District 03 Mobility Performance Report

2017 Fourth Quarter

DEPARTMENT OF TRANSPORTATION

January 19, 2018

Office of Freeway Operations

District 03 Mobility Performance Report

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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 Fourth Quarter of 2017, total delay equaled 1.1 million vehicle hours of delay (VHD) at the 35 mph speed threshold, and 3.1 million VHD at the 60 mph threshold. The average weekday delay experienced in this quarter was approximately 16,000 VHD at 35 mph, and 43,000 VHD at 60 mph.

Top Ten Bottlenecks for 2017 Fourth 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	49	3.49	35,328	7,025
I5-S	Vallejo Way	PM	517.09	21.8	52	2.06	24,069	5,225
SR99-S	WB Consumnes River	PM	290.77	16.321	56	1.96	24,003	7,555
I5-N	L St.	PM	518.86	23.571	60	1.26	23,939	9,730
I5-S	S Land Park Dr.	PM	512.07	16.78	50	1.91	23,804	7,640
I80-W	EB Douglas Blvd	PM	103.36	1.855	59	1.64	23,790	8,620
US50-E	Stockton Blvd.	PM	6.35	R.711	52	1.79	23,507	5,445
I80-E	E of CR 105d	PM	76.69	4.501	47	2.71	23,486	4,890
US50-W	28th St	PM	5.55	L2.394	50	2.16	22,977	4,985
SR51-S	EB Exposition Bl.	PM	3.32	3.32	60	0.78	22,918	11,810

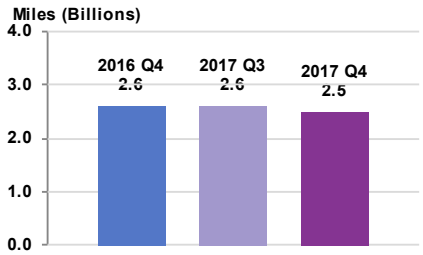
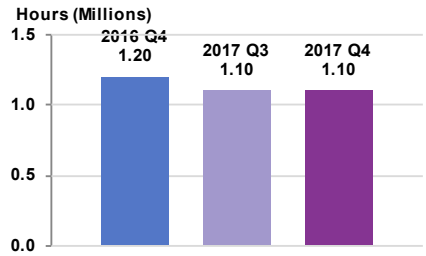
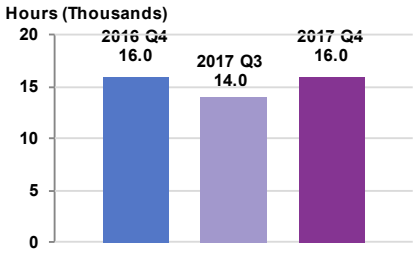
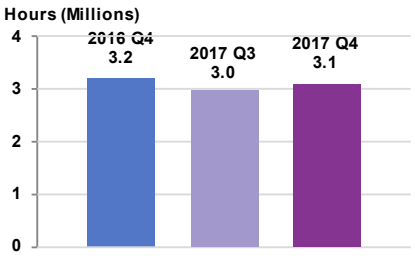
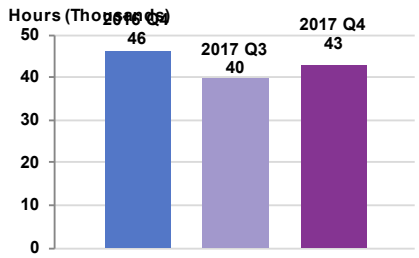
Notes:

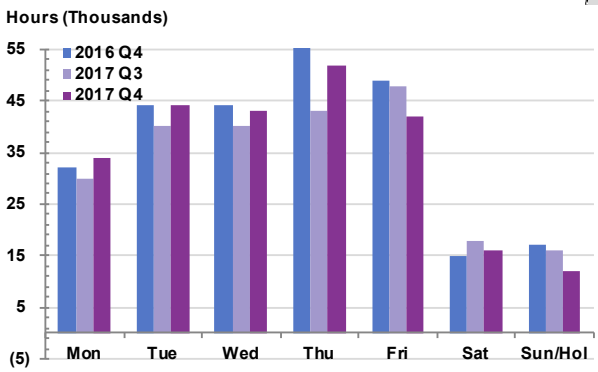
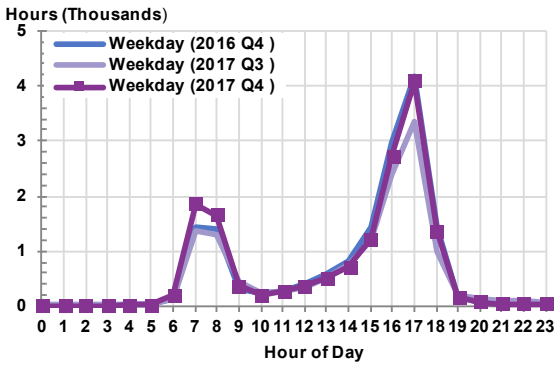
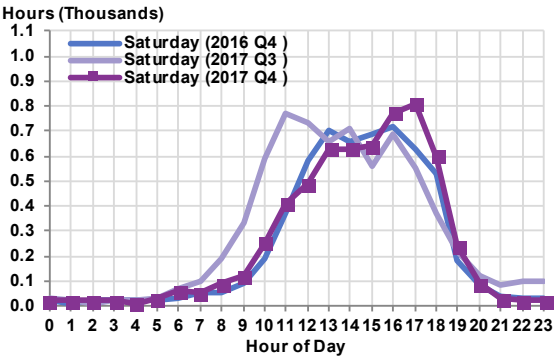
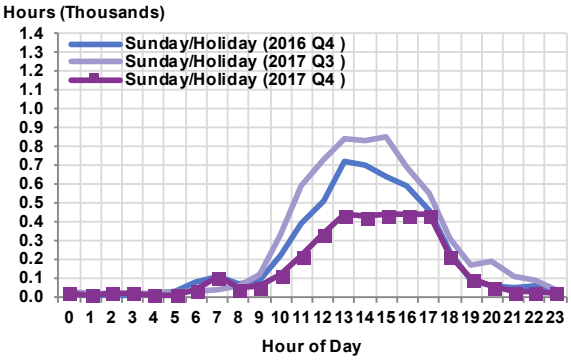
1. For the table above, the quarterly delay calculation was based upon a 60 mph threshold, for the a.m. or p.m. weekday peak period.

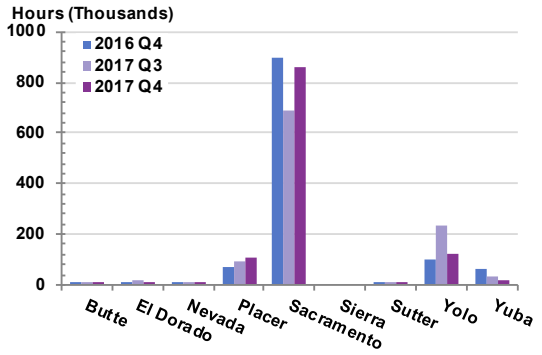
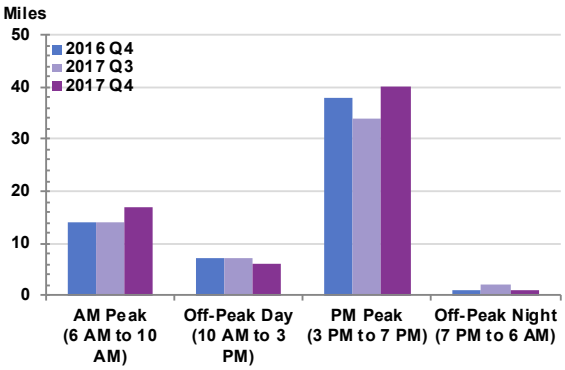
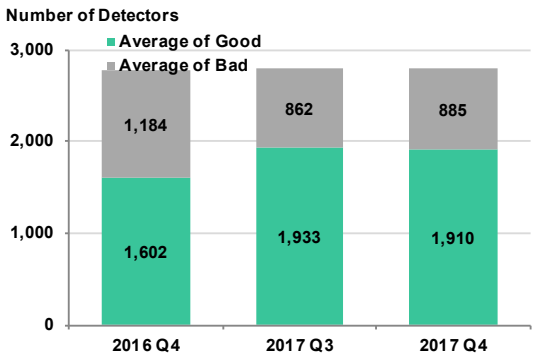
2. Caltrans District 3, has plans to construct High Occupancy Vehicle (HOV) lanes on I-5, US-50, SR-51 in Sacramento County, and I-80 in Yolo County. These projects are expected to reduce delay at nearby bottlenecks identified above. However, these HOV lane projects are funded for Design only; construction funds are not available at this time.

3. In 2017, the HOV lane projects on I-5 and US-50 are nominated for SB-1 funding.

Quarterly Mobility Statistics

Measure	Graph	Percentage Change	
		Over one year ago	Over last quarter
Vehicle Miles of Travel (VMT)		-4.5%	-1.9%
Total Vehicle Hours of Delay (VHD) at 35 mph		-1.9%	4.4%
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph		-2.7%	13.7%
Total Vehicle Hours of Delay (VHD) at 60 mph		-4.3%	2.4%
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph		-5.1%	7.3%

Measure	Graph	Percentage Change	
Average Vehicle Hours of Delay by Day of Week at 60 mph		Largest Magnitude Decrease over one year ago Friday -12.6%	Largest Magnitude Decrease over last quarter Friday -10.6%
		Largest Magnitude Increase over one year ago Monday 6%	Largest Magnitude Increase over last quarter Thursday 20.7%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Weekdays		Largest Magnitude Weekday Decrease over one year ago 4 PM -7.8%	Largest Magnitude Weekday Decrease over last quarter 8 PM -51.7%
		Largest Magnitude Weekday Increase over one year ago 7 AM 29.8%	Largest Magnitude Weekday Increase over last quarter 5 PM 22.3%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Saturdays		Largest Magnitude Saturday Decrease over one year ago 12 PM -14.1%	Largest Magnitude Saturday Decrease over last quarter 11 AM -46.9%
		Largest Magnitude Saturday Increase over one year ago 5 PM 29%	Largest Magnitude Saturday Increase over last quarter 5 PM 46.9%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Sundays/ Holidays		Largest Magnitude Sun./Holiday Decrease over one year ago 1 PM -38.9%	Largest Magnitude Sun./Holiday Decrease over last quarter 3 PM -47.7%
		Largest Magnitude Sun./Holiday Increase over one year ago 7 PM 18.7%	Largest Magnitude Sun./Holiday Increase over last quarter 7 AM 146.7%

Measure	Graph	Percentage Change	
Total Vehicle Hours of Delay (VHD) by County at 35 mph		Largest Magnitude Decrease over one year ago Yuba -72.5%	Largest Magnitude Decrease over last quarter Yolo -46.9%
		Largest Magnitude Increase over one year ago Placer 51.3%	Largest Magnitude Increase over last quarter Sacramento 25.3%
Average Non-Holiday Weekday Equivalent Lost Lane Mile Hours at 35 mph		Largest Magnitude Decrease over one year ago Off-Peak Day -12.5%	Largest Magnitude Decrease over last quarter Off-Peak Night -48%
		Largest Magnitude Increase over one year ago AM Peak 27%	Largest Magnitude Increase over last quarter PM Peak 18.8%
Average Number of Good and Bad Detectors		Change in Good over one year ago 19%	Change in Good over last quarter -1%
		Change in Bad over one year ago -25%	Change in Bad over last quarter 3%

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 2017 Q4-2016 Q4		Difference 2017 Q4-2017 Q3		Rank		
Route	County	2016 Q4	2017 Q3	2017 Q4	Absolute	Percentage	Absolute	Percentage	2016 Q4	2017 Q3	2017 Q4
SR51	Sacramento	314,222	198,264	262,661	-51,560	-16.4%	64,397	32.5%	1	1	1
I5	Sacramento	161,580	150,418	197,523	35,943	22.2%	47,105	31.3%	4	4	2
SR99	Sacramento	184,219	143,384	178,298	-5,920	-3.2%	34,915	24.4%	2	5	3
US50	Sacramento	174,240	154,414	167,688	-6,552	-3.8%	13,274	8.6%	3	3	4
I80	Yolo	60,346	168,908	87,692	27,345	45.3%	-81,216	-48.1%	6	2	5
I80	Placer	45,241	56,728	60,241	15,001	33.2%	3,513	6.2%	7	7	6
SR65	Placer	25,869	36,713	47,349	21,480	83.0%	10,636	29.0%	10	8	7
I80	Sacramento	42,610	29,907	41,507	-1,103	-2.6%	11,600	38.8%	8	10	8
US50	Yolo	37,206	62,216	32,764	-4,442	-11.9%	-29,452	-47.3%	9	6	9
SR70	Yuba	66,610	33,402	18,285	-48,325	-72.5%	-15,118	-45.3%	5	9	10
SR160	Sacramento	22,821	12,016	15,226	-7,595	-33.3%	3,210	26.7%	11	12	11
US50	El Dorado	2212.2	19946	10414.5	8202.3	370.78%	-9531.5	-47.79%	14	11	12
I5	Yolo	1,409	3,401	3,105	1,696	120.3%	-296	-8.7%	15	14	13
SR99	Butte	2,259	906	2,857	599	26.5%	1,951	215.3%	13	16	14
SR113	Yolo	219	2,193	2,079	1,860	849.6%	-114	-5.2%	17	15	15
I80	Nevada	9,492	8,848	1,438	-8,054	-84.9%	-7,410	-83.7%	12	13	16
SR99	Sutter	353	24	240	-113	-31.9%	216	**916.9%**	16	18	17
SR267	Placer	0	153	1	1		-152	-99.4%		17	18
I80	Sierra	0	0	0	0		0				
SR12	Sacramento	0	0	0	0		0				
SR275	Yolo	2	0	0	-2	-100.0%	0		18		
TOTALS		**1,150,908**	**1,081,840**	**1,129,368**	**-21,540**	**-1.9%**	**47,528**	**4.4%**			

SR-99 in Sutter County and Butte County had the highest rate of increase in delay at 916.9% and 215.3%, when compared with the previous quarter. The increase in delay was caused by change in seasonal traffic demand, since there were no significant change in delay when compared with fourth quarter of 2016.

Based upon total delay by route, SR-51 has continually been 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 2 of this document, Caltrans is planning to construct HOV lane on SR-51, I-5, US-50, and I-80 to mitigate congestion on these routes. The District continues to explore best possible ways to reduce the delay in the impacted areas.