

District 03 Mobility Performance Report

2023 Fourth Quarter

DEPARTMENT OF TRANSPORTATION

December 28, 2023
Office of Freeway Operations

2023 Fourth Quarter

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 2023, there is a decrease in delay due to the seasonal fluctuation. The delay profile of this quarter is closely match with the fourth quarter of 2022. See graphs on page 5 for reference. The total delay on the freeways in District 3 equaled 0.9 million vehicle hours of delay (VHD) below the 35-mph speed threshold and 2.8 million VHD below 60-mph threshold. The average delay experienced on weekdays in this quarter was approximately 13 thousand VHD below 35 mph, and 38 thousand VHD below 60 mph.

Vehicle Miles of Travel (VMT) decreased by 3.3% with a total of 2.68 billion miles when compared to the previous quarter with 2.77 billion miles. The VHD below the 60-mph speed threshold has decreased by 17.9% during the same quarter. See graphs on page 4 for details. Delay is more concentrated in the PM commute hours for weekdays and weekends.

Top Ten Bottlenecks for Quarter 4

County	Fwy	Name	Type	Shift	Abs PM	CA PM	Lat.	Long.	# Days Active	Avg Extent (Miles)	Total Delay (veh-hrs)	Total Duration (mins)
YUB	SR70-E	70EB Yuba River Br	ML	PM	20.15	13.524	39.129	-121.585	61	2.98	60,406	11,410
SAC	SR51-S	EB Exposition Bl	ML	PM	3.33	3.326	38.597	-121.444	63	1.96	55,381	14,360
Yolo	I80-E	W of CR 105d	ML	PM	76.17	3.985	38.558	-121.671	63	3.64	54,627	10,170
Yolo	I80-W	E. of Webster UC	ML	AM	79.13	6.943	38.567	-121.618	43	4.06	31,774	5,640
SAC	SR99-S	99SB at Cosumnes	ML	PM	290.68	16.23	38.456	-121.410	62	1.46	21,798	10,625
PLA	SR65-N	Galleria Blvd-NB RMS	ML	PM	65.79	R6.062	38.779	-121.268	55	1.91	20,612	6,660
SAC	SR51-N	North of A St	ML	PM	2.09	2.092	38.585	-121.457	63	1.90	19,995	7,225
SAC	US50-W	15th St	ML	PM	4.50	L1.345	38.564	-121.493	64	0.95	18,694	8,680
SAC	US50-E	16th St	ML	PM	4.72	L1.566	38.563	-121.490	63	0.75	17,519	8,885
SAC	SR51-N	NB Fulton Ave	ML	PM	6.87	6.869	38.631	-121.400	53	2.32	17,291	5,170

Notes:

- For the table above, the quarterly delay calculation was based upon a 60-mph threshold, for the AM or PM weekday peak period.
- As shown in the table above, Yolo-80 has 2 of the top 10 bottlenecks. Some of these delays are caused by the construction activities (EA 03-4F650) at the median. It is anticipated these delays are not going to decrease until the project is completed.
- 3 of the top 10 bottlenecks are located on SR-51, which indicates that traffic demand to downtown Sacramento is recovering.
- 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 operating 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 lanes on US-50 are under construction right now, and HOV lanes on I-5 have been completed and are open, only electrical work remains.
- Phase 1 of improvements at the SR 65/I-80 interchange have been completed. This phase included reconstructing the WB I-80 connector to NB SR-65 to increase capacity and includes reconstructing the Stanford Ranch/Galleria interchange 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

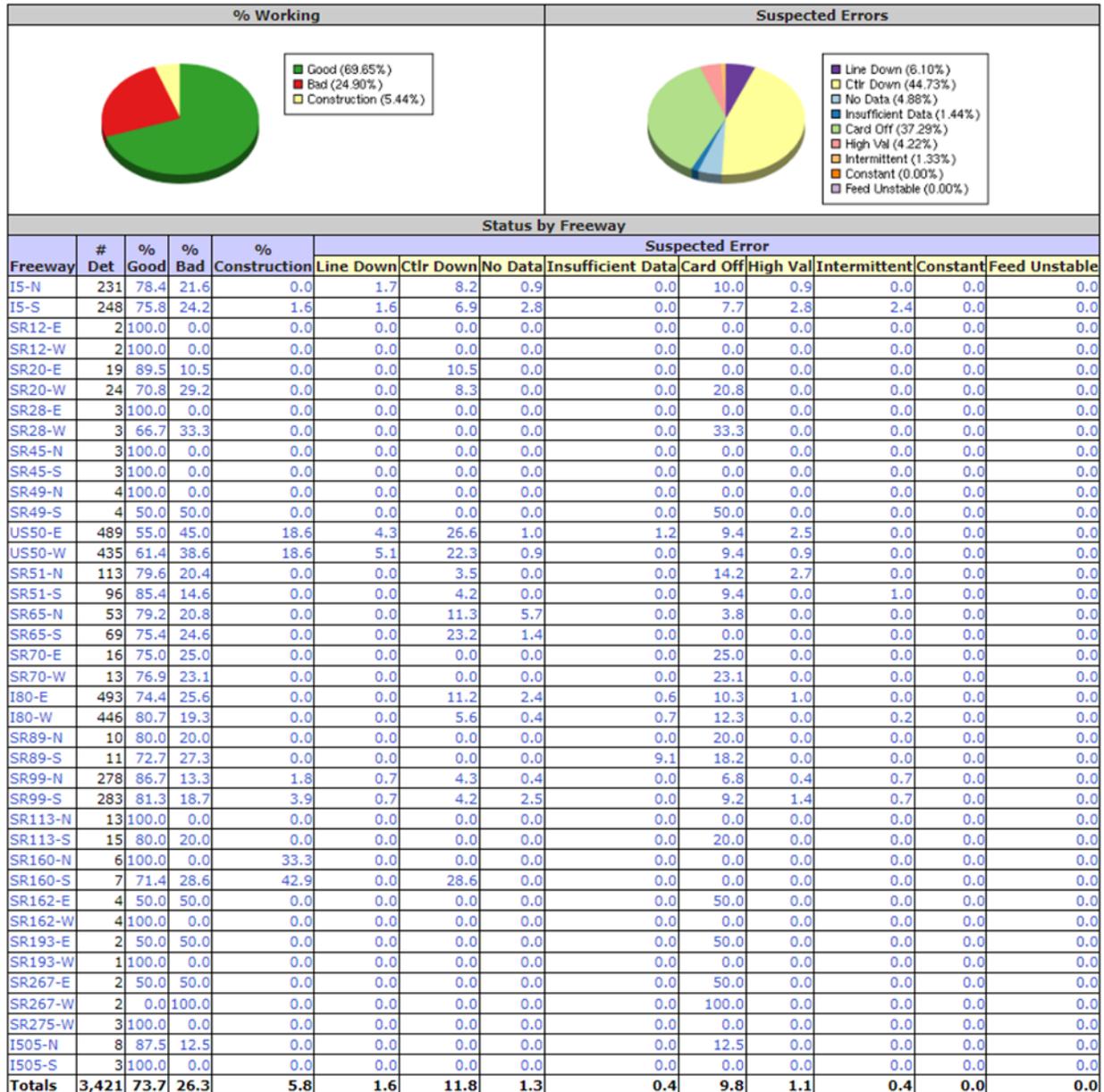
Measure	Graph	Percentage Change							
Vehicle Miles of Travel (VMT)	<p>Miles (Billions)</p> <table border="1"> <tr><th>Year</th><th>Q4</th></tr> <tr><td>2022</td><td>2.44</td></tr> <tr><td>2023</td><td>2.68</td></tr> </table>	Year	Q4	2022	2.44	2023	2.68	Over one year ago	Over last quarter
		Year	Q4						
		2022	2.44						
2023	2.68								
9.8%	-3.3%								
Total Vehicle Hours of Delay (VHD) at 35 mph	<p>Hours (Millions)</p> <table border="1"> <tr><th>Year</th><th>Q4</th></tr> <tr><td>2022</td><td>0.80</td></tr> <tr><td>2023</td><td>0.90</td></tr> </table>	Year	Q4	2022	0.80	2023	0.90	Over one year ago	Over last quarter
		Year	Q4						
		2022	0.80						
2023	0.90								
19.9%	-28.7%								
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph	<p>Hours (Thousands)</p> <table border="1"> <tr><th>Year</th><th>Q4</th></tr> <tr><td>2022</td><td>10</td></tr> <tr><td>2023</td><td>13</td></tr> </table>	Year	Q4	2022	10	2023	13	Over one year ago	Over last quarter
		Year	Q4						
		2022	10						
2023	13								
23.4%	-23.1%								
Total Vehicle Hours of Delay (VHD) at 60 mph	<p>Hours (Millions)</p> <table border="1"> <tr><th>Year</th><th>Q4</th></tr> <tr><td>2022</td><td>2.6</td></tr> <tr><td>2023</td><td>2.8</td></tr> </table>	Year	Q4	2022	2.6	2023	2.8	Over one year ago	Over last quarter
		Year	Q4						
		2022	2.6						
2023	2.8								
8.6%	-17.9%								
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph	<p>Hours (Thousands)</p> <table border="1"> <tr><th>Year</th><th>Q4</th></tr> <tr><td>2022</td><td>34</td></tr> <tr><td>2023</td><td>38</td></tr> </table>	Year	Q4	2022	34	2023	38	Over one year ago	Over last quarter
		Year	Q4						
		2022	34						
2023	38								
10%	-13.9%								

Measure	Graph	Percentage Change	
Average Vehicle Hours of Delay by Day of Week at 60 mph		Largest Magnitude Decrease over one year ago	Largest Magnitude Decrease over last quarter
		Saturday -0.2%	Monday -26%
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
		Thursday 11.8%	-
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Weekdays		Largest Magnitude Weekday Decrease over one year ago	Largest Magnitude Weekday Decrease over last quarter
		1 PM -3.2%	2 PM -45.1%
		Largest Magnitude Weekday Increase over one year ago	Largest Magnitude Weekday Increase over last quarter
		8 AM 58.9%	5 PM 13.5%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Saturdays		Largest Magnitude Saturday Decrease over one year ago	Largest Magnitude Saturday Decrease over last quarter
		9 AM -45.2%	11 AM -60.4%
		Largest Magnitude Saturday Increase over one year ago	Largest Magnitude Saturday Increase over last quarter
		5 PM 57.3%	5 PM 4.7%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Sundays/Holidays		Largest Magnitude Sun./Holiday Decrease over one year ago	Largest Magnitude Sun./Holiday Decrease over last quarter
		4 PM -6.2%	12 PM -62.6%
		Largest Magnitude Sun./Holiday Increase over one year ago	Largest Magnitude Sun./Holiday Increase over last quarter
		11 AM 38.4%	5 AM 4.7%

Measure	Graph	Percentage Change	
Total Vehicle Hours of Delay (VHD) by County at 35 mph		Largest Magnitude Decrease over one year ago	Largest Magnitude Decrease over last quarter
		ELD -39.2% ↓	SAC -26.2% ↓
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
		YOL 61.9% ↑	YUB 58.3% ↑
Average Non-Holiday Weekday Equivalent Lost Lane Mile Hours at 35 mph		Largest Magnitude Decrease over one year ago	Largest Magnitude Decrease over last quarter
		Off-Peak Night -37.1% ↓	Off-Peak Day -29.7% ↓
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
		PM Peak 8.1% ↑	PM Peak 10.3% ↑
Average Number of Good and Bad Detectors		Change in Good over one year ago	Change in Good over last quarter
		9% ↑	9% ↑
		Change in Bad over one year ago	Change in Bad over last quarter
		-11% ↓	-7% ↓

The figure below is a screenshot displaying detector health data taken on 10/01/2023, at the beginning of Q4 2023. This figure illustrates the percentage of detector health per route to determine which detectors are measuring the performance of State highways in District 3. Due to construction projects on I-5 (HOV lane is under construction from US 50 connector to City of Elk

Grove), I-80 (RHMA Pavement Rehabilitation Project), US-50 (Multimodal Corridor Enhancement and Rehabilitation Project), and SR-99 (RHMA Overlay), about 30% of detectors are out of service. Caltrans will not be able to see much improvement of detectors health until construction is completed on the main corridors within the Sacramento region.



Based on the Congestion by Route table below, SR-51 in Sacramento County was the worst performing freeway in District 3 and Yolo-80 was the second. Delay on SAC-51 has increased due to recovering traffic demand to downtown Sacramento. Yolo-80 is significantly impacted by

the ongoing construction activities. It is anticipated the situation will not improve until the construction is completed.

Congestion by Route											
Route	County	Vehicle Hours of Delay at 35 mph			Difference 2023 Q4-2022 Q4		Difference 2023 Q4-2023 Q3		Rank		
		2022 Q4	2023 Q3	2023 Q4	Absolute	Percentage	Absolute	Percentage	2022 Q4	2023 Q3	2023 Q4
SR51	Sacramento	162,879	153,077	186,119	23,240	14.3%	33,042	21.6%	1	3	1
I80	Yolo	82,297	254,815	132,026	49,730	60.4%	-122,789	-48.2%	4	2	2
I5	Sacramento	122,213	349,579	129,773	7,559	6.2%	-219,806	-62.9%	2	1	3
SR70	Yuba	32,885	51,986	82,310	49,425	150.3%	30,324	58.3%	9	9	4
SR99	Sacramento	97,406	76,208	78,832	-18,573	-19.1%	2,624	3.4%	3	5	5
SR65	Placer	56,919	58,462	76,342	19,424	34.1%	17,880	30.6%	7	8	6
I80	Sacramento	27,049	70,565	56,871	29,822	110.3%	-13,694	-19.4%	10	7	7
US50	Sacramento	57,736	32,647	52,646	-5,090	-8.8%	19,999	61.3%	6	12	8
I80	Placer	66,113	71,492	50,891	-15,223	-23.0%	-20,601	-28.8%	5	6	9
I80	Nevada	15,557	33,113	33,122	17,565	112.9%	9	0.0%	11	11	10
US50	Yolo	14,979	47,490	28,629	13,649	91.1%	-18,861	-39.7%	12	10	11
US50	El Dorado	34,013	106,726	20,457	169,332	497.8%	-86,269	-80.8%	8	4	12
I5	Yolo	5,121	4,134	2,909	-2,212	-43.2%	-1,225	-29.6%	13	13	13
SR113	Yolo	76	353	2,374	2,298	3036.1%	2,021	573.3%	24	23	14
SR99	Butte	2,204	854	2,339	134	6.1%	1,485	173.9%	15	20	15
SR99	Sutter	2,168	260	2,279	111	5.1%	2,019	777.1%	16	24	16
SR89	Placer	4,107	3,155	2,095	-2,011	-49.0%	-1,060	-33.6%	14	14	17
SR89	Nevada	0	241	1,554	1,554		1,313	545.8%		25	18
SR160	Sacramento	1,641	3,107	1,292	-349	-21.3%	-1,814	-58.4%	18	15	19
SR20	Nevada	225	901	985	760	337.7%	84	9.3%	22	19	20
SR28	Placer	827	2,602	833	6	0.7%	-1,769	-68.0%	20	16	21
SR12	Sacramento	2,119	817	429	-1,690	-79.7%	-388	-47.5%	17	21	22
SR89	El Dorado	139	383	293	154	111.3%	-90	-23.6%	23	22	23
SR162	Glenn	487	1,205	252	-236	-48.4%	-953	-79.1%	21	18	24
SR244	Sacramento	0	0	252	252		252				24
SR20	Colusa	1,170	19	110	-1,060	-90.6%	92	490.4%	19	29	26
SR49	Nevada	45	2,412	101	56	124.8%	-2,311	-95.8%	27	17	27
I5	Glenn	26	18	85	59	225.8%	67	370.6%	28	31	28
I5	Colusa	11	24	76	65	584.7%	52	211.5%	30	28	29
SR20	Sutter	6	4	33	27	478.9%	29	667.4%	31	34	30
SR267	Placer	70	84	13	-58	-82.0%	-72	-85.0%	25	26	31
SR45	Colusa	58	19	11	-47	-80.4%	-7	-39.0%	26	30	32
SR45	Glenn	2	11	7	5	318.8%	-4	-39.6%	34	32	33
SR162	Butte	4	1	3	-1	-23.8%	3	433.3%	32	37	34
SR113	Sutter	1	2	2	1	150.0%	0	-6.3%	35	36	35
I505	Yolo	13	39	1	-11	-90.5%	-38	-96.9%	29	27	36
SR275	Yolo	0	4	1	1		-3	-75.0%		35	37
SR70	Sutter	4	9	0	-4	-95.2%	-8	-97.7%	33	33	38
SR20	Yuba	0	0	0	0		0				39
I505	Yuba	0	0	0	0		0				
TOTALS		790,572	1,326,817	946,348	155,776	19.7%	-380,469	-28.7%			

As indicated by the table above, the Total Delay for all monitored routes has increased to 946,348 hours, a decrease of 28.7% when compared with previous quarter. Overall, congestion and delay have decreased, and travel demand (VMT) was also down for 3.3% when compared to the previous quarter.

Most of the congested routes in Sacramento region are serving traffic to Downtown Sacramento, which is due to its travel demand associated with Sacramento Regional high population, employment, and educational centers. As identified on pages 2 and 3 of this report, 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. District 3 will continue to explore the best possible ways to reduce delay in the impacted freeways and highways.