District 03 Mobility Performance Report

2018 First Quarter

DEPARTMENT OF TRANSPORTATION

May 15, 2018

Office of Freeway Operations

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EXECUTIVE SUMMARY

Overview

Caltrans District 3 is comprised of eleven counties located in northern California. Most of the congestion and delay on the state highway system takes place in the urbanized areas of Sacramento, Yolo and Placer counties.

The Mobility Performance Report (MPR) quarterly analysis compares information from this quarter with information from the previous quarter and the prior year. The following performance measures were used to quantify freeway congestion in District 3 as well as to compare the different quarters:

- 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 by automated vehicle detector stations deployed on urban area freeways from the Caltrans Performance Measurement System (PeMS) every day of the quarter, twenty–four hours a day, where congestion is regularly experienced. The 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 traffic engineering experience and District 3 Office of Freeway Operations input.

FINDINGS

In the First Quarter of 2018, total delay equaled 1.1 million vehicle hours of delay (VHD) at the 35-mph speed threshold, and 3.0 million VHD at the 60 mph threshold. The average weekday delay experienced in this quarter was approximately 15,000 VHD at 35 mph, and 42,000 VHD at 60 mph. SR-51 continues to be the worst performing freeway in District 3 for total delay caused by traffic bottlenecks with a total of 108,275 veh-hrs.

Top Ten Bottlenecks for 2018 First Quarter

Fwy	Name	Shift	Abs PM	CA PM	# Days Active	Average Extent (Miles)	Total Delay (veh-hrs)	Total Duration (mins)
SR51-N	SB Watt Ave.	PM	7.85	7.85	61	3.34	38,300	8,020
SR70-E	North Beale Road	PM	20.13	13.5	50	3.17	35,146	6,185
SR99-S	WB Consumnes River	PM	290.8	16.321	61	2.01	28,496	8,285
US50-E	NB 65th St	PM	8.39	R2.76	31	3.45	25,334	2,500
SR99-N	WB 47th Ave	AM	295.5	21.0	59	2.66	24,720	4,855
SR51-N	North of A St.	PM	2.00	2.00	59	1.41	24,358	7,085
US50-W	28th St	PM	5.55	L2.394	56	2.08	23,674	5,210
I5-N	L St.	PM	518.9	23.571	62	1.06	23,262	9,485
SR51-N	Elvas UP	PM	2.40	2.40	45	2.13	22,845	3,900
SR51-S	EB Exposition Bl.	PM	3.32	3.32	62	0.80	22,754	11,705

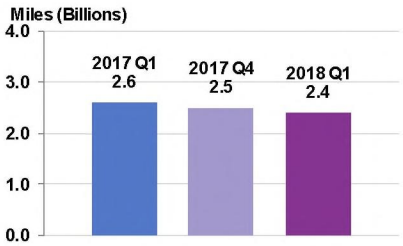
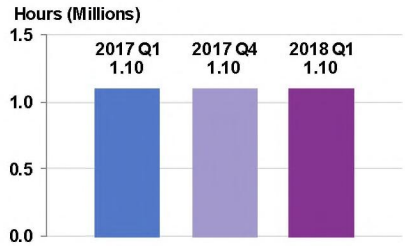
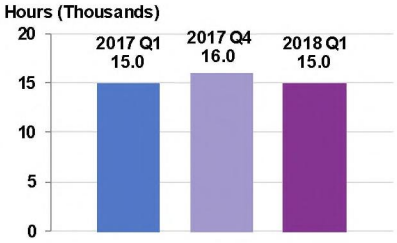
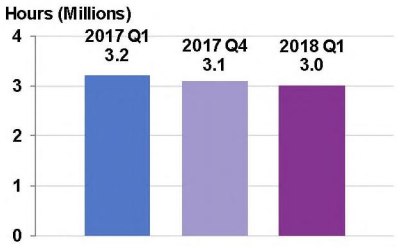
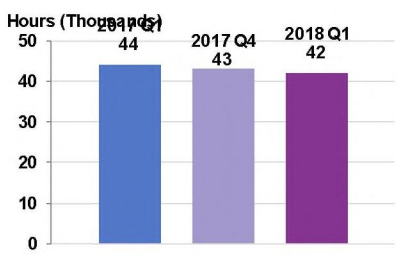
Notes:

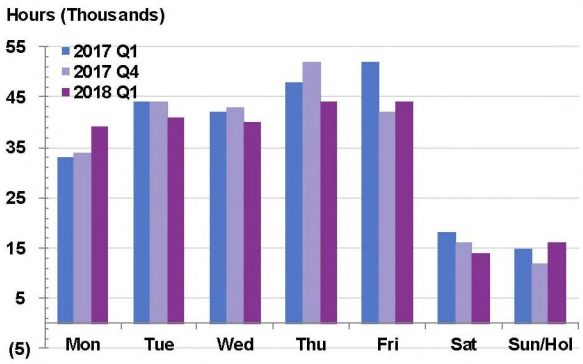
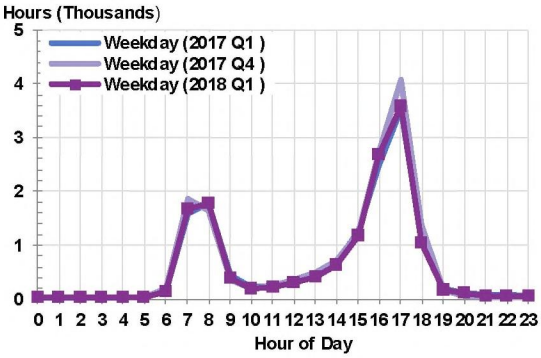
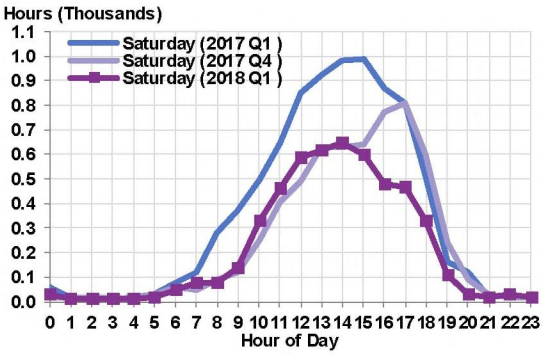
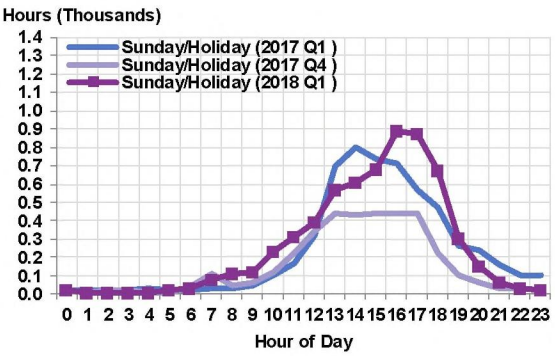
1. For the table above, the quarterly delay calculation was based upon a 60 mph threshold, for the a.m. or p.m. weekday peak period.

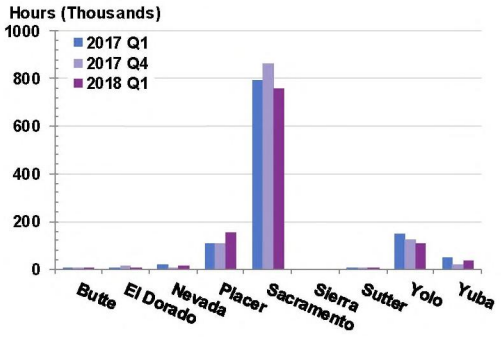
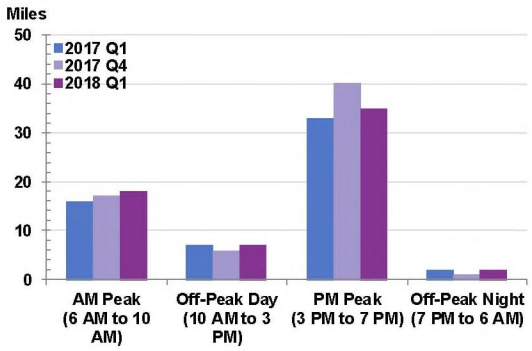
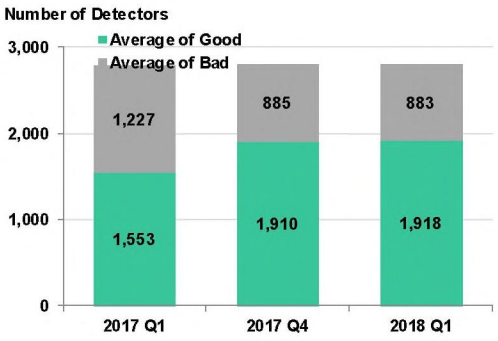
2. Caltrans District 3, has plans to construct High Occupancy Vehicle (HOV) lanes on I-5, US-50, SR-51 in Sacramento County, and SR-65 in Placer County. These projects are expected to reduce delay at nearby bottlenecks identified above. However, these HOV lane projects are funded for Design only; construction funds are not available at this time.

3. The HOV lane projects on I-5 and US-50 were nominated for SB-1 funding in 2017.

Quarterly Mobility Statistics

Measure	Graph	Percentage Change	
		Over one year ago	Over last quarter
Vehicle Miles of Travel (VMT)		-7.1%	-4%
Total Vehicle Hours of Delay (VHD) at 35 mph		-3.7%	-4.8%
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph		-1%	-7.4%
Total Vehicle Hours of Delay (VHD) at 60 mph		-5.6%	-2.6%
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph		-5.5%	-3.6%

Measure	Graph	Percentage Change	
Average Vehicle Hours of Delay by Day of Week at 60 mph		Largest Magnitude Decrease over one year ago Friday -14.3%	Largest Magnitude Decrease over last quarter Thursday -16.5%
		Largest Magnitude Increase over one year ago Monday 19.1%	Largest Magnitude Increase over last quarter Monday 15.1%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Weekdays		Largest Magnitude Weekday Decrease over one year ago 6 PM -6%	Largest Magnitude Weekday Decrease over last quarter 5 PM -12.6%
		Largest Magnitude Weekday Increase over one year ago 4 PM 7.2%	Largest Magnitude Weekday Increase over last quarter 8 AM 6.9%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Saturdays		Largest Magnitude Saturday Decrease over one year ago 4 PM -45.1%	Largest Magnitude Saturday Decrease over last quarter 5 PM -42.1%
		Largest Magnitude Saturday Increase over one year ago 10 PM 5.3%	Largest Magnitude Saturday Increase over last quarter 12 PM 18.3%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Sundays/ Holidays		Largest Magnitude Sun./Holiday Decrease over one year ago 2 PM -23.6%	Largest Magnitude Sun./Holiday Decrease over last quarter 7 AM -24.7%
		Largest Magnitude Sun./Holiday Increase over one year ago 5 PM 51.6%	Largest Magnitude Sun./Holiday Increase over last quarter 6 PM 206.2%

Measure	Graph	Percentage Change	
Total Vehicle Hours of Delay (VHD) by County at 35 mph		Largest Magnitude Decrease over one year ago Yolo -29%	Largest Magnitude Decrease over last quarter Sacramento -11.9%
		Largest Magnitude Increase over one year ago Placer 48.4%	Largest Magnitude Increase over last quarter Placer 45.8%
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 -12.2%
		Largest Magnitude Increase over one year ago PM Peak 7.6%	Largest Magnitude Increase over last quarter Off-Peak Nig 84.3%
Average Number of Good and Bad Detectors		Change in Good over one year ago 24%	Change in Good over last quarter 0%
		Change in Bad over one year ago -28%	Change in Bad over last quarter 0%

Note: As is identified by the detector health graph above, the District's detector health is about the same when comparing with previous quarter. 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 2018 Q1-2017 Q1		Difference 2018 Q1-2017 Q4		Rank		
Route	County	2017 Q1	2017 Q4	2018 Q1	Absolute	Percentage	Absolute	Percentage	2017 Q1	2017 Q4	2018 Q1
SR51	Sacramento	238,531	262,661	215,830	-22,701	-9.5%	-46,831	-17.8%	1	1	1
I5	Sacramento	184,111	197,523	176,490	-7,620	-4.1%	-21,033	-10.6%	2	2	2
US50	Sacramento	144,049	167,688	161,354	17,305	12.0%	-6,334	-3.8%	4	4	3
SR99	Sacramento	180,424	178,298	153,084	-27,340	-15.2%	-25,214	-14.1%	3	3	4
I80	Placer	73,020	60,241	112,382	39,362	53.9%	52,140	86.6%	6	6	5
I80	Yolo	110,575	87,692	78,922	-31,653	-28.6%	-8,770	-10.0%	5	5	6
SR65	Placer	32,692	47,349	44,362	11,671	35.7%	-2,987	-6.3%	8	7	7
I80	Sacramento	30,623	41,507	41,630	11,007	35.9%	123	0.3%	10	8	8
SR70	Yuba	46,560	18,285	35,206	-11,354	-24.4%	16,921	92.5%	7	10	9
US50	Yolo	30,713	32,764	24,660	-6,053	-19.7%	-8,104	-24.7%	9	9	10
I80	Nevada	20,567	1,438	14,000	-6,568	-31.9%	12,562	873.6%	11	16	11
SR160	Sacramento	15,401	15,226	11,419	-3,983	-25.9%	-3,807	-25.0%	12	11	12
US50	El Dorado	327	10,415	3,223	2,896	885.1%	-7,191	-69.0%	16	12	13
I5	Yolo	4,267	3,105	911	-3,356	-78.7%	-2,194	-70.7%	13	13	14
SR113	Yolo	2,891	2,079	853	-2,037	-70.5%	-1,225	-58.9%	14	15	15
SR99	Butte	2,082	2,857	650	-1,431	-68.8%	-2,207	-77.2%	15	14	16
SR267	Placer	0	1	151	151		150	16622.2%		18	17
SR99	Sutter	98	240	7	-91	-92.6%	-233	**-97.0%**	17	17	18
I80	Sierra	0	0	0	0		0				
SR12	Sacramento	0	0	0	0		0				
SR275	Yolo	0	0	0	0		0				
TOTALS		**1,116,929**	**1,129,368**	**1,075,133**	**-41,796**	**-3.7%**	**-54,235**	**-4.8%**			

SR-267 in Placer County and I-80 in Nevada County had the highest rate of increase in delay at 16622% and 873.6% respectively, when compared with the previous quarter (Q4 2017). This increase in delay is assumed to be caused by changes in seasonal traffic demands influenced by recreational travelers. US-50 in El Dorado County shows a high increase in delay of 885% for Q1 2018 as compared to Q1 2017. This can be attributed to various storm damage events that caused complete closure of Hwy 50 for extended periods of time in the heavy winter months of Q1 2017 affecting winter recreational traffic.

Based upon total delay by route, SR-51 continues to be the worst performing freeway in District 3. The top four most congested routes are located in Sacramento County, which is due to the higher travel demand associated with Sacramento County's higher population and regional employment and educational centers. As identified on page 3 of this document, Caltrans is planning to construct

HOV lane on SR-51, I-5, US-50, and to mitigate congestion on these routes. The District continues to explore best possible ways to reduce the delay in the impacted areas.