District 03 Mobility Performance Report

2020 Second Quarter

DEPARTMENT OF TRANSPORTATION

July 31, 2020
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 second quarter of 2020, there is significant reduction in delay due to the Shelter In Home order. The total delay on the freeways in District 3 equaled *0.30* million vehicle hours of delay (VHD) below the 35-mph speed threshold and *1.23* million VHD below 60-mph threshold. The average delay experienced on weekdays in this quarter was approximately *4,000* of VHD below 35-mph, and *16,000* of VHD below 60-mph. State Route (SR)-99 was the worst performing freeway in District 3 with *106,416* of VHD caused by several bottlenecks.

Vehicle Miles of Travel (VMT) decreased by *17.9%* with a total of *1.84* billion miles when compared to the previous quarter (*2.24* billion miles). The VHD below the 60-mph speed threshold decreased by *59.6%* during the same quarter. This relationship indicates the travel demand and delay has decreased because of the ongoing pandemic even though Shelter-In-Place order slowly lifted in May. See graphs on page 5 for details. It is anticipated the travel demand and delay will go up in the coming quarter due to the reopening.

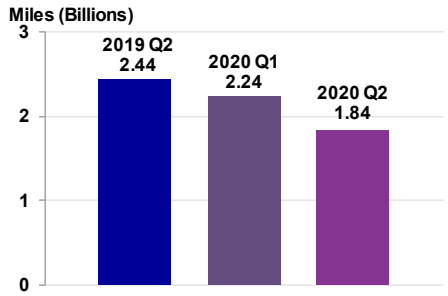
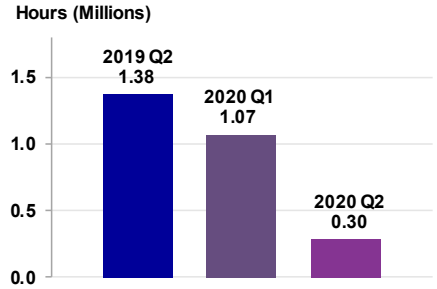
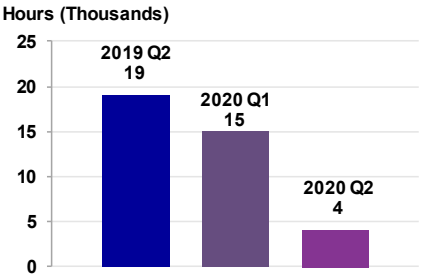
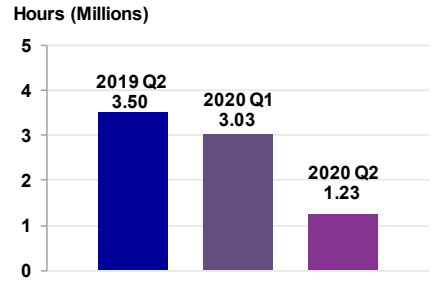
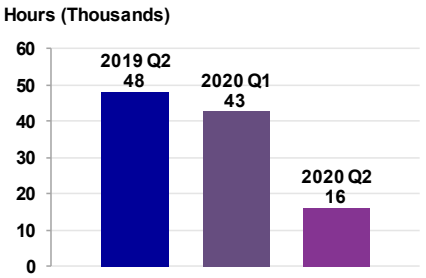
Top Ten Bottlenecks for the Second Quarter of 2020

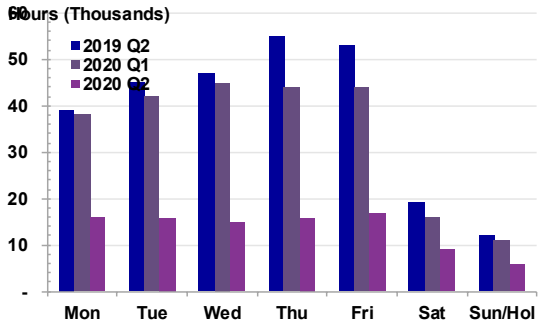
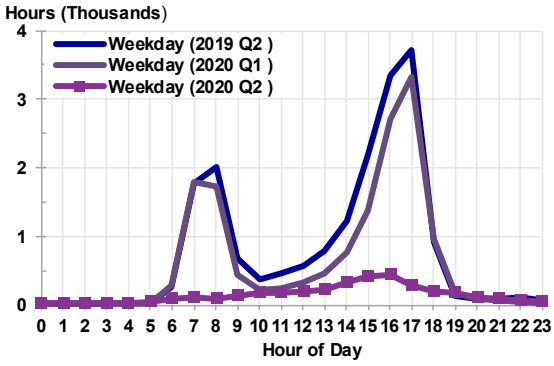
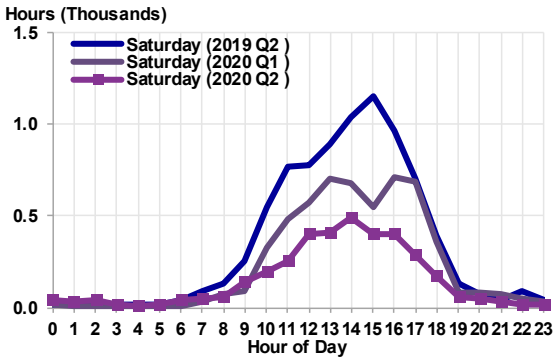
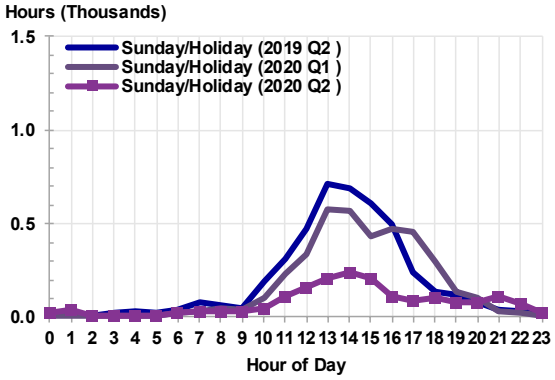
Fwy	Name	Shift	Abs PM	CA PM	# Days Active	Avg Extent (Miles)	Total Delay (veh-hrs)	Total Duration (mins)
US50-E	Midway Rd	PM	107.96	79.801	63	3.58	8,542	17,870
SR51-S	EB Exposition Bl	PM	3.33	3.326	23	1.17	6,099	2,800
SR51-N	North of A St	PM	2.09	2.092	26	1.46	5,283	1,790
I80-E	SB Mace Blvd	PM	74.79	2.605	22	1.05	4,060	2,100
SR51-N	30 & E St	PM	1.50	1.5	30	0.94	3,915	1,770
SR65-S	Pleasant Grove Blvd	PM	66.91	R7.189	28	1.11	3,838	2,625
SR99-S	99SB at Cosumnes	PM	290.68	16.23	23	1.74	3,588	2,200
I80-W	W of CR 105d	AM	76.17	3.985	5	2.28	2,926	530
SR28-E	Dollar Point	PM	2.90	2.985	39	5.00	2,790	1,950
SR28-W	Dollar Point	PM	2.90	2.985	39	5.00	2,790	1,950

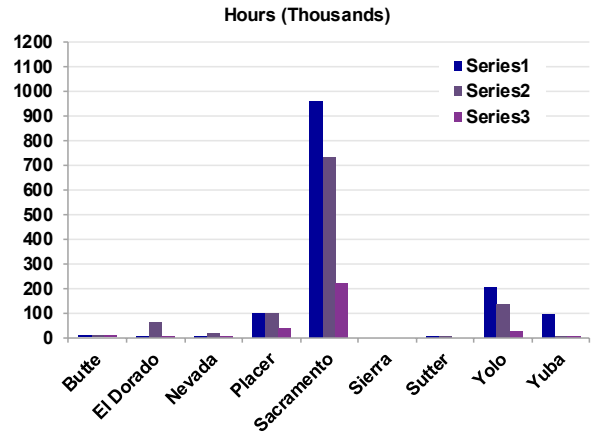
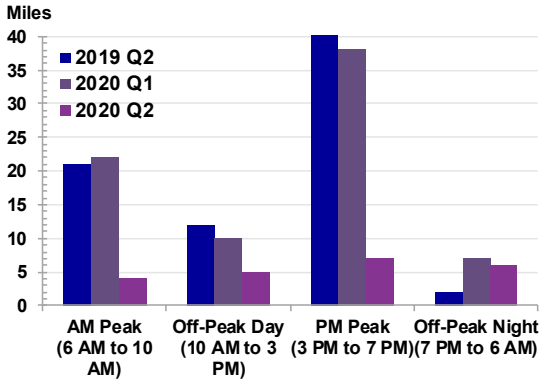
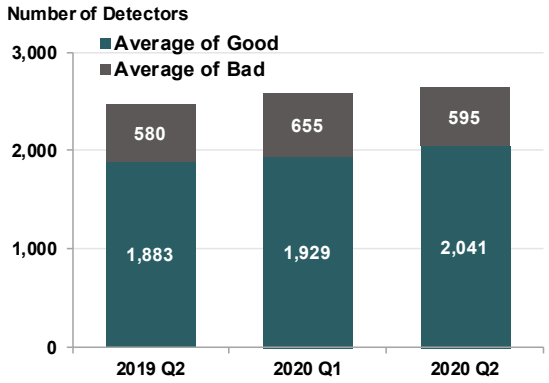
Notes:

- 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.
- Dollar Point/SR 28 near Lake Tahoe shows up on the Top Bottleneck location for the first time. Caltrans will investigate the cause.

- In continued efforts to help relieve congestion and allow safe merging during high traffic demand periods, the California Department of Transportation (Caltrans) has updated the ramp metering operation hours on northbound SAC-99. The metering hours will be based on traffic demand and will be activated 24/7, including holidays when minimum traffic thresholds are met. The ramp meters will be active every day including weekends and holidays.
- SR-51 an I-80 WB (Mace Blvd to Longview Dr) ramp meter operation has been upgraded to 24/7 on-demand ramp metering.
- Caltrans District 3 has plans to construct High Occupancy Vehicle (HOV) lanes on US-50, and SR-51 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 is under construction right now.
- 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. US-50 were nominated for SB-1 funding in 2017. The HOV project on SR 51 is currently funding for PA&ED.
- Our district is preparing to use the information in this report to prioritize funding for projects in the SHOPP mobility programs.

Measure	Graph	Percentage Change	
		Over one year ago	Over last quarter
Vehicle Miles of Travel (VMT)		-24.6%	-17.9%
Total Vehicle Hours of Delay (VHD) at 35 mph		-78.5%	-72.2%
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph		-81.6%	-76.6%
Total Vehicle Hours of Delay (VHD) at 60 mph		-65%	-59.6%
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph		-66.7%	-62.6%

Measure	Graph	Percentage Change	
Average Vehicle Hours of Delay by Day of Week at 60 mph		Largest Magnitude Decrease over one year ago Thursday -70.4%	Largest Magnitude Decrease over last quarter Wednesday -67.8%
		Largest Magnitude Increase over one year ago N/A	Largest Magnitude Increase over last quarter N/A
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Weekdays		Largest Magnitude Weekday Decrease over one year ago 5 PM -92.1%	Largest Magnitude Weekday Decrease over last quarter 5 PM -91.2%
		Largest Magnitude Weekday Increase over one year ago 7 PM 22.4%	Largest Magnitude Weekday Increase over last quarter 8 PM 26.4%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Saturdays		Largest Magnitude Saturday Decrease over one year ago 3 PM -64.9%	Largest Magnitude Saturday Decrease over last quarter 5 PM -57.6%
		Largest Magnitude Saturday Increase over one year ago 12 AM 86.2%	Largest Magnitude Saturday Increase over last quarter 9 AM 60.3%
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 -70.2%	Largest Magnitude Sun./Holiday Decrease over last quarter 5 PM -81.5%
		Largest Magnitude Sun./Holiday Increase over one year ago 9 PM 178.7%	Largest Magnitude Sun./Holiday Increase over last quarter 9 PM 217.5%

Measure	Graph	Percentage Change	
Total Vehicle Hours of Delay (VHD) by County at 35 mph		Largest Magnitude Decrease over one year ago Sacramento -77.3%	Largest Magnitude Decrease over last quarter Sacramento -70.3%
		Largest Magnitude Increase over one year ago El Dorado 109.8%	Largest Magnitude Increase over last quarter – N/A
Average Non-Holiday Weekday Equivalent Lost Lane Mile Hours at 35 mph		Largest Magnitude Decrease over one year ago PM Peak -83.7%	Largest Magnitude Decrease over last quarter PM Peak -82.6%
		Largest Magnitude Increase over one year ago Off-Peak Nigh 214.9%	Largest Magnitude Increase over last quarter – N/A
Average Number of Good and Bad Detectors		Change in Good over one year ago 8%	Change in Good over last quarter 6%
		Change in Bad over one year ago 3%	Change in Bad over last quarter -9%

Note: As is identified by the detector health graph above, the District's detector health has improved. The graphs indicate a 6% increase in the number of Good detectors, comparing with previous quarter. 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.

Overall, congestion and delay has decrease significantly due to the Shelter-In-Place order, when compared with the previous quarter and Q2 2019. See table below for reference.

Congestion by Route											
		Vehicle Hours of Delay at 35 mph			Difference 2020 Q2-2019 Q2		Difference 2020 Q2-2020 Q1		Rank		
Route	County	2019 Q2	2020 Q1	2020 Q2	Absolute	Percentage	Absolute	Percentage	2019 Q2	2020 Q1	2020 Q2
SR99	Sacramento	195,731	168,595	106,416	-89,315	-45.6%	-62,179	-36.9%	3	2	1
I5	Sacramento	145,687	156,501	44,520	-101,167	-69.4%	-111,981	-71.6%	5	4	2
I80	Placer	60,045	64,518	31,603	-28,442	-47.4%	-32,915	-51.0%	8	7	3
SR51	Sacramento	216,535	204,126	29,685	-186,851	-86.3%	-174,441	-85.5%	1	1	4
US50	Sacramento	208,421	159,516	26,469	-181,952	-87.3%	-133,046	-83.4%	2	3	5
I80	Yolo	180,588	102,867	21,695	-158,893	-88.0%	-81,172	-78.9%	4	5	6
I80	Sacramento	50,511	41,430	9,438	-41,073	-81.3%	-31,992	-77.2%	9	8	7
US50	El Dorado	4,935	64,909	9,209	4,274	86.6%	-55,700	-85.8%	14	6	8
SR65	Placer	38,646	31,675	5,428	-33,218	-86.0%	-26,247	-82.9%	10	10	9
I80	Nevada	4,839	18,514	4,040	-799	-16.5%	-14,474	-78.2%	15	11	10
US50	Yolo	13,976	32,393	2,945	-11,030	-78.9%	-29,448	-90.9%	12	9	11
I5	Yolo	14,717	4,653	1,998	-12,720	-86.4%	-2,655	-57.1%	11	13	12
SR70	Yuba	95,726	10,462	1,255	-94,472	-98.7%	-9,208	-88.0%	7	12	13
SR89	El Dorado	0	1,127	1,146	1,146		20	1.7%		17	14
SR12	Sacramento	2,627	785	899	-1,728	-65.8%	114	14.5%	16	18	15
SR267	Placer	699	1,823	471	-228	-32.6%	-1,351	-74.1%	18	15	16
SR113	Yolo	172	91	73	-99	-57.4%	-18	-19.7%	20	20	17
SR160	Sacramento	139,387	750	51	-139,336	-100.0%	-699	-93.2%	6	19	18
SR99	Butte	10,267	2,534	28	-10,239	-99.7%	-2,506	-98.9%	13	14	19
SR89	Placer	989	1,177	9	-980	-99.1%	-1,168	-99.2%	17	16	20
SR99	Sutter	316	10	4	-312	-98.6%	-5	-55.2%	19	21	21
SR28	Placer	3	3	3	0	0.0%	0	0.0%	21	22	22
TOTALS		1,384,816	1,068,457	297,385	-1,087,432	-78.5%	-771,073	-72.2%			

As indicated by the table above the Total Delay for all monitored routes has decreased by *771,073* hours, a reduction of *72.2%* when compared with previous quarter.

Based on the total delay by route, SR-99 was the worst performing freeway in District 3. The top four out of five most congested routes are in Sacramento County, which is due to the increasing travel demand associated with Sacramento County's high 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 and 24/7 ramp meter operations for 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 Work at Home and 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 the best possible ways to reduce delay in the impacted areas of District 3.