EB	Foothill Expwy	SR 85	0.70	4	3	1	17:40 - 18:00	33	11	D	A	64	70	6340	770
136	I-280	EB	SR 85	De Anza Blvd	1.31	4	3	1	17:40 - 18:00	79	29	F	D	22	70	5220	2030
137	I-280	EB	De Anza Blvd	Wolfe Rd	1.06	4	3	1	17:40 - 18:00	92	41	F	D	16	60	4420	2460
138	I-280	EB	Wolfe Rd	Lawrence Expwy	1.24	4	3	1	18:20 - 18:40	60	38	F	D	33	60	5940	2280
139	I-280	EB	Lawrence Expwy	Saratoga Ave	1.19	4	3	1	17:40 - 18:00	82	38	F	D	20	60	4920	2280
140	I-280	EB	Saratoga Ave	Winchester Blvd	1.37	4	3	1	17:40 - 18:00	52	35	E	D	40	70	6240	2450
141	I-280	EB	Winchester Blvd	I-880	0.55	4	3	1	17:40 - 18:00	80	58	F	E	21	40	5040	2320

**Table 3.8 | 2013 Freeway LOS – PM Peak Period**

ID	Facility	Dir	From/To	From/To	Miles	Number of Lanes			Peak Photo Time	Max Density		LOS (Density)		Speed		Flow	
						Total	Mixed	HOV		Mixed	HOV	Mixed	HOV	Mixed	HOV		
142	I-280	EB	I-880	Meridian Ave	1.40	4	3	1	17:40 - 18:00	88	62	F	F	18	40	4760	2480
143	I-280	EB	Meridian Ave	Bird Ave	1.07	4	4	0	17:40 - 18:00	85	0	F		19		6460	
144	I-280	EB	Bird Ave	SR 87	0.35	4	4	0	16:40 - 17:00	77	0	F		23		7090	
145	I-280	EB	SR 87	10th St	1.20	4	4	0	17:00 - 17:20	71	0	F		26		7390	
146	I-280	EB	10th St	McLaughlin Ave	0.92	4	4	0	17:00 - 17:20	42	0	D		52		8740	
147	I-280	EB	McLaughlin Ave	US 101	0.37	4	4	0	15:20 - 15:40	32	0	D		64		8200	
51	I-680	NB	US 101	King Rd	0.40	4	4	0	18:00 - 18:20	30	0	D		65		7800	
52	I-680	NB	King Rd	Capitol Expwy	1.00	4	4	0	17:40 - 18:00	28	0	D		66		7340	
53	I-680	NB	Capitol Expwy	Alum Rock Ave	0.31	4	4	0	15:40 - 16:00	24	0	C		66		6340	
54	I-680	NB	Alum Rock Ave	McKee Rd	0.64	4	4	0	17:00 - 17:20	22	0	C		66		5810	
55	I-680	NB	McKee Rd	Berryessa Rd	1.47	4	4	0	18:00 - 18:20	22	0	C		66		5810	
56	I-680	NB	Berryessa Rd	Hostetter Rd	0.94	4	4	0	16:00 - 16:20	19	0	C		66		5020	
57	I-680	NB	Hostetter Rd	Capitol Ave	0.31	4	4	0	16:00 - 16:20	16	0	B		67		4260	
58	I-680	NB	Capitol Ave	Montague Expwy	1.00	4	4	0	17:00 - 17:20	22	0	C		66		5810	
59	I-680	NB	Montague Expwy	Yosemite Dr	0.77	4	4	0	18:40 - 19:00	18	0	B		67		4790	
60	I-680	NB	Yosemite Dr	Calaveras Blvd / SR 237	0.69	4	4	0	16:20 - 16:40	22	0	C		66		5810	
61	I-680	NB	Calaveras Blvd / SR 237	Jacklin Rd	0.85	3	3	0	17:00 - 17:20	27	0	D		66		5310	
62	I-680	NB	Jacklin Rd	Scott Creek Rd	1.57	3	3	0	18:40 - 19:00	27	0	D		66		5310	
12	I-880	NB	I-280	Stevens Cr	0.41	3	3	0	17:20 - 17:40	21	0	C		66		4160	
11	I-880	NB	Stevens Cr	N. Bascom Ave	0.84	3	3	0	18:00 - 18:20	30	0	D		65		5850	
10	I-880	NB	N. Bascom Ave	The Alameda	0.82	3	3	0	15:40 - 16:00	37	0	D		59		6550	
9	I-880	NB	The Alameda	Coleman Ave	0.59	3	3	0	17:20 - 17:40	85	0	F		19		4850	
8	I-880	NB	Coleman Ave	SR 87	0.51	3	3	0	15:40 - 16:00	53	0	E		39		6210	
7	I-880	NB	SR 87	N. 1st ST	0.40	3	3	0	17:20 - 17:40	56	0	E		36		6050	
6	I-880	NB	N. 1st ST	US 101	0.49	3	3	0	17:20 - 17:40	42	0	D		52		6560	
5	I-880	NB	US 101	E. Brokaw Rd	1.29	3	3	0	15:40 - 16:00	28	0	D		66		5510	

**Table 3.8 | 2013 Freeway LOS – PM Peak Period**

ID	Facility	Dir	From/To	From/To	Miles	Number of Lanes			Peak Photo Time	Max Density		LOS (Density)		Speed		Flow	
						Total	Mixed	HOV		Mixed	HOV	Mixed	HOV	Mixed	HOV		
4	I-880	NB	E. Brokaw Rd	Montague Expwy	1.35	3	3	0	16:20 - 16:40	23	0	C		66		4560	
3	I-880	NB	Montague Expwy	Great Mall Pkwy	0.98	3	3	0	18:00 - 18:20	84	0	F		19		4790	
2	I-880	NB	Great Mall Pkwy	SR 237	0.72	3	3	0	17:20 - 17:40	92	0	F		16		4420	
1	I-880	NB	SR 237	Dixon Landing	1.99	4	3	1	18:00 - 18:20	98	67	F	F	15	30	5000	2010
32	SR 17	SB	I-280	Hamilton Ave	1.61	3	3	0	16:40 - 17:00	30	0	D		65		5850	
33	SR 17	SB	Hamilton Ave	San Tomas Expwy / Camden Ave	1.82	3	3	0	17:20 - 17:40	26	0	C		66		5840	
34	SR 17	SB	San Tomas Expwy / Camden Ave	SR 85	1.17	3	3	0	16:40 - 17:00	35	0	D		62		6510	
35	SR 17	SB	SR 85	Lark Ave	0.46	2	2	0	16:40 - 17:00	58	0	E		35		4060	
36	SR 17	SB	Lark Ave	Saratoga Ave	1.81	2	2	0	16:00 - 16:20	76	0	F		23		3500	
37	SR 17	SB	Saratoga Ave	Bear Creek Rd	2.90	2	2	0	17:00 - 17:20	44	0	D		50		4400	
38	SR 17	SB	Bear Creek Rd	Summit Rd	4.06	2	2	0	16:40 - 17:00	48	0	E		45		4320	
185	SR 85	SB	US 101	Central Expwy	1.24	3	2	1	17:20 - 17:40	63	25	F	C	31	70	3910	1750
186	SR 85	SB	Central Expwy	SR 237	0.47	3	2	1	17:00 - 17:20	99	35	F	D	14	70	2780	2450
187	SR 85	SB	SR 237	EL Camino Real	0.41	4	3	1	16:40 - 17:00	109	31	F	D	12	70	3270	2170
188	SR 85	SB	EL Camino Real	W. Fremont Ave	1.89	3	2	1	17:20 - 17:40	77	30	F	D	23	70	3550	2100
189	SR 85	SB	W. Fremont Ave	W. Homestead Rd	1.00	3	2	1	17:00 - 17:20	53	37	E	D	39	60	4140	2220
190	SR 85	SB	W. Homestead Rd	I-280	0.41	3	2	1	15:40 - 16:00	21	31	C	D	66	70	2780	2170
191	SR 85	SB	I-280	Stevens Creek Blvd	0.75	3	2	1	17:00 - 17:20	62	41	F	D	32	60	4770	2460
192	SR 85	SB	Stevens Creek Blvd	Saratoga-Sunnyvale Rd	1.83	3	2	1	17:00 - 17:20	79	41	F	D	22	60	3480	2460
193	SR 85	SB	Saratoga-Sunnyvale Rd	Saratoga Ave	2.19	3	2	1	17:20 - 17:40	70	36	F	D	26	70	3640	2520
194	SR 85	SB	Saratoga Ave	Winchester Blvd	2.68	3	2	1	17:40 - 18:00	51	31	E	D	41	70	4190	2170
195	SR 85	SB	Winchester Blvd	SR 17	0.50	3	2	1	17:40 - 18:00	84	26	F	C	19	70	3200	1820
196	SR 85	SB	SR 17	S. Bascom Ave	0.27	3	2	1	17:40 - 18:00	94	29	F	D	16	70	3010	2030
197	SR 85	SB	S. Bascom Ave	Union Ave	1.13	3	2	1	17:20 - 17:40	92	33	F	D	16	70	2950	2310
198	SR 85	SB	Union Ave	Camden Ave	1.17	3	2	1	17:40 - 18:00	55	29	E	D	37	70	4070	2030
199	SR 85	SB	Camden Ave	Almaden Expwy	1.97	3	2	1	17:40 - 18:00	49	28	E	D	43	70	4220	1960

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ID	Facility	Dir	From/To	From/To	Miles	Number of Lanes			Peak Photo Time	Max Density		LOS (Density)		Speed		Flow	
						Total	Mixed	HOV		Mixed	HOV	Mixed	HOV	Mixed	HOV		
200	SR 85	SB	Almaden Expwy	SR 87	0.94	3	2	1	17:20 - 17:40	25	23	C	C	66	70	3300	1610
201	SR 85	SB	SR 87	Blossom Hill Rd	1.27	3	2	1	17:40 - 18:00	51	25	E	C	41	70	4190	1750
202	SR 85	SB	Blossom Hill Rd	Cottle Rd	1.96	3	2	1	16:00 - 16:20	32	21	D	C	64	70	4100	1470
203	SR 85	SB	Cottle Rd	US 101	1.79	3	2	1	16:00 - 16:20	20	13	C	B	66	70	2640	910
419	SR 87	SB	US 101	Skyport Dr	0.67	3	2	1	16:40 - 17:00	28	20	D	C	66	70	3670	1400
417	SR 87	SB	Skyport Dr	Taylor St	1.87	3	2	1	17:40 - 18:00	83	14	F	B	20	70	3320	980
415	SR 87	SB	Taylor St	Coleman Ave	0.41	3	2	1	17:20 - 17:40	80	17	F	B	21	70	3360	1190
69	SR 87	SB	Coleman Ave	Julian St	0.38	3	2	1	17:40 - 18:00	61	52	F	E	32	40	3910	2080
68	SR 87	SB	Julian St	I-280	0.96	3	2	1	18:20 - 18:40	72	21	F	C	25	70	3600	1470
67	SR 87	SB	I-280	Alma Ave	0.90	3	2	1	17:40 - 18:00	90	40	F	D	17	60	3060	2400
66	SR 87	SB	Alma Ave	Almaden Rd	0.69	3	2	1	16:00 - 16:20	95	26	F	C	15	70	2850	1820
65	SR 87	SB	Almaden Rd	Curtner Ave	0.73	3	2	1	17:40 - 18:00	66	28	F	D	29	70	3830	1960
64	SR 87	SB	Curtner Ave	Capitol Expwy	1.49	3	2	1	16:00 - 16:20	44	22	D	C	50	70	4400	1540
63	SR 87	SB	Capitol Expwy	SR 85	1.09	3	2	1	16:20 - 16:40	28	15	D	B	66	70	3670	1050
275	US 101	SB	Embarcadero Rd	Oregon Expwy	0.15	4	3	1	16:40 - 17:00	84	55	F	E	19	40	4790	2200
274	US 101	SB	Oregon Expwy	San Antonio Ave	1.85	4	3	1	17:20 - 17:40	71	61	F	F	26	40	5540	2440
273	US 101	SB	San Antonio Ave	Rengstorff Ave	0.71	4	3	1	17:00 - 17:20	85	57	F	E	19	40	4850	2280
272	US 101	SB	Rengstorff Ave	N. Shoreline Blvd	1.01	4	3	1	16:20 - 16:40	48	33	E	D	45	70	6480	2310
271	US 101	SB	N. Shoreline Blvd	SR 85	0.38	4	3	1	16:40 - 17:00	30	19	D	C	65	70	5850	1330
270	US 101	SB	SR 85	Moffett Blvd	0.33	4	3	1	17:20 - 17:40	36	12	D	B	61	70	6590	840
269	US 101	SB	Moffett Blvd	SR 237	1.68	4	3	1	17:20 - 17:40	63	28	F	D	31	70	5860	1960
268	US 101	SB	SR 237	N. Mathilda Ave	0.35	4	3	1	16:20 - 16:40	35	37	D	D	62	60	6510	2220
267	US 101	SB	N. Mathilda Ave	N. Fair Oaks Ave	0.85	4	3	1	17:00 - 17:20	73	21	F	C	25	70	5480	1470
266	US 101	SB	N. Fair Oaks Ave	Lawrence Expwy	0.98	4	3	1	16:20 - 16:40	78	50	F	E	22	50	5150	2500
265	US 101	SB	Lawrence Expwy	Bower Ave / Great American Pkwy	1.12	4	3	1	17:00 - 17:20	102	94	F	F	13	20	3980	1880
264	US 101	SB	Bower Ave / Great American Pkwy	Montaque Expwy / Santa Tomas Expwy	0.75	4	3	1	17:00 - 17:20	96	84	F	F	15	20	4320	1680



**Table 3.8 | 2013 Freeway LOS – PM Peak Period**

ID	Facility	Dir	From/To	From/To	Miles	Number of Lanes			Peak Photo Time	Max Density		LOS (Density)		Speed		Flow	
						Total	Mixed	HOV		Mixed	HOV	Mixed	HOV	Mixed	HOV		
263	US 101	SB	Montague Expwy / Santa Tomas Expwy	De La Cruz Blvd	1.28	4	3	1	17:20 - 17:40	108	52	F	E	12	40	3890	2080
262	US 101	SB	De La Cruz Blvd	Guadalupe Pkwy	0.77	4	3	1	17:20 - 17:40	69	41	F	D	27	60	5590	2460
261	US 101	SB	Guadalupe Pkwy	N. First St	0.64	4	3	1	17:20 - 17:40	101	42	F	D	14	60	4250	2520
260	US 101	SB	N. First St	Old Bayshore Hwy	0.49	4	3	1	17:20 - 17:40	144	57	F	E	6	40	2600	2280
259	US 101	SB	Old Bayshore Hwy	I-880	0.50	4	3	1	17:20 - 17:40	125	52	F	E	8	40	3000	2080
258	US 101	SB	I-880	Oakland Rd	0.57	4	3	1	17:00 - 17:20	103	60	F	F	13	40	4020	2400
257	US 101	SB	Oakland Rd	McKee Rd	1.58	4	3	1	17:00 - 17:20	54	35	E	D	38	70	6160	2450
256	US 101	SB	McKee Rd	Santa Clara St	0.39	4	3	1	17:00 - 17:20	37	28	D	D	59	70	6550	1960
255	US 101	SB	Santa Clara St	I-280	0.88	4	3	1	16:40 - 17:00	35	20	D	C	62	70	6510	1400
254	US 101	SB	I-280	Story Rd	0.38	4	3	1	16:40 - 17:00	23	14	C	B	66	70	4560	980
253	US 101	SB	Story Rd	Tully Rd	1.46	4	3	1	17:20 - 17:40	37	21	D	C	59	70	6550	1470
252	US 101	SB	Tully Rd	Capitol Expwy	1.33	4	3	1	18:00 - 18:20	31	20	D	C	65	70	6050	1400
251	US 101	SB	Capitol Expwy	Yerba Buena Rd	0.80	4	3	1	16:40 - 17:00	25	12	C	B	66	70	4950	840
250	US 101	SB	Yerba Buena Rd	Hellyer Ave	0.90	4	3	1	17:00 - 17:20	32	20	D	C	64	70	6150	1400
249	US 101	SB	Hellyer Ave	Silver Creek Valley Rd	1.84	4	3	1	15:40 - 16:00	27	13	D	B	66	70	5310	910
248	US 101	SB	Silver Creek Valley Rd	Bernal Rd	1.48	4	3	1	16:20 - 16:40	19	35	C	D	66	70	3770	2450
247	US 101	SB	Bernal Rd	SR 85	0.20	4	3	1	15:20 - 15:40	30	20	D	C	65	70	5850	1400
246	US 101	SB	SR 85	Lane Drop (SB)	1.00	5	4	1	16:40 - 17:00	19	15	C	B	66	70	5020	1050
245	US 101	SB	Lane Drop (SB)	Sheller Ave	4.32	4	3	1	16:40 - 17:00	33	26	D	C	64	70	6340	1820
244	US 101	SB	Sheller Ave	Burnett Ave (Lane Drop)	2.57	4	3	1	17:20 - 17:40	51	44	E	D	41	50	6280	2200
243	US 101	SB	Burnett Ave (Lane Drop)	Cochrane Rd	0.87	3	3	0	16:20 - 16:40	67	0	F		28		5630	
242	US 101	SB	Cochrane Rd	East Dunne Ave	1.82	3	3	0	15:40 - 16:00	42	0	D		52		6560	
275.01	US 101	SB	East Dunne Ave	Tennant Ave	0.96	3	3	0	17:00 - 17:20	26	0	C		66		5150	
275.02	US 101	SB	Tennant Ave	San Martin Ave	3.55	3	3	0	16:20 - 16:40	28	0	D		66		5510	
275.03	US 101	SB	San Martin Ave	Masten Ave	2.17	3	3	0	16:40 - 17:00	30	0	D		65		5850	

**Table 3.8 | 2013 Freeway LOS – PM Peak Period**

ID	Facility	Dir	From/To	From/To	Miles	Number of Lanes			Peak Photo Time	Max Density		LOS (Density)		Speed		Flow	
						Total	Mixed	HOV		Mixed	HOV	Mixed	HOV	Mixed	HOV		
275.04	US 101	SB	Masten Ave	Buena Vista Ave	1.16	3	3	0	18:20 - 18:40	28	0	D		66		5510	
275.05	US 101	SB	Buena Vista Ave	Leavesley Rd	1.60	3	3	0	16:40 - 17:00	24	0	C		66		4760	
275.06	US 101	SB	Leavesley Rd	Pacheco Pass Hwy	1.46	3	3	0	15:40 - 16:00	20	0	C		66		3960	
275.07	US 101	SB	Pacheco Pass Hwy	Monterey Rd	1.11	3	3	0	17:20 - 17:40	20	0	C		66		3960	
275.08	US 101	SB	Monterey Rd	Bloomfield Ave	1.85	2	2	0	17:20 - 17:40	64	0	F		30		3840	
275.09	US 101	SB	Bloomfield Ave	Betabel Rd	4.15	2	2	0	17:00 - 17:20	19	0	C		66		2510	
275.1	US 101	SB	Betabel Rd	SR 129	1.61	2	2	0	15:40 - 16:00	16	0	B		67		2130	
275.11	US 101	SB	SR 129	SR 156	1.78	2	2	0	16:20 - 16:40	13	0	B		67		1730	
89	SR 237	WB	I-880	McCarthy Blvd	0.40	3	2	1	15:40 - 16:00	18	8	B	A	67	70	2400	560
90	SR 237	WB	McCarthy Blvd	Zanker Rd	0.94	3	2	1	17:20 - 17:40	59	10	F	A	34	70	4820	700
91	SR 237	WB	Zanker Rd	N. First St	1.61	3	2	1	17:00 - 17:20	53	14	E	B	39	70	4140	980
92	SR 237	WB	N. First St	Great America Pkwy	1.00	3	2	1	17:00 - 17:20	39	22	D	C	57	70	4450	1540
93	SR 237	WB	Great America Pkwy	Lawrence Expwy	1.27	3	2	1	17:20 - 17:40	31	14	D	B	65	70	4030	980
94	SR 237	WB	Lawrence Expwy	N. Fair Oaks Ave	0.63	3	2	1	17:40 - 18:00	27	22	D	C	66	70	3540	1540
95	SR 237	WB	N. Fair Oaks Ave	Mathilda Ave	0.96	3	3	0	17:40 - 18:00	56	0	E		36		6050	
96	SR 237	WB	Mathilda Ave	US 101	0.53	2	2	0	17:20 - 17:40	45	0	D		48		4320	
97	SR 237	WB	US 101	Maude Ave	0.71	2	2	0	17:20 - 17:40	59	0	F		34		4020	
98	SR 237	WB	Maude Ave	Central Pkwy	0.80	2	2	0	17:40 - 18:00	78	0	F		22		3440	
99	SR 237	WB	Central Pkwy	SR 85	0.63	2	2	0	17:00 - 17:20	42	0	D		52		4370	
100	SR 237	WB	SR 85	El Camino Real	0.40	2	2	0	17:00 - 17:20	108	0	F		12		2600	
130	I-280	WB	US 101	McLaughlin Ave	0.37	4	4	0	16:00 - 16:20	20	0	C		66		5280	
129	I-280	WB	McLaughlin Ave	10th St	0.92	4	4	0	16:20 - 16:40	31	0	D		65		8060	
128	I-280	WB	10th St	SR 87	1.20	4	4	0	17:00 - 17:20	32	0	D		64		8200	
127	I-280	WB	SR 87	Bird Ave	0.35	4	4	0	17:40 - 18:00	59	0	F		34		8030	

**Table 3.8 | 2013 Freeway LOS – PM Peak Period**

ID	Facility	Dir	From/To	From/To	Miles	Number of Lanes			Peak Photo Time	Max Density		LOS (Density)		Speed		Flow	
						Total	Mixed	HOV		Mixed	HOV	Mixed	HOV	Mixed	HOV		
126	I-280	WB	Bird Ave	Meridian Ave	1.07	4	4	0	17:00 - 17:20	48	0	E		45		8640	
125	I-280	WB	Meridian Ave	I-880	1.40	4	3	1	17:40 - 18:00	54	12	E	B	38	70	6980	840
124	I-280	WB	I-880	Winchester Blvd	0.55	4	3	1	17:40 - 18:00	83	25	F	C	20	70	4980	1750
123	I-280	WB	Winchester Blvd	Saratoga Ave	1.37	4	3	1	17:40 - 18:00	53	22	E	C	39	70	6210	1540
122	I-280	WB	Saratoga Ave	Lawrence Expwy	1.19	4	3	1	16:40 - 17:00	25	15	C	B	66	70	4950	1050
121	I-280	WB	Lawrence Expwy	Wolfe Rd	1.24	4	3	1	17:00 - 17:20	25	12	C	B	66	70	4950	840
120	I-280	WB	Wolfe Rd	De Anza Blvd	1.06	4	3	1	17:00 - 17:20	26	9	C	A	66	70	5150	630
119	I-280	WB	De Anza Blvd	SR 85	1.31	4	3	1	17:00 - 17:20	21	6	C	A	66	70	4160	420
118	I-280	WB	SR 85	Foothill Expwy	0.70	4	3	1	16:20 - 16:40	30	12	D	B	65	70	5850	840
117	I-280	WB	Foothill Expwy	Magdalena Ave	2.65	4	3	1	17:00 - 17:20	23	10	C	A	66	70	4560	700
116	I-280	WB	Magdalena Ave	El Monte Rd	0.95	4	4	0	18:20 - 18:40	21	0	C		66		5550	
115	I-280	WB	El Monte Rd	La Barranta Rd	1.60	4	4	0	17:00 - 17:20	20	0	C		66		5280	
114	I-280	WB	La Barranta Rd	Page Mill Rd	1.73	4	4	0	17:40 - 18:00	24	0	C		66		6340	
113.1	I-280	WB	Page Mill Rd	Alpine Rd	2.25	4	4	0	17:40 - 18:00	102	0	F		13		5310	
50	I-680	SB	Scott Creek Rd	Jacklin Rd	1.57	4	3	1	15:40 - 16:00	29	6	D	A	65	70	5660	420
49	I-680	SB	Jacklin Rd	Calaveras Blvd / SR 237	0.85	4	3	1	17:00 - 17:20	42	8	D	A	52	70	6560	560
48	I-680	SB	Calaveras Blvd / SR 237	Yosemite Dr	0.69	4	4	0	17:40 - 18:00	63	0	F		31		7820	
47	I-680	SB	Yosemite Dr	Montague Expwy	0.77	4	4	0	17:40 - 18:00	71	0	F		26		7390	
46	I-680	SB	Montague Expwy	Capitol Ave	1.00	4	4	0	17:00 - 17:20	79	0	F		22		6960	
45	I-680	SB	Capitol Ave	Hostetter Rd	0.31	4	4	0	17:00 - 17:20	102	0	F		13		5310	
44	I-680	SB	Hostetter Rd	Berryessa Rd	0.94	4	4	0	17:00 - 17:20	67	0	F		28		7510	
43	I-680	SB	Berryessa Rd	McKee Rd	1.47	4	4	0	17:00 - 17:20	42	0	D		52		8740	
42	I-680	SB	McKee Rd	Alum Rock Ave	0.64	4	4	0	17:40 - 18:00	44	0	D		50		8800	
41	I-680	SB	Alum Rock Ave	Capitol Expwy	0.31	4	4	0	16:00 - 16:20	26	0	C		66		6870	
40	I-680	SB	Capitol Expwy	King Rd	1.00	4	4	0	16:00 - 16:20	25	0	C		66		7260	
39	I-680	SB	King Rd	US 101	0.40	4	4	0	16:00 - 16:20	22	0	C		66		5810	

**Table 3.8 | 2013 Freeway LOS – PM Peak Period**

ID	Facility	Dir	From/To	From/To	Miles	Number of Lanes			Peak Photo Time	Max Density		LOS (Density)		Speed		Flow	
						Total	Mixed	HOV		Mixed	HOV	Mixed	HOV	Mixed	HOV		
13	I-880	SB	Dixon Landing	SR 237	1.99	4	3	1	17:00 - 17:20	27	15	D	B	66	70	6020	1050
14	I-880	SB	SR 237	Great Mall Pkwy	0.72	3	3	0	15:20 - 15:40	28	0	D		66		5510	
15	I-880	SB	Great Mall Pkwy	Montague Expwy	0.98	3	3	0	18:00 - 18:20	40	0	D		55		6600	
16	I-880	SB	Montague Expwy	E. Brokaw Rd	1.35	3	3	0	18:00 - 18:20	103	0	F		13		4020	
17	I-880	SB	E. Brokaw Rd	US 101	1.29	3	3	0	18:00 - 18:20	108	0	F		12		3890	
18	I-880	SB	US 101	N. 1st ST	0.49	3	3	0	18:00 - 18:20	132	0	F		7		2780	
19	I-880	SB	N. 1st ST	SR 87	0.40	3	3	0	18:00 - 18:20	131	0	F		7		2760	
20	I-880	SB	SR 87	Coleman Ave	0.51	3	3	0	18:00 - 18:20	98	0	F		15		4410	
21	I-880	SB	Coleman Ave	The Alameda	0.59	3	3	0	18:00 - 18:20	79	0	F		22		5220	
22	I-880	SB	The Alameda	N. Bascom Ave	0.82	3	3	0	18:00 - 18:20	76	0	F		23		5250	
23	I-880	SB	N. Bascom Ave	Stevens Creek Blvd	0.84	3	3	0	17:20 - 17:40	79	0	F		22		5220	
24	I-880	SB	Stevens Creek Blvd	I-280	0.41	3	3	0	16:20 - 16:40	29	0	D		65		5660	

## FREEWAY GATEWAY COUNTS

Santa Clara County has four main “gateways” through which traffic flows in and out of the County from other parts of the region. Vehicle counts are collected along these gateways during the AM and PM peak periods. The data is analyzed to determine freeway demand in terms of inflows and outflows. Inflows refer to vehicles entering Santa Clara County and outflows refer to vehicles leaving Santa Clara County.

The four main gateways are served by six freeways and they are grouped as follows:

**Santa Cruz Gateway:** The gateway to the southwest connects Santa Clara County with Santa Cruz County. SR 17 is the primary freeway connection.

**Southern Gateway:** The gateway connects Santa Clara County to the southern counties of San Benito, Monterey and Merced Counties. This connection is primarily served by US 101.

**Peninsula Gateway:** The gateway to the northwest connects Santa Clara County to destinations on the peninsula including San Mateo, San Francisco and Marin Counties. The freeways serving this gateway are US 101 and I-280.

**East Bay Gateway:** The gateway to the northeast connects Santa Clara County to the East Bay Counties of Alameda, Contra Costa, San Joaquin and Stanislaus. This connection is primarily served by I-680 and I-880.

## METHODOLOGY

Direct ground traffic counts were collected by video camera at these six freeway gateway locations at or near the county line. Vehicle counts are recorded in 15-minute intervals from 6:30 AM to 9:30 AM and 3:30 PM to 6:30 PM in each direction on a Tuesday, Wednesday or Thursday during the month of September. The one-hour period with the greatest vehicle volume recorded is considered the peak hour. The following figures and analyses in this section are based on peak hour volumes.

Gateway counts were collected at the freeway locations specified. These numbers account only for the volumes on freeways at each gateway, and are not intended as total gateway flows; a screenline of each gateway would include urban arterials and rural highways that also carry traffic to and from the county.

## SPEED-THROUGHPUT RELATIONSHIP

Traffic engineering theory states that freeways carry the highest volumes of traffic, or achieve close to optimal flow when traffic speeds are around 30 to 35 miles per hour. At this speed, a combination of moderate speed and high vehicle density results in more vehicles passing given a

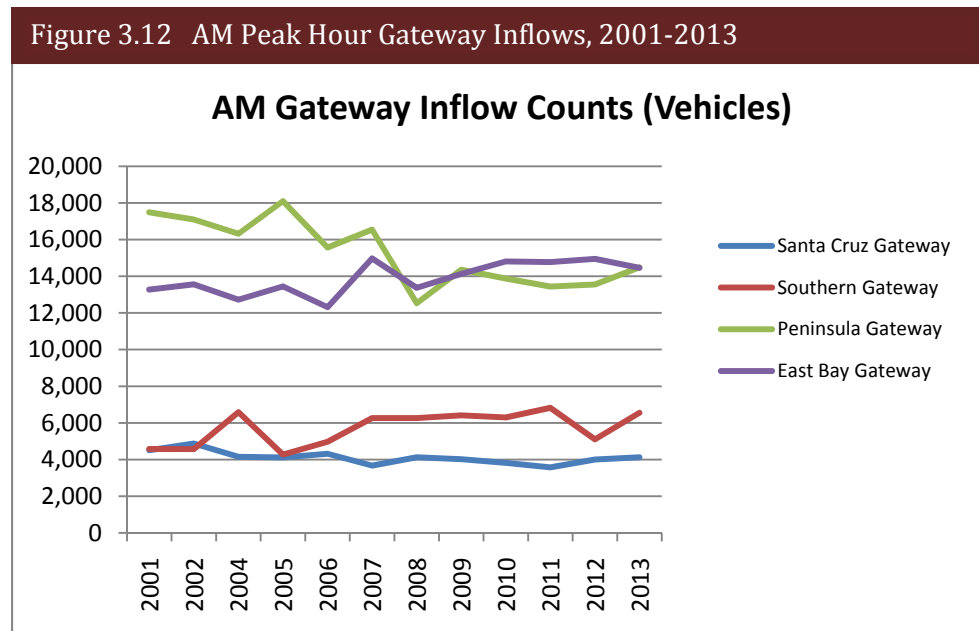
count location. Above 35 miles per hour, the increasing gap between speeding vehicles decreases vehicle density and therefore, the flow rate. Below this speed, traffic is denser but the slower speeds mean fewer vehicles are passing the count location. This results in increased vehicle density despite lower vehicle counts.

When considering the relationship between vehicle speed and vehicle volume, it should be noted that vehicle volume alone is not indicative of a change in roadway operations. Rather, increased vehicle volumes may reflect travel speeds that are approaching optimal flow, or speeds around 30-35 miles per hour.

### AM PEAK HOUR INFLOW

In 2013, AM gateway inflows have increased by 5% overall, and increased at all gateways except for the East Bay Gateway which saw a 3% decrease compared to 2012. Vehicle volumes at the Southern Gateway saw the greatest percentage increase of 28% over 2012 volumes, while the Santa Cruz and Peninsula Gateways saw increases of 3% and 7%, respectively. The total AM gateway inflow count is 39,624 vehicles compared to 37,610 vehicles recorded in 2012.

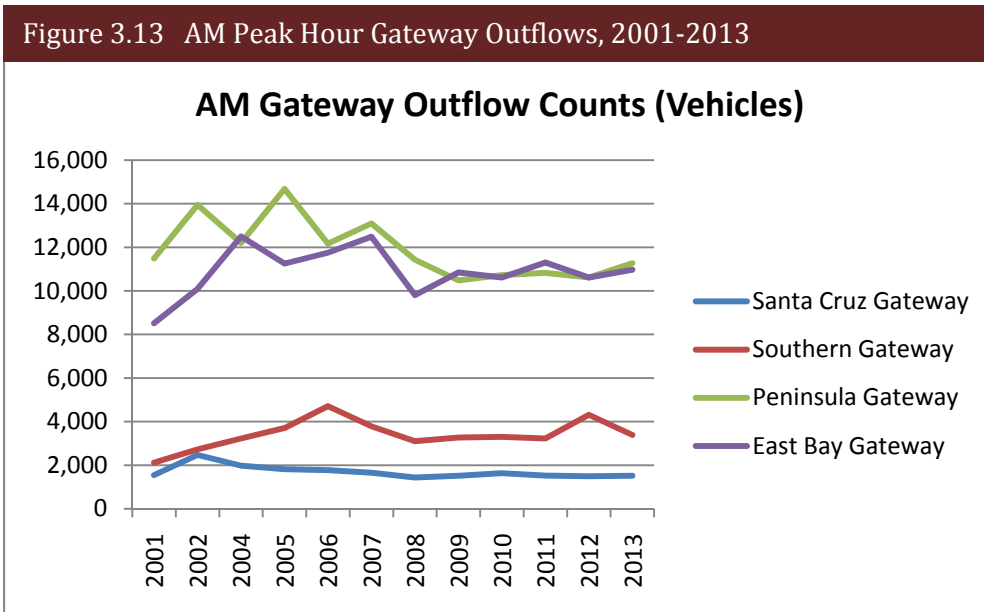
Figure 3.12 shows how AM inflows have varied over the last 13 years of data collection. Overall, AM inflows have remained relatively stable through this time period, with a long-term trend of increased inflows from the Southern and East Bay Gateways, counterbalanced by downward trending inflows from the Peninsula Gateway and relatively stable flows from the Santa Cruz Gateway.



## AM PEAK HOUR OUTFLOW

AM gateway outflow counts have increased slightly at all gateways except for the Southern Gateway, which decreased by 22 percent compared to 2012. The total AM outflow volume for 2013 is 27,149, compared to 27,044 for 2012.

As shown in Figure 3.13, results from the 2013 are relatively similar to AM outflows from the past five years.

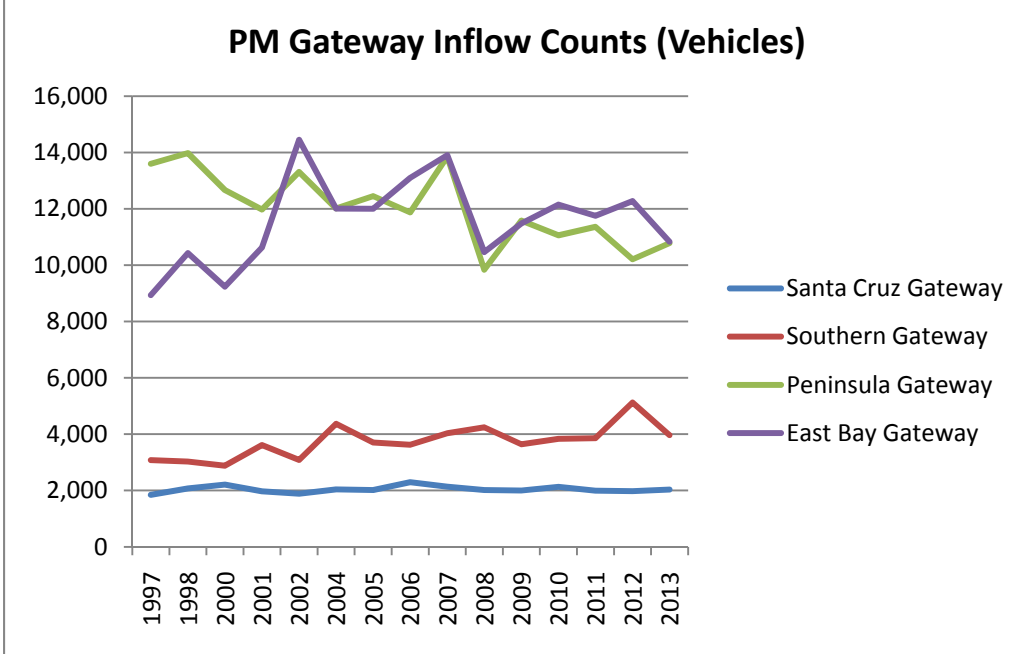


## PM PEAK HOUR INFLOW

As Figure 3.14 shows, the gateway with the largest volume change from 2012 was the Southern Gateway served by US 101, which saw a decrease of 23%. For the East Bay Gateway, inflow volumes decreased by 12%. Gateway volumes for the Peninsula and Santa Cruz Gateways increased slightly during the PM peak hour by 3% and 6%, respectively. In 2013, the total PM inflow volume is 27,613 volumes, a decrease of 7% compared to the total volume of 29,587 in 2012.

The long-term trend shown in Figure 3.14 indicates declining volumes entering through the Peninsula Gateway, an upward trend over the past five years through the East Bay and Southern Gateways, and little change in volumes from from the Santa Cruz Gateway.

Figure 3.14 PM Peak Hour Gateway Inflows, 1997-2013



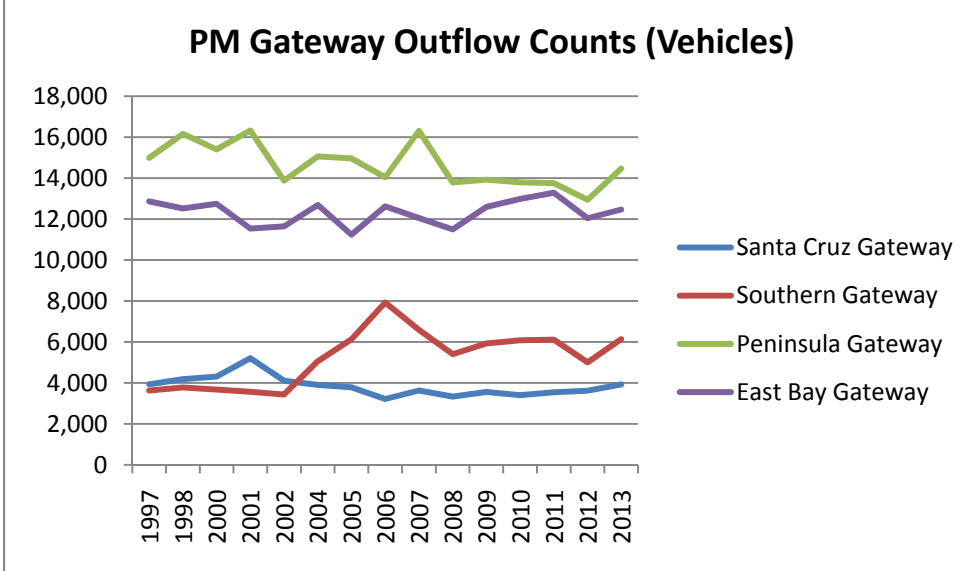
### PM PEAK HOUR OUTFLOW

Outflow volumes during the PM peak period increased for all four gateways, with the largest percentage increase for the Southern Gateway at 23%. Vehicle volumes were up by 12%, 8% and 3% for the Peninsula, Santa Cruz and East Bay Gateways, respectively. The 2013 PM outflow volume is 36,988, an increase of 10% from the total volume of 33,609 in 2012.

The trend for the outflows over the last 16 years is shown in Figure 3.15. shows significant growth for the Southern Gateway between 2001 and 2006, remaining relatively level since 2008. After growing until 2001, the Santa Cruz gateway has dropped to roughly 1996 levels and remained constant since then. Exiting volumes to the Peninsula were on a slight decline from 2008-2012 until this year’s reversal of the trend. Finally, East Bay gateway volumes have generally hovered around 12, 000 vehicles in the PM peak hour with some growth between 2008 and 2011.



Figure 3.15 PM Peak Hour Gateway Outflows, 1997-2013



### INFLOWS VS. OUTFLOWS

In the AM peak period, traffic flowing into Santa Clara County exceeded outflows for all four gateways as shown in Figure 3.16. Nearly 75% of vehicles entering Santa Clara County are from the Peninsula and East Bay Gateways, with inflow volumes of 14,489 and 14,458, respectively.

As shown in Figure 3.17, the traffic flow is reverse for the PM peak period, with all gateways seeing higher outflows than inflows.

Figure 3.16 2013 AM Gateway Inflow vs. Outflow

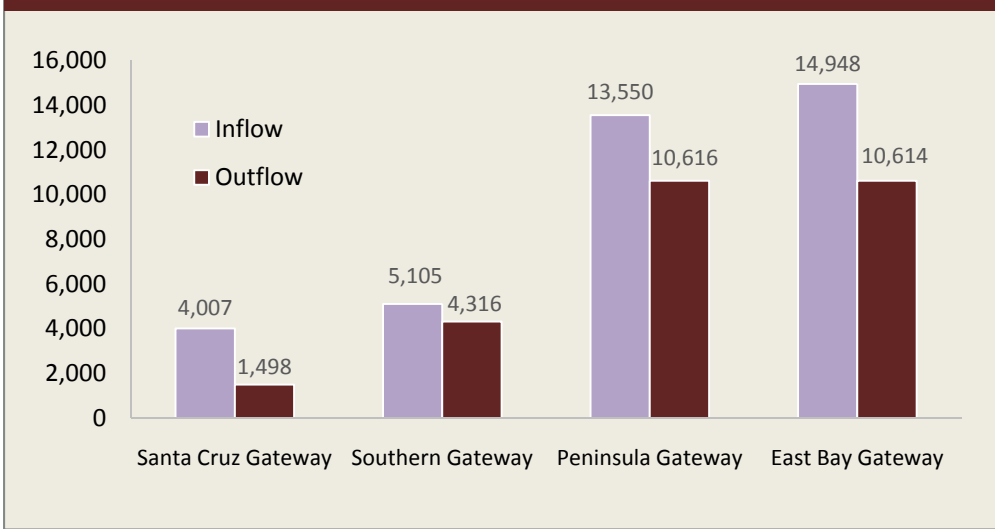
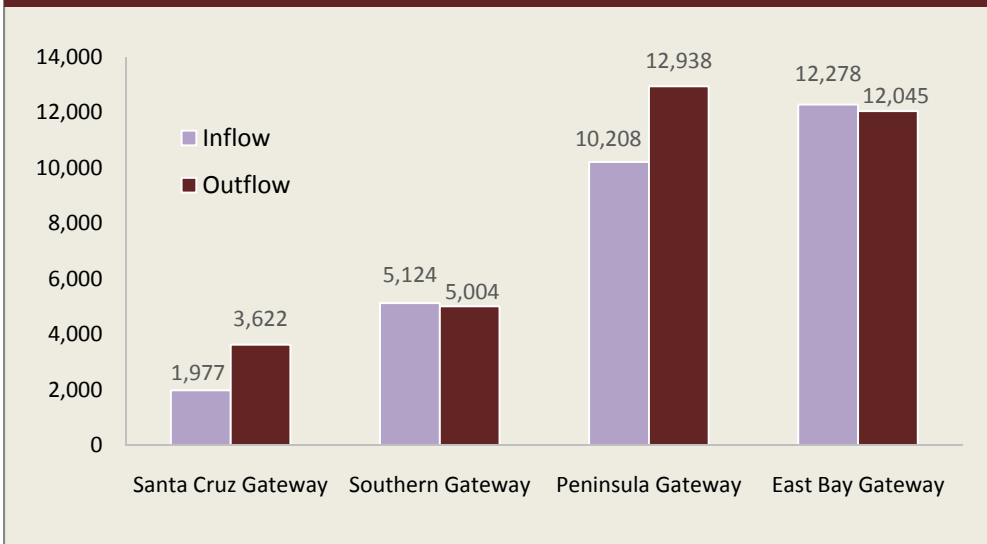


Figure 3.17 2013 PM Gateway Inflow vs. Outflow



# 4

## CONFORMANCE FINDINGS

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The conformance findings for the 2013 Monitoring Program is presented below.

### LAND USE SUBMISSION

All Member Agencies have complied with the CMP land use data requirement.

### FREEWAY SEGMENTS

75 freeway segments (73 miles) operated at LOS F during the AM peak period and 81 freeway segments (75 miles) operated at LOS F in the PM peak period. Of these, 23 AM and 26 PM segments operated at LOS F in the 1991 baseline year and therefore, LOS-exempt. This results in 52 deficient AM segments and 55 deficient PM segments.

Member Agencies with deficient freeway segments located within their jurisdiction are not penalized due to the regional nature of freeway congestion. However, they are encouraged to implement strategies listed in the Immediate Implementation Action List found in the *CMP Deficiency Plan Requirements*.

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