District 03 Mobility Performance Report

2021 First Quarter

DEPARTMENT OF TRANSPORTATION

April 26, 2021
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 2021, there is a small increase in delay due to rise of employment rate. The total delay on the freeways in District 3 equaled *0.49* million vehicle hours of delay (VHD) below the 35-mph speed threshold and *1.83* 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 *22,400* of VHD below 60-mph. SR-51 was the worst performing freeway in District 3 with *91,691* of VHD caused by several bottlenecks and construction activities.

Vehicle Miles of Travel (VMT) decreased by *0.8%* with a total of *2.05* billion miles when compared to the previous quarter (*2.06* billion miles). The VHD below the 60-mph speed threshold increased by *2.8%* during the same quarter. See graphs on page 4 for details.

Top Ten Bottlenecks for the First Quarter of 2021

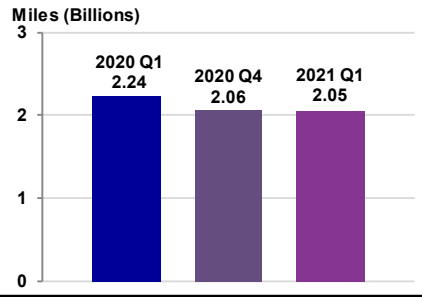
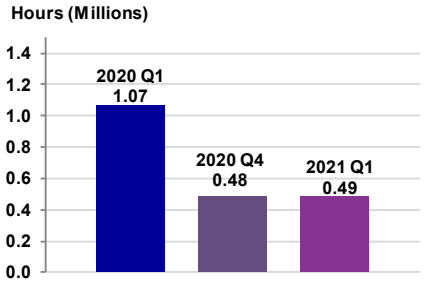
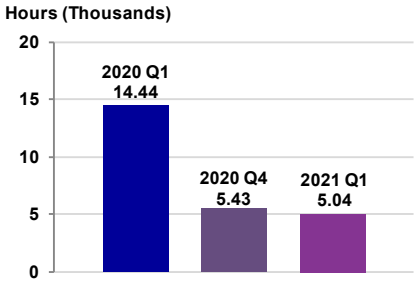
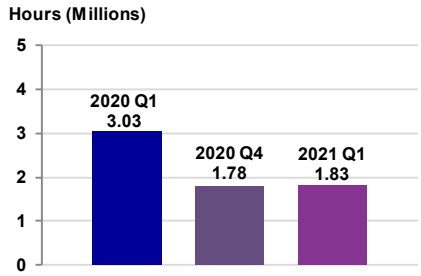
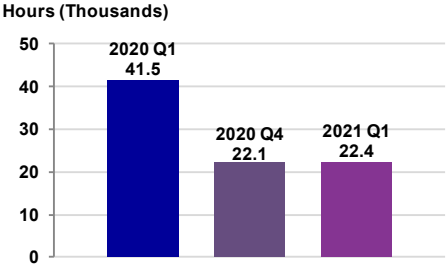
County	Fwy	Name	Type	Shift	Abs PM	CA PM	Lat.	Longi.	# Days Active	Avg Extent (Miles)	Total Delay (veh-hrs)	Total Duration (mins)
Sacramento	SR51-S	EB Exposition Bl	ML	PM	3.33	3.326	38.60	-121.44	51	1.72	22,885	7,535
Sacramento	SR51-N	North of A St	ML	PM	2.09	2.092	38.58	-121.46	58	1.60	16,362	5,270
Placer	SR65-S	Pleasant Grove Blvd	ML	PM	66.91	R7.189	38.79	-121.29	54	1.52	16,325	8,610
El Dorado	US50-E	Missouri Flat Rd	ML	PM	43.39	14.853	38.71	-120.84	61	1.10	15,532	13,300
El Dorado	US50-E	Midway Rd	ML	PM	107.96	79.801	38.95	-119.95	61	4.08	15,424	18,300
Yolo	I80-E	80EB at Mace Blvd	ML	PM	74.90	2.714	38.55	-121.69	45	1.71	14,323	5,755
Placer	I80-W	EB Douglas Blvd	ML	PM	103.38	1.876	38.74	-121.27	44	1.16	9,670	4,765
Sacramento	SR51-N	30 & E St	ML	PM	1.50	1.5	38.58	-121.46	57	0.97	6,696	3,245
Sacramento	SR99-S	Broadway St/SB-99	ML	PM	298.30	23.856	38.55	-121.47	49	0.60	6,439	4,195
El Dorado	US50-E	Missouri Flat Rd	ML	AM	43.39	14.853	38.71	-120.84	60	1.10	6,154	10,440

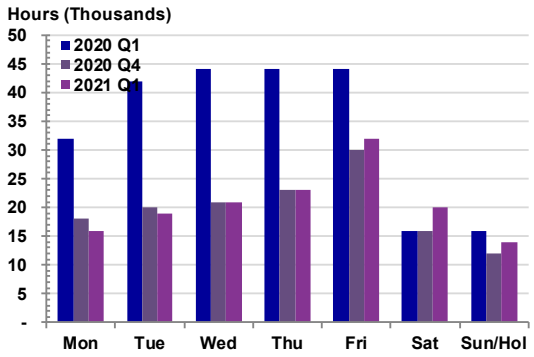
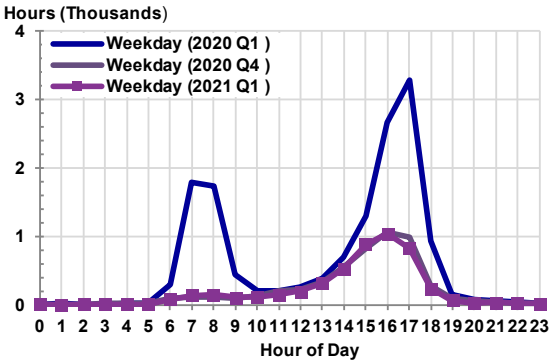
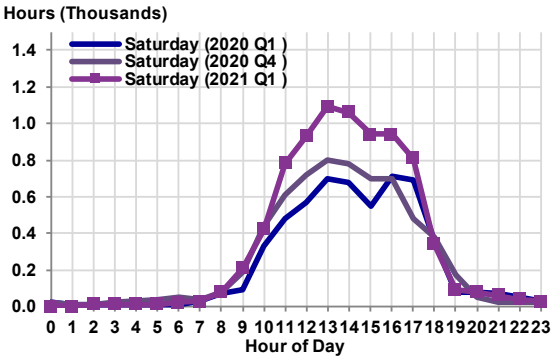
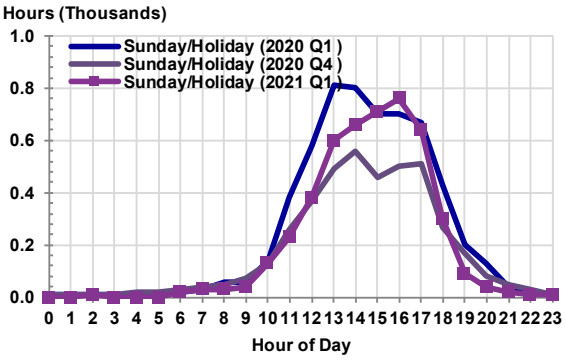
Notes:

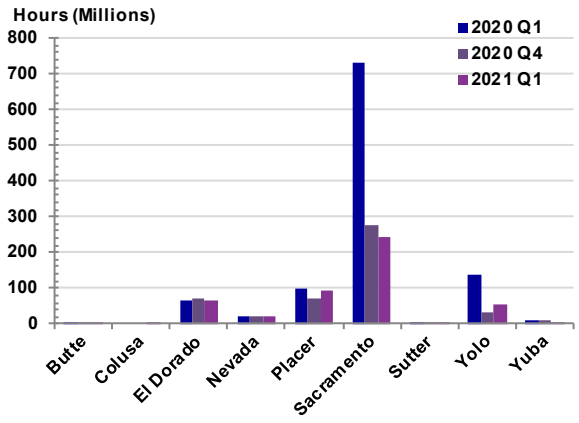
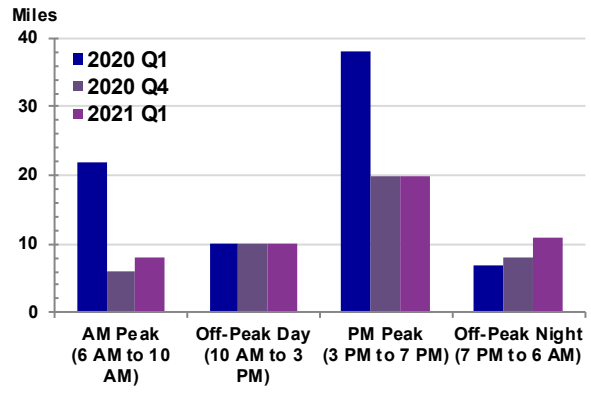
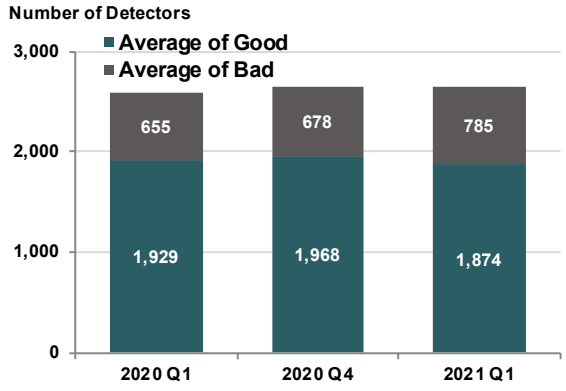
- For the table above, the quarterly delay calculation was based upon a 60-mph threshold, for the a.m. or p.m. weekday peak period.
- Three of the top ten bottlenecks are located on SR 51, it is the most congested corridor in Sacramento region.
- In continued efforts to help relieve congestion and allow safe merging during high traffic demand periods, the California Department of Transportation (Caltrans) has updated the ramp metering operation hours on all major freeways in Sacramento region. 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.

- Caltrans District 3 has plans to construct High Occupancy Vehicle (HOV) lanes on 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 and US-50 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. The planned 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.

Quarterly Mobility Statistics

Measure	Graph	Percentage Change	
		Over one year ago	Over last quarter
Vehicle Miles of Travel (VMT)		-8.6%	-0.8%
Total Vehicle Hours of Delay (VHD) at 35 mph		-54.4%	0.4%
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph		-65.1%	-7.2%
Total Vehicle Hours of Delay (VHD) at 60 mph		-39.7%	2.8%
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph		-46%	1.2%

Measure	Graph	Percentage Change	
Average Vehicle Hours of Delay by Day of Week at 60 mph		Largest Magnitude Decrease over one year ago Tuesday -55%	Largest Magnitude Decrease over last quarter Monday -8.1%
		Largest Magnitude Increase over one year ago Saturday 25.5%	Largest Magnitude Increase over last quarter Saturday 21.2%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Weekdays		Largest Magnitude Weekday Decrease over one year ago 5 PM -74.6%	Largest Magnitude Weekday Decrease over last quarter 5 PM -15.9%
		Largest Magnitude Weekday Increase over one year ago –	Largest Magnitude Weekday Increase over last quarter 3 PM 7.4%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Saturdays		Largest Magnitude Saturday Decrease over one year ago 6 PM -5.3%	Largest Magnitude Saturday Decrease over last quarter 7 PM -47%
		Largest Magnitude Saturday Increase over one year ago 1 PM 56.9%	Largest Magnitude Saturday Increase over last quarter 5 PM 71.4%
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 -26.1%	Largest Magnitude Sun./Holiday Decrease over last quarter 7 PM -47.8%
		Largest Magnitude Sun./Holiday Increase over one year ago 4 PM 7.9%	Largest Magnitude Sun./Holiday Increase over last quarter 3 PM 55.5%

Measure	Graph	Percentage Change	
Total Vehicle Hours of Delay (VHD) by County at 35 mph		Largest Magnitude Decrease over one year ago Sacramento -66.7%	Largest Magnitude Decrease over last quarter Sacramento -11.4%
		Largest Magnitude Increase over one year ago Nevada 15.4%	Largest Magnitude Increase over last quarter Yolo 63.6%
Average Non-Holiday Weekday Equivalent Lost Lane Mile Hours at 35 mph		Largest Magnitude Decrease over one year ago PM Peak -48.1%	Largest Magnitude Decrease over last quarter –
		Largest Magnitude Increase over one year ago Peak Night 53.9%	Largest Magnitude Increase over last quarter Off-Peak N 46.1%
Average Number of Good and Bad Detectors		Change in Good over one year ago -3%	Change in Good over last quarter -5%
		Change in Bad over one year ago 20%	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 5% 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 a small increase due to rise of employment rate, when compared with the previous quarter and Q4 2020. See table below for reference.

Congestion by Route

		Vehicle Hours of Delay at 35 mph			Difference 2021 Q1-2020 Q1		Difference 2021 Q1-2020 Q4		Rank		
Route	County	2020 Q1	2020 Q4	2021 Q1	Absolute	Percentage	Absolute	Percentage	2020 Q1	2020 Q4	2021 Q1
SR51	Sacramento	204,126	84,010	91,691	-112,435	-55.1%	7,681	9.1%	1	1	1
US50	El Dorado	64,909	69,062	67,111	2,202	3.4%	-1,951	-2.8%	6	3	2
SR99	Sacramento	168,595	63,072	58,958	-109,638	-65.0%	-4,114	-6.5%	2	4	3
I80	Yolo	102,867	30,872	52,970	-49,898	-48.5%	22,098	71.6%	5	7	4
US50	Sacramento	159,516	31,507	51,655	-107,861	-67.6%	20,147	63.9%	3	6	5
I80	Placer	64,518	36,692	48,277	-16,241	-25.2%	11,585	31.6%	7	5	6
SR65	Placer	31,675	29,819	33,252	1,578	5.0%	3,433	11.5%	10	8	7
I5	Sacramento	156,501	80,781	28,640	-127,861	-81.7%	-52,141	-64.5%	4	2	8
I80	Nevada	18,514	18,692	21,361	2,847	15.4%	2,669	14.3%	11	9	9
I80	Sacramento	41,430	14,385	11,147	-30,283	-73.1%	-3,238	-22.5%	8	10	10
SR267	Placer	1,823	3,882	4,918	3,095	169.8%	1,036	26.7%	15	12	11
SR89	Placer	1,177	316	4,809	3,632	308.5%	4,493	1421.0%	16	19	12
US50	Yolo	32,393	2,715	3,443	-28,950	-89.4%	729	26.8%	9	13	13
SR70	Yuba	10,462	12,387	3,167	-7,295	-69.7%	-9,220	-74.4%	12	11	14
SR12	Sacramento	785	1,484	1,917	1,132	144.2%	433	29.2%	18	15	15
SR99	Butte	2,534	2,534	1,270	-1,264	-49.9%	-1,264	-49.9%	14	14	16
SR89	El Dorado	1,127	457	1,045	-82	-7.3%	588	128.7%	17	18	17
I5	Yolo	4,653	1,358	753	-3,899	-83.8%	-605	-44.5%	13	16	18
SR28	Placer	3	502	428	425	16361.5%	-74	-14.8%	22	17	19
SR20	Colusa	0	3	58	58		55	2040.7%		21	20
SR99	Sutter	10	293	36	27	277.1%	-257	-87.7%	21	20	21
SR20	Nevada	0	0	9	9		9				22
SR160	Sacramento	750	0	1	-749	-99.9%	1		19		23
SR70	Sutter	0	0	0	0		0				24
SR113	Yolo	91	0	0	-91	-100.0%	0		20		
TOTALS		**1,068,457**	**484,822**	**486,916**	**-581,541**	**-54.4%**	**2,094**	**0.4%**			

As indicated by the table above the Total Delay for all monitored routes has increased by *2,094* hours, a rise of *0.4%* when compared with previous quarter.

Based on the total delay by route, SR 51 was the worst performing freeway in District 3 due to its bottleneck locations. The top three out of five most congested routes are in Sacramento County, which is due to its 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, I-80, and US-50 are planned or under construction 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.