District 03 Mobility Performance Report

2017 First Quarter

DEPARTMENT OF TRANSPORTATION

April 26, 2017

Office of Freeway Operations

District 03 Mobility Performance Report

2017 First Quarter

EXECUTIVE SUMMARY

Overview

Caltrans District 3 contains eleven counties that are located in northern California. Most of the congestion and delay takes place in the urbanized Sacramento, Yolo and Placer counties.

The Mobility Performance Report quarterly analysis compares information with the past year and the previous quarter using the following performance measures:

- Bottleneck Locations
- Vehicle Miles of Travel (VMT)
- Vehicle Hours of Delay (VHD)
- Lost Lane Miles (equivalent lost productivity)
- Detector Health

This information is based on data collected every day of the quarter, twenty–four hours a day, by automated vehicle detector stations deployed on urban-area freeways where congestion is regularly experienced. The Mobility Performance Report (MPR) presents congestion information for two speed thresholds: delay from vehicles traveling below 35 miles per hour (mph), and delay from vehicles traveling below 60 mph. The delay at the 35 mph threshold represents severe congestion while delay at 60 mph represents all congestion, both light and heavy. These thresholds are set by Caltrans and are based upon engineering experience and District 3 Office of Freeway Operations input.

FINDINGS

In the 2017 First Quarter, total delay equaled 1.1 million vehicle hours of delay (VHD) at the 35 mph speed threshold, and 3.2 million VHD at the 60 mph threshold. The average weekday delay experienced in this quarter was approximately 15,000 VHD at 35 mph, and 44,000 VHD at 60 mph.

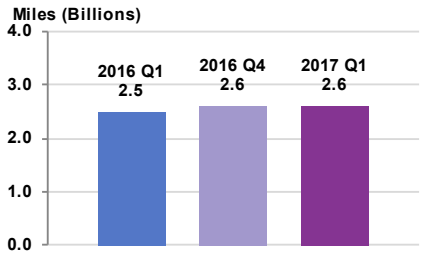
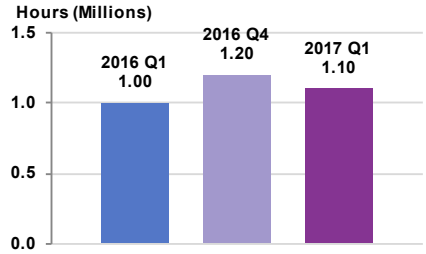
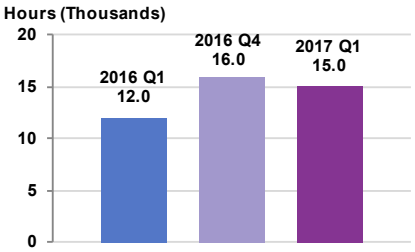
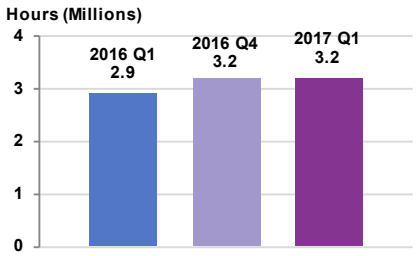
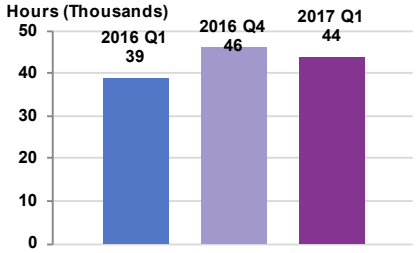
Top Ten Bottlenecks for 2017 First Quarter

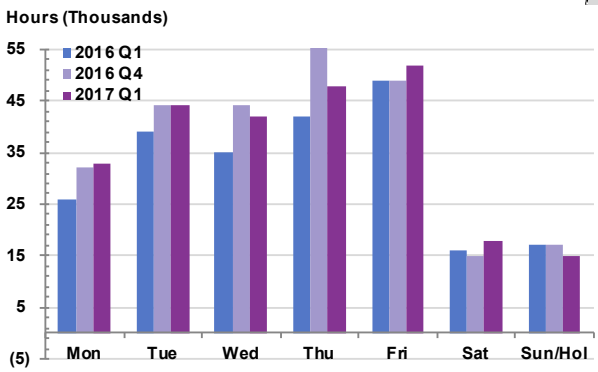
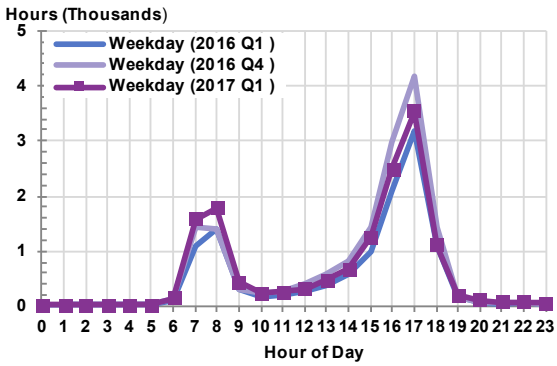
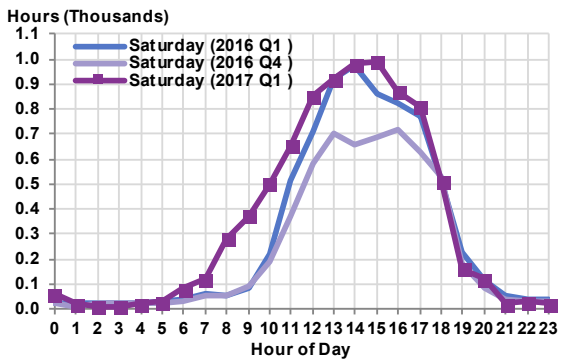
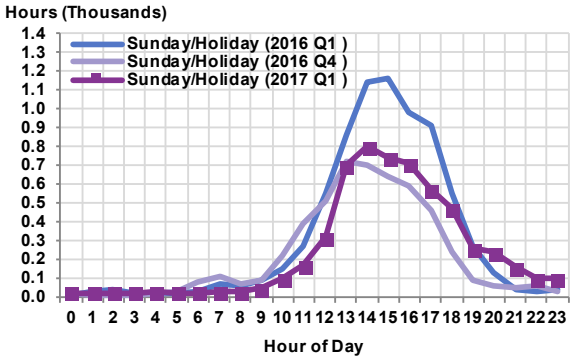
Fwy	Location	Shift	Abs PM	CA PM	# Days Active	Average Extent (Miles)	Total Delay (veh-hrs)	Total Duration (minutes)
SR51-N	Elvas UP	PM	2.4	2.4	58	2.1	40,232	6,665
SR99-S	WB Consumnes River	PM	290.766	16.321	56	2.8	33,040	7,025
I80-E	E of CR 105d	PM	76.688	4.501	36	2.8	31,221	4,925
US50-E	Stockton Blvd.	PM	6.345	R.711	57	1.5	30,752	7,650
SR70-E	North Beale Road	PM	20.125	13.5	43	3.8	30,248	5,395
I5-N	L St.	PM	518.864	23.571	62	1.1	28,631	8,175
SR51-S	EB Exposition Bl.	PM	3.32	3.32	62	0.9	24,310	12,010
SR51-N	SB Watt Ave.	PM	7.85	7.85	44	2.6	23,031	5,655
I5-S	L St.	PM	518.824	23.531	56	1.6	22,165	6,200
SR51-N	North of A St.	PM	2	2	61	1.4	18,775	5,195

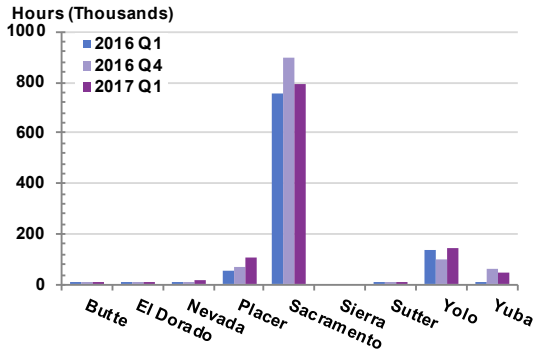
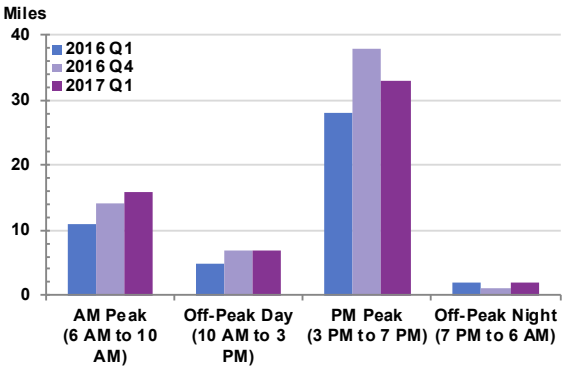
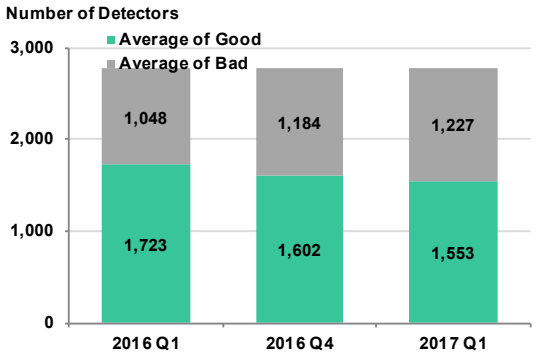
Note:

1. For the table above, the quarterly delay calculation was based upon a 60 mph threshold, for the a.m. or p.m. weekday peak period.
2. Caltrans District 3, has plans to construct High Occupancy Vehicle (HOV) lanes on I-5, US-50, and SR-51 near downtown Sacramento. These projects are expected to reduce delay at nearby bottlenecks identified above. However, these HOV lane projects are funded for Plans Specifications and Estimate (PS&E) only; construction funds are not available at this time.

Quarterly Mobility Statistics

Measure	Graph	Percentage Change	
		Over one year ago	Over last quarter
Vehicle Miles of Travel (VMT)		2.5%	-1.4%
Total Vehicle Hours of Delay (VHD) at 35 mph		14.4%	-3%
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph		20.8%	-8.9%
Total Vehicle Hours of Delay (VHD) at 60 mph		11.5%	-1.2%
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph		14.9%	-3.3%

Measure	Graph	Percentage Change	
Average Vehicle Hours of Delay by Day of Week at 60 mph		Largest Magnitude Decrease over one year ago Sun/Hol -12.2%	Largest Magnitude Decrease over last quarter Thursday -13.9%
		Largest Magnitude Increase over one year ago Monday 26.6%	Largest Magnitude Increase over last quarter Friday 6.6%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Weekdays		Largest Magnitude Weekday Decrease over one year ago 4 AM -28.4%	Largest Magnitude Weekday Decrease over last quarter 5 PM -15.4%
		Largest Magnitude Weekday Increase over one year ago 7 AM 42.8%	Largest Magnitude Weekday Increase over last quarter 8 AM 26%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Saturdays		Largest Magnitude Saturday Decrease over one year ago 7 PM -32%	Largest Magnitude Saturday Decrease over last quarter 7 PM -12.2%
		Largest Magnitude Saturday Increase over one year ago 9 AM 377.8%	Largest Magnitude Saturday Increase over last quarter 2 PM 49.4%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Sundays/ Holidays		Largest Magnitude Sun./Holiday Decrease over one year ago 3 PM -36%	Largest Magnitude Sun./Holiday Decrease over last quarter 11 AM -55.5%
		Largest Magnitude Sun./Holiday Increase over one year ago 9 PM 354.7%	Largest Magnitude Sun./Holiday Increase over last quarter 6 PM 92.1%

Measure	Graph	Percentage Change	
Total Vehicle Hours of Delay (VHD) by County at 35 mph		Largest Magnitude Decrease over one year ago –	Largest Magnitude Decrease over last quarter Sacramento -11.8%
		Largest Magnitude Increase over one year ago Placer 83.1%	Largest Magnitude Increase over last quarter Yolo 49.7%
Average Non-Holiday Weekday Equivalent Lost Lane Mile Hours at 35 mph		Largest Magnitude Decrease over one year ago –	Largest Magnitude Decrease over last quarter PM Peak -13.1%
		Largest Magnitude Increase over one year ago PM Peak 18.3%	Largest Magnitude Increase over last quarter AM Peak 19%
Average Number of Good and Bad Detectors		Change in Good over one year ago -10%	Change in Good over last quarter -3%
		Change in Bad over one year ago 17%	Change in Bad over last quarter 4%

Note: As is identified by the detector health graph above, the District's detector health is generally deteriorating. Caltrans has a Traffic Monitoring Station project (EA: 3F840) under construction to help improve detector health. Two other projects, in the programing phase, will cover locations that were missed by previous projects.

Congestion by Route											
		Vehicle Hours of Delay at 35 mph			Difference 2017 Q1-2016 Q1		Difference 2017 Q1-2016 Q4		Rank		
Route	County	2016 Q1	2016 Q4	2017 Q1	Absolute	Percentage	Absolute	Percentage	2016 Q1	2016 Q4	2017 Q1
SR51	Sacramento	282,809	314,222	238,531	-44,278	-15.7%	-75,691	-24.1%	1	1	1
I5	Sacramento	105,505	161,580	184,111	78,606	74.5%	22,531	13.9%	4	4	2
SR99	Sacramento	142,885	184,219	180,424	37,539	26.3%	-3,794	-2.1%	3	2	3
US50	Sacramento	163,194	174,240	144,049	-19,145	-11.7%	-30,191	-17.3%	2	3	4
I80	Yolo	81,245	60,346	110,575	29,330	36.1%	50,229	83.2%	5	6	5
I80	Placer	42,070	45,241	73,020	30,950	73.6%	27,779	61.4%	6	7	6
SR70	Yuba	11,606	66,610	46,560	34,954	301.2%	-20,050	-30.1%	13	5	7
SR65	Placer	15,667	25,869	32,692	17,025	108.7%	6,823	26.4%	10	10	8
US50	Yolo	35,655	37,206	30,713	-4,942	-13.9%	-6,493	-17.5%	7	9	9
I80	Sacramento	34,736	42,610	30,623	-4,113	-11.8%	-11,987	-28.1%	8	8	10
I80	Nevada	13,518	9,492	20,567	7,049	52.1%	11,075	116.7%	12	12	11
SR160	Sacramento	28,942	22,821	15,401	-13,541	-46.8%	-7,420	-32.5%	9	11	12
I5	Yolo	3,670	1,409	4,267	597	16.3%	2,858	202.8%	14	15	13
SR113	Yolo	14,514	219	2,891	-11,623	-80.1%	2,672	1220.6%	11	17	14
SR99	Butte	553	2,259	2,082	1,529	276.8%	-177	-7.8%	15	13	15
US50	El Dorado	86	2,212	327	241	281.4%	-1,885	-85.2%	16	14	16
SR99	Sutter	59	353	98	39	67.0%	-255	-72.2%	17	16	17
I80	Sierra	0	0	0	0		0				
SR12	Sacramento	0	0	0	0		0				
SR275	Yolo	0	2	0	0		-2	-100.0%		18	
TOTALS		**976,712**	**1,150,908**	**1,116,929**	**140,218**	**14.4%**	**-33,979**	**-3.0%**			

SR-113 in Yolo County had the highest rate of increase in delay at 1220.6%, when compared with the previous quarter. The increase in delay was caused by a repair of the detection system, which was brought back into operation after it was out of service for months. The repaired detection system recorded a significant increase in delay when compared with previous quarters.

As identified by the congestion table above, there was a 14.42% increase in overall delay in comparison to the same quarter of the previous year although the VMT was only 0.1% higher. The majority of this increased delay was on I-5, SR-99 and I-80. The highest increase in congestion occurred on weekends. Some of this increase is attributed to more recreational travel as a result of the opening of the Golden One Arena and the better than average ski season.

Based upon total delay by route, SR-51 has been continually the worst performing freeway in District 3 although congestion has improved by 15.7% over Q1 2016 and 24.1% over Q4 2016. This improvement is attributed to decreased diversion now that the SAC-80 HOV lane construction project has been completed. The District continues to explore best possible ways to reduce the delay in the impacted areas.