District 03 Mobility Performance Report

2020 Third Quarter

DEPARTMENT OF TRANSPORTATION

October 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 third quarter of 2020, there is an increase in delay due to the lifting of the Shelter In Home order. The total delay on the freeways in District 3 equaled *0.45* million vehicle hours of delay (VHD) below the 35-mph speed threshold and *1.89* million VHD below 60-mph threshold. The average delay experienced on weekdays in this quarter was approximately *5,000* of VHD below 35-mph, and *23,000* of VHD below 60-mph. I-5 was the worst performing freeway in District 3 with *66,141* of VHD caused by several bottlenecks and construction activities.

Vehicle Miles of Travel (VMT) increased by *21.3%* with a total of *2.23* billion miles when compared to the previous quarter (*1.84* billion miles). The VHD below the 60-mph speed threshold increased by *54.5%* during the same quarter. This relationship indicates the travel demand and delay has increased because of lifting of the Shelter-In-Place order. See graphs on page 4 for details.

Top Ten Bottlenecks for the Third Quarter of 2020

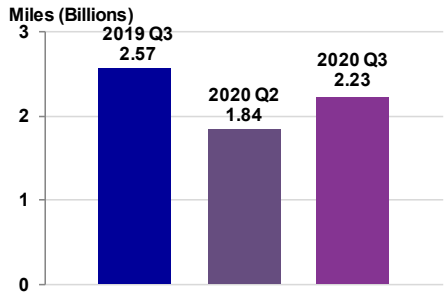
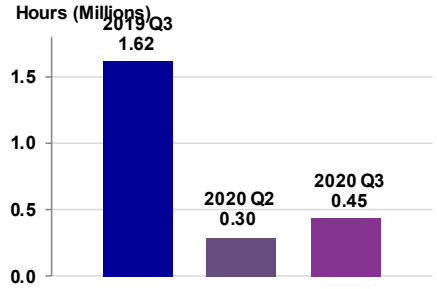
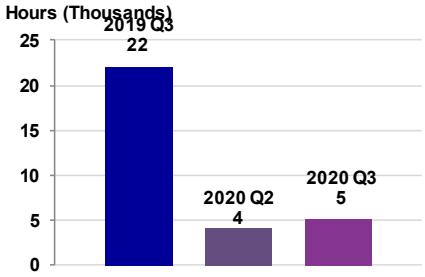
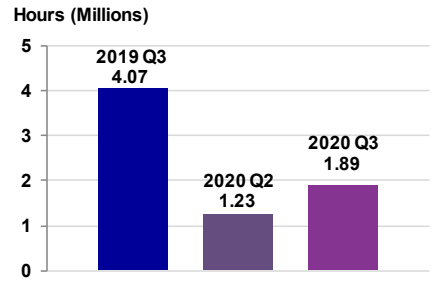
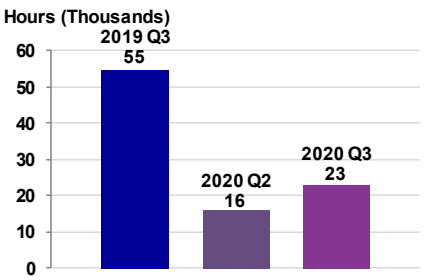
County	Fwy	Name	Type	Shift	Abs PM	CA PM	Latitude	Longitude	# Days Active	Avg Extent (Miles)	Total Delay (veh-hrs)	Total Duration (mins)
El Dorado	US50-E	Midway Rd	ML	PM	107.96	79.801	38.95	-119.95	65	3.87	22,999	19,475
Placer	SR65-S	Pleasant Grove Blvd	ML	PM	66.91	R7.189	38.79	-121.29	64	1.33	13,295	8,470
Sacramento	SR51-N	North of A St	ML	PM	2.09	2.092	38.58	-121.46	61	1.43	12,447	4,355
Sacramento	SR51-S	EB Exposition Bl	ML	PM	3.33	3.326	38.60	-121.44	60	1.07	11,787	6,415
Sacramento	SR51-N	30 & E St	ML	PM	1.50	1.5	38.58	-121.46	65	0.91	11,125	5,225
Yolo	I80-E	80EB at Mace Blvd	ML	PM	74.90	2.714	38.55	-121.69	28	1.68	10,946	3,530
Yolo	I80-E	SB Mace Blvd	ML	PM	74.79	2.605	38.55	-121.70	41	1.13	9,216	4,525
Placer	SR267-W	Truckee Airport Rd	ML	PM	2.19	0.393	39.31	-120.15	55	2.90	5,404	5,300
Sacramento	SR99-S	Broadway St-SB99	ML	PM	298.30	23.856	38.55	-121.47	55	0.60	5,079	3,500
El Dorado	US50-E	Midway Rd	ML	AM	107.96	79.801	38.95	-119.95	65	3.06	4,830	15,620

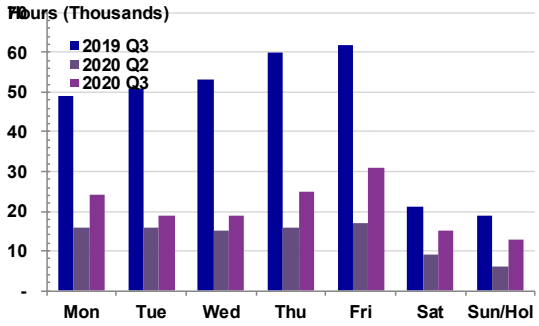
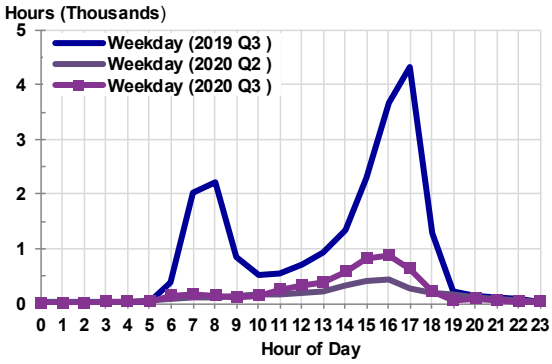
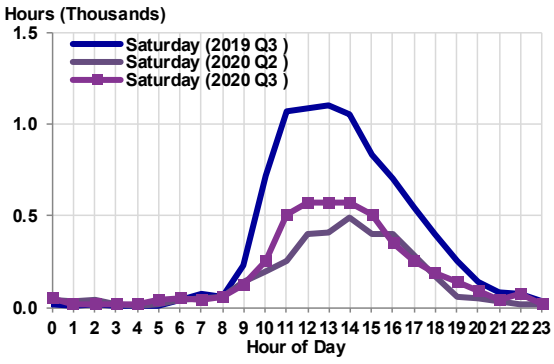
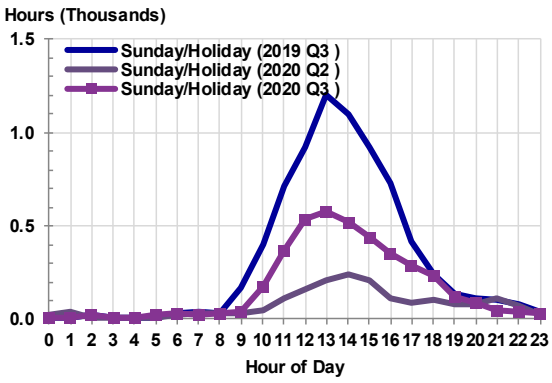
Notes:

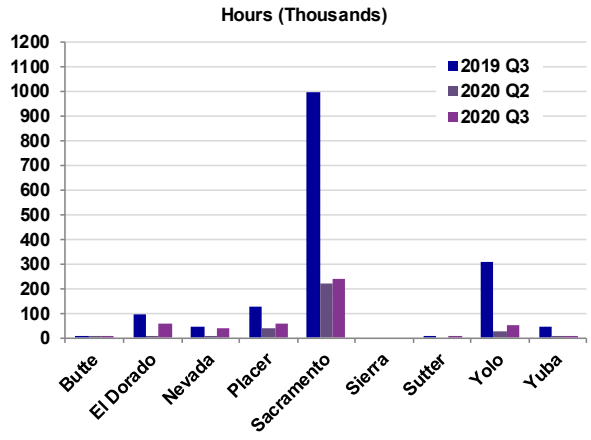
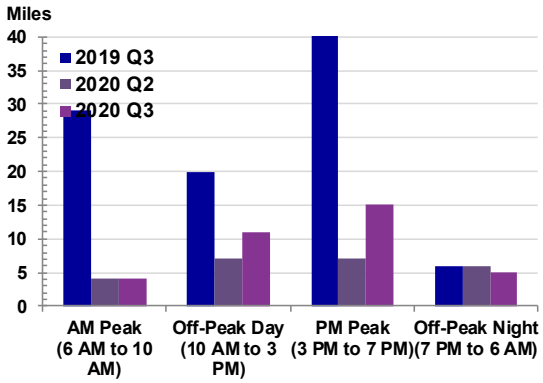
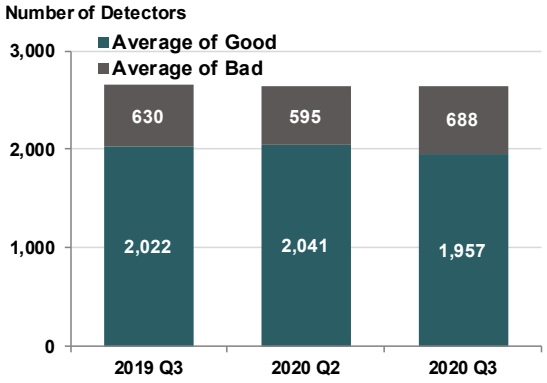
- For the table above, the quarterly delay calculation was based upon a 60-mph threshold, for the a.m. or p.m. weekday peak period.
- Truckee Airport Rd/SR 267 near Truckee shows up on the Top Bottleneck location for the first time. The wildfire near Truckee could be the reason why it has so much delay.
- 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)		-13.1%	21.3%
Total Vehicle Hours of Delay (VHD) at 35 mph		-72.1%	51.9%
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph		-76.3%	48.1%
Total Vehicle Hours of Delay (VHD) at 60 mph		-53.5%	54.5%
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph		-57.3%	46.7%

Measure	Graph	Percentage Change	
Average Vehicle Hours of Delay by Day of Week at 60 mph		Largest Magnitude Decrease over one year ago Thursday -58.3%	Largest Magnitude Decrease over last quarter –
		Largest Magnitude Increase over one year ago –	Largest Magnitude Increase over last quarter Friday 78.3%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Weekdays		Largest Magnitude Weekday Decrease over one year ago 5 PM -85.1%	Largest Magnitude Weekday Decrease over last quarter 7 PM -57.6%
		Largest Magnitude Weekday Increase over one year ago –	Largest Magnitude Weekday Increase over last quarter 4 PM 100%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Saturdays		Largest Magnitude Saturday Decrease over one year ago 11 AM -51.9%	Largest Magnitude Saturday Decrease over last quarter 5 PM -16.5%
		Largest Magnitude Saturday Increase over one year ago 12 AM 120.6%	Largest Magnitude Saturday Increase over last quarter 11 AM 106.4%
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 -51.5%	Largest Magnitude Sun./Holiday Decrease over last quarter 9 PM -49.8%
		Largest Magnitude Sun./Holiday Increase over one year ago 2 AM 16.8%	Largest Magnitude Sun./Holiday Increase over last quarter 12 PM 237.6%

Measure	Graph	Percentage Change	
Total Vehicle Hours of Delay (VHD) by County at 35 mph		Largest Magnitude Decrease over one year ago Sacramento -75.7%	Largest Magnitude Decrease over last quarter –
		Largest Magnitude Increase over one year ago –	Largest Magnitude Increase over last quarter El Dorado 458.7%
Average Non-Holiday Weekday Equivalent Lost Lane Mile Hours at 35 mph		Largest Magnitude Decrease over one year ago PM Peak -72.6%	Largest Magnitude Decrease over last quarter Off-Peak Night -15.3%
		Largest Magnitude Increase over one year ago –	Largest Magnitude Increase over last quarter PM Peak 122.2%
Average Number of Good and Bad Detectors		Change in Good over one year ago -3%	Change in Good over last quarter -4%
		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 worsened. The graphs indicate a 4% decrease 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 increase due to lifting of 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 Q3-2019 Q3		Difference 2020 Q3-2020 Q2		Rank		
Route	County	2019 Q3	2020 Q2	2020 Q3	Absolute	Percentage	Absolute	Percentage	2019 Q3	2020 Q2	2020 Q3
I5	Sacramento	211,496	44,520	66,141	-145,355	-68.7%	21,621	48.6%	4	2	1
SR99	Sacramento	207,990	106,416	64,235	-143,755	-69.1%	-42,181	-39.6%	5	1	2
SR51	Sacramento	265,264	29,685	60,064	-205,200	-77.4%	30,380	102.3%	1	4	3
US50	El Dorado	92,989	9,209	57,470	-35,519	-38.2%	48,260	524.0%	6	8	4
I80	Yolo	224,523	21,695	40,268	-184,255	-82.1%	18,573	85.6%	3	6	5
I80	Nevada	46,671	4,040	40,110	-6,561	-14.1%	36,071	892.9%	11	10	6
I80	Placer	87,802	31,603	34,051	-53,751	-61.2%	2,448	7.7%	7	3	7
US50	Sacramento	233,019	26,469	33,239	-199,780	-85.7%	6,770	25.6%	2	5	8
SR65	Placer	32,892	5,428	15,165	-17,727	-53.9%	9,738	179.4%	12	9	9
I80	Sacramento	70,207	9,438	14,350	-55,857	-79.6%	4,912	52.0%	8	7	10
SR267	Placer	3,911	471	8,098	4,187	107.0%	7,626	1617.8%	16	16	11
US50	Yolo	58,951	2,945	5,626	-53,326	-90.5%	2,680	91.0%	9	11	12
SR70	Yuba	47,472	1,255	5,004	-42,468	-89.5%	3,750	298.9%	10	13	13
SR12	Sacramento	4,557	899	3,681	-876	-19.2%	2,782	309.4%	14	15	14
I5	Yolo	26,173	1,998	2,477	-23,695	-90.5%	480	24.0%	13	12	15
SR89	Placer	1,372	9	823	-549	-40.0%	814	9142.7%	18	20	16
SR89	El Dorado	0	1,146	386	386		-760	-66.3%		14	17
SR99	Butte	4,012	28	328	-3,685	-91.8%	299	1057.6%	15	19	18
SR99	Sutter	1,800	4	308	-1,493	-82.9%	303	7055.8%	17	21	19
SR113	Yolo	547	73	26	-520	-95.2%	-47	-63.9%	20	17	20
SR28	Placer	3	3	8	6	223.1%	6	223.1%	21	22	21
SR160	Sacramento	634	51	1	-633	-99.9%	-50	-98.2%	19	18	22
I80	Sierra	0	0	0	0		0				
SR275	Yolo	0	0	0	0		0				
TOTALS		**1,948,291**	**333,063**	**542,567**	**-1,405,724**	**-72.2%**	**209,503**	**62.9%**			

As indicated by the table above the Total Delay for all monitored routes has increased by *209,503* hours, a rise of *62.9%* when compared with previous quarter.

Based on the total delay by route, I-5 was the worst performing freeway in District 3 due to construction of the HOV lanes. The top three 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.