District 03 Mobility Performance Report

2019 Second Quarter

DEPARTMENT OF TRANSPORTATION

July 21, 2019

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 35mph 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 second quarter of 2019, the total delay in District 3 equaled 1.38 million vehicle hours of delay (VHD) below the 35mph speed threshold and 3.50 million VHD below 60mph threshold. The average delay experienced on weekdays in this quarter was approximately 19,000 of VHD below 35mph, and 48,000 of VHD below 60-mph. State Route (SR)-51 continues to be the worst performing freeway in District 3 with 216,535 of VHD caused by several severe bottlenecks.

Vehicle Miles of Travel (VMT) increased 7.1 percent when compared to the previous quarter. The VHD below the 60mph speed threshold increased 0.4 percent during the same quarter. This relationship indicates the travel demand for the weekend has increased, see graphs on page 5 for details.

Top Ten Bottlenecks for the Second Quarter of 2019

Fwy	Name	Shift	Abs PM	CA PM	# Days Active	Avg Extent (Miles)	Total Delay (veh-hrs)	Total Duration (mins)
SR160-S	51-160 IC	PM	49.28	46.678	52	3.93	97018	9485
US50-W	15th St	PM	4.50	L1.345	61	3.52	65391	8230
SR70-E	North Beale Road	PM	20.15	13.524	58	3.97	57015	8190
SR99-N	WB 47th Ave	AM	295.42	20.951	59	3.99	44054	5445
I80-E	NB Mace Blvd	PM	74.95	2.763	63	2.67	41164	10170
SR65-S	Galleria Blvd	PM	65.70	R5.983	64	3.12	37505	11370
SR51-S	EB Exposition Blvd	PM	3.33	3.326	64	1.25	32846	12165
US50-E	15th St	PM	4.38	L1.22	63	1.39	28690	7540
I5-S	L St	PM	518.83	23.533	62	2.16	28566	6925
SR51-N	North of A St	PM	2.09	2.092	64	1.57	28194	7215

Notes:

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

- Caltrans District 3 has plans to construct High Occupancy Vehicle (HOV) lanes on I-5, US-50, SR-51, and I-80 in Sacramento County, I-80 in Yolo County and SR-65 in Placer County. These projects are expected to reduce delay at some of the nearby bottlenecks identified above.

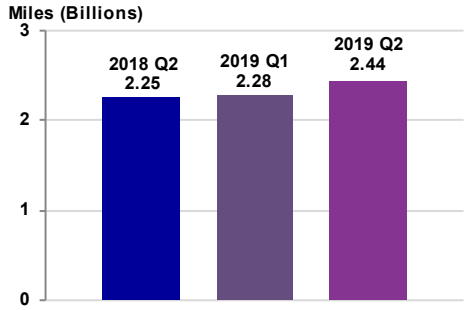
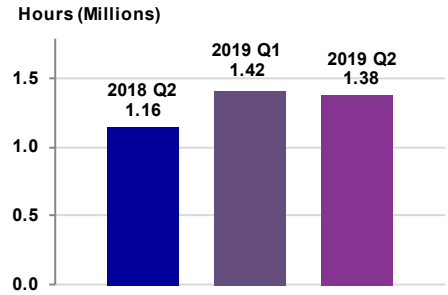
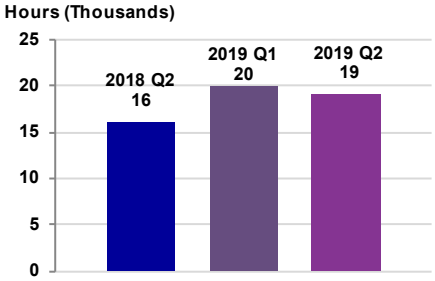
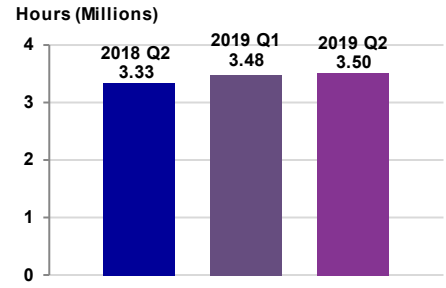
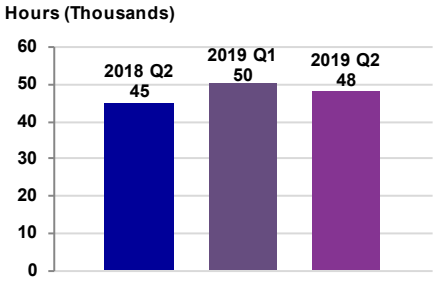
- The HOV lane projects on I-5 and US-50 were nominated for SB-1 funding in 2017. The project on SR 65/I-80 interchange is currently under construction for Phase 1. This phase includes reconstructing the WB I-80 connector to NB SR-65 to increase capacity and includes reconstructing the Stanford Ranch/Galleria IC improvements. The remainder of the SR 65 project is not currently funded. The project on SR 51 is currently pursuing full funding for PA&ED.

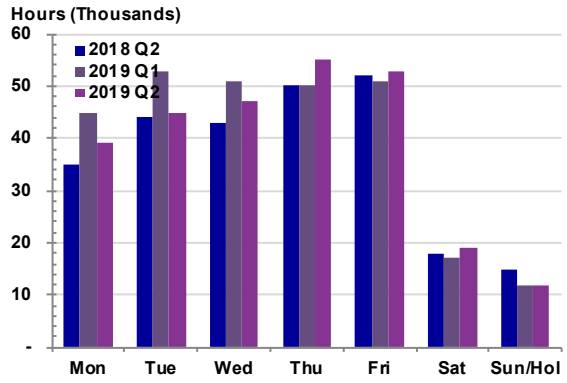
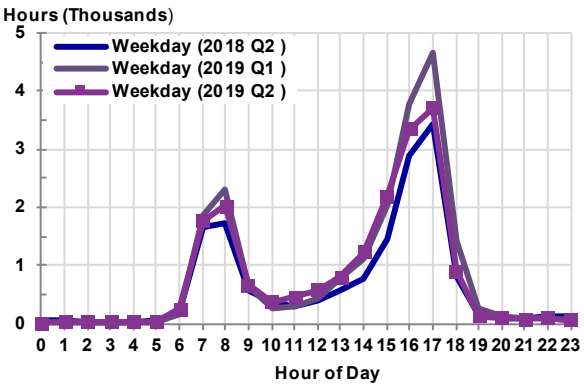
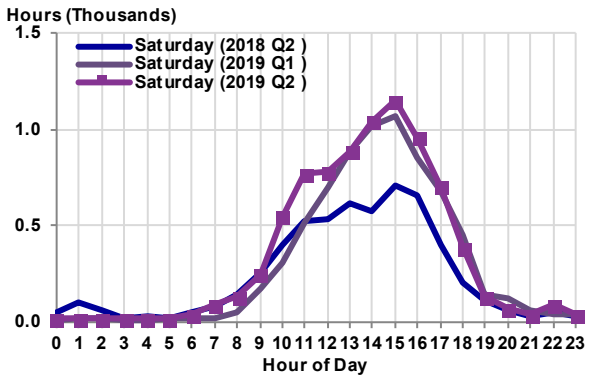
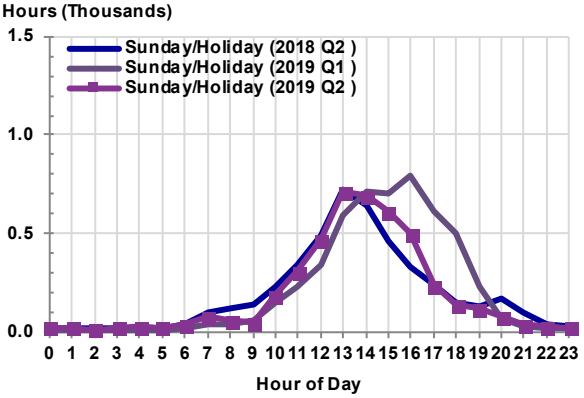
- Caltrans has an emergency Ramp Meter project on Skyway Rd/NB-99 interchange to address the congestion caused by the surge of population in City of Chico.

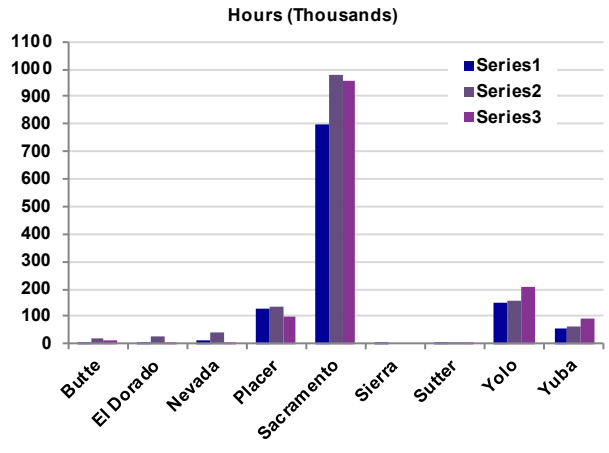
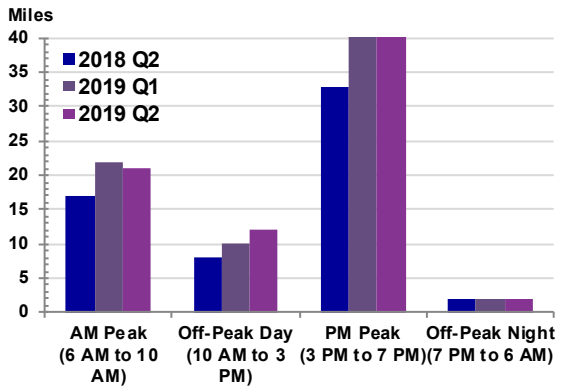
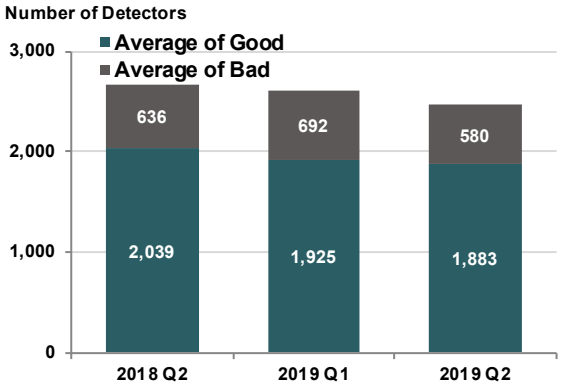
- There are currently no projects planned to address the bottleneck at SR70-E North Beale Rd.

- Our district is preparing to use the information in this report to prioritize funding for projects in the SHOPP mobility programs.

Quarterly Mobility Statistics

Measure	Graph	Percentage Change	
		Over one year ago	Over last quarter
Vehicle Miles of Travel (VMT)		8.3% ↑	7.1% ↑
Total Vehicle Hours of Delay (VHD) at 35 mph		19.8% ↑	-2.8% ↓
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph		19.4% ↑	-7.2% ↓
Total Vehicle Hours of Delay (VHD) at 60 mph		5.2% ↑	0.4% ↑
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph		6.6% ↑	-4.4% ↓

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 -17.7%	Largest Magnitude Decrease over last quarter Tuesc -14.9% N/A
		Largest Magnitude Increase over one year ago Thursday 9%	Largest Magnitude Increase over last quarter Thursday 9.2%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Weekdays		Largest Magnitude Weekday Decrease over one year ago 11 PM -54.9%	Largest Magnitude Weekday Decrease over last quarter 5 PM -20.4%
		Largest Magnitude Weekday Increase over one year ago 3 PM 52.2%	Largest Magnitude Weekday Increase over last quarter 11 AM 55.5%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Saturdays		Largest Magnitude Saturday Decrease over one year ago 1 AM -81.9%	Largest Magnitude Saturday Decrease over last quarter 6 PM -13.1%
		Largest Magnitude Saturday Increase over one year ago 2 PM 80%	Largest Magnitude Saturday Increase over last quarter 11 AM 51.8%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Sundays/ Holidays		Largest Magnitude Sun./Holiday Decrease over one year ago 9 AM -65.1%	Largest Magnitude Sun./Holiday Decrease over last quarter 5 PM -60.6%
		Largest Magnitude Sun./Holiday Increase over one year ago 4 PM 52.1%	Largest Magnitude Sun./Holiday Increase over last quarter 12 PM 36.9%

Measure	Graph	Percentage Change	
Total Vehicle Hours of Delay (VHD) by County at 35 mph		Largest Magnitude Decrease over one year ago Placer -23.4%	Largest Magnitude Decrease over last quarter Placer -26.1%
		Largest Magnitude Increase over one year ago Sacramento 20%	Largest Magnitude Increase over last quarter Yolo 32%
Average Non-Holiday Weekday Equivalent Lost Lane Mile Hours at 35 mph		Largest Magnitude Decrease over one year ago Off-Peak Night -16.8%	Largest Magnitude Decrease over last quarter PM P -10.7% N/A
		Largest Magnitude Increase over one year ago PM Peak 22.8%	Largest Magnitude Increase over last quarter Off-Peak Day 25.7%
Average Number of Good and Bad Detectors		Change in Good over one year ago -8% N/A	Change in Good over last quarter -2%
		Change in Bad over one year ago -9%	Change in Bad over last quarter -16%

Note: As is identified by the detector health graph above, the District's detector health has declined. The graphs indicate a 2 percent reduction in the number of Good detectors. Caltrans has a Traffic Monitoring Station project (EA: 3F840) completed to help improve detector health. Two other projects will cover locations that were missed by this and other previous projects. We had informed our electrical unit of the declining number of detectors and that they will need to be replace/reactivate.

Congestion by Route

		Vehicle Hours of Delay at 35 mph			Difference 2019 Q2-2018 Q2		Difference 2019 Q2-2019 Q1		Rank		
Route	County	2018 Q2	2019 Q1	2019 Q2	Absolute	Percentage	Absolute	Percentage	2018 Q2	2019 Q1	2019 Q2
SR51	Sacramento	247,037	226,451	216,535	-30,502	-12.3%	-9,915	-4.4%	1	1	1
US50	Sacramento	159,506	222,369	208,421	48,915	30.7%	-13,948	-6.3%	3	2	2
SR99	Sacramento	181,026	150,758	195,731	14,705	8.1%	44,973	29.8%	2	5	3
I80	Yolo	128,808	125,445	180,588	51,780	40.2%	55,143	44.0%	5	6	4
I5	Sacramento	144,067	173,811	145,687	1,620	1.1%	-28,124	-16.2%	4	3	5
SR160	Sacramento	13,421	162,064	139,387	125,966	938.6%	-22,677	-14.0%	12	4	6
SR70	Yuba	53,758	63,205	95,726	41,968	78.1%	32,522	51.5%	8	8	7
I80	Placer	85,986	87,781	60,045	-25,941	-30.2%	-27,736	-31.6%	6	7	8
I80	Sacramento	54,081	40,901	50,511	-3,570	-6.6%	9,611	23.5%	7	10	9
SR65	Placer	45,056	41,004	38,646	-6,411	-14.2%	-2,358	-5.8%	9	9	10
I5	Yolo	8,915	20,566	14,717	5,802	65.1%	-5,848	-28.4%	13	14	11
US50	Yolo	13,816	12,488	13,976	160	1.2%	1,488	11.9%	11	15	12
SR99	Butte	479	22,074	10,267	9,788	2042.5%	-11,807	-53.5%	16	13	13
US50	El Dorado	4,228	27,093	4,935	707	16.7%	-22,158	-81.8%	14	12	14
I80	Nevada	14,566	39,992	4,839	-9,727	-66.8%	-35,153	-87.9%	10	11	15
SR12	Sacramento	0	787	2,627	2,627		1,840	233.7%		18	16
SR89	Placer	0	2,920	989	989		-1,932	-66.1%		17	17
SR267	Placer	3	4,194	699	696	21087.9%	-3,495	-83.3%	19	16	18
SR99	Sutter	65	564	316	251	385.1%	-248	-44.0%	17	19	19
SR113	Yolo	1,069	153	172	-898	-83.9%	19	12.2%	15	20	20
SR28	Placer	0	2	3	3		1	30.0%		21	21
I80	Sierra	6	0	0	-6	-100.0%	0	-100.0%	18	22	22
TOTALS		**1,155,896**	**1,424,620**	**1,384,816**	**228,920**	**19.8%**	**-39,804**	**-2.8%**			

The following routes had the highest rates of increase in delay in Q2 of 2019 when compared with the previous quarter (Q1 2019).

- SR 12 in Sacramento County at 233.7% (reactivation of detectors on SR 12)
- SR 70 in Yuba County 51.5% (Paradise cleanup trucks increased truck volume)
- I-80 in Yolo County at 44.0 %
- SR 28 in Placer County at 30.0%
- SR 99 in Sacramento County at 29.8%

Yolo 80 experience increase of Vehicle Hours of Delay due to recreation travel to the Sierras due to a long winter season.

SR-28 has new detectors in Placer County, Tahoe area. The detectors quarterly changes will be identified after baseline has been established.

We have a 5 percent increase in VMT for Sacramento county when compare to the previous quarter. A good representation that more traffic generates more delays in the area.

Based on the total delay by route, SR-51 continues to be the worst performing freeway in District 3. The top five most congested routes are in Sacramento County, which is due to the higher travel demand associated with Sacramento County's higher population, regional employment and educational centers. As identified on pages 2 and 3 of this document; Caltrans is continuing the process of implementing HOV lanes in to the Sacramento's freeway system. HOV lane projects on SR-51, I-5, and US-50 are planned to mitigate congestion on these routes. Further congestion mitigation can be achieved by increasing mode shift away from single occupancy vehicles to higher occupancy vehicles such as carpooling, vanpooling and higher utilization of mass transit options. The District continues to explore best possible ways to reduce delay in the impacted areas of District 3.