District 03
Mobility Performance Report

2023 First Quarter

DEPARTMENT OF TRANSPORTATION

April 28, 2023
Office of Freeway Operations

2022 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 first quarter of 2023, there is a slightly increase in delay due to seasonal change in traffic demand. The total delay on the freeways in District 3 equaled *839* thousand vehicle hours of delay (VHD) below the 35-mph speed threshold and *2.6* million VHD below 60-mph threshold. The average delay experienced on weekdays in this quarter was approximately *10 thousand* of VHD below 35-mph, and *35 thousand* of VHD below 60-mph.

Vehicle Miles of Travel (VMT) decreased by 0.1% with a total of *2.44* billion miles when compared to that of the previous quarter with *2.44* billion miles, almost no change. The VHD below the 60-mph speed threshold has increased by 3.1% during the same quarter. See graphs on page 4 and 5 for details. This information indicates that travel demands are more concentrated in commute hours.

Top Ten Bottlenecks for Quarter 1

County	Fwy	Name	Type	Shift	Abs PM	CA PM	Latitude	Longitude	# Days Active	Avg Extent (Miles)	Total Delay (veh-hrs)	Total Duration (mins)
SAC	SR51-S	EB Exposition Bl	ML	PM	3.33	3.326	38.60	-121.44	57	1.69	36,401	9,890
YOLO	I80-E	80EB at Chiles Rd	ML	PM	77.73	5.543	38.56	-121.64	41	3.13	31,925	5,895
YUB	SR70-E	70EB Yuba River Br	ML	PM	20.15	13.524	39.13	-121.58	49	2.31	24,981	6,370
SAC	US50-E	16th St	ML	PM	4.72	L1.566	38.56	-121.49	65	1.01	22,821	9,100
SAC	SR51-N	51NB at Elvas Underpass	ML	PM	2.53	2.529	38.59	-121.45	47	2.02	22,180	4,970
PLA	I80-W	EB Douglas Blvd	ML	PM	103.38	1.876	38.74	-121.27	50	1.56	21,845	6,775
PLA	SR65-N	Galleria Blvd-NB RMS	ML	PM	65.79	R6.062	38.78	-121.27	58	1.92	21,491	7,035
SAC	SR99-S	99SB at Cosumnes	ML	PM	290.68	16.23	38.46	-121.41	58	1.65	21,450	9,300
YOLO	I80-E	80EB at Mace Blvd	ML	PM	74.90	2.714	38.55	-121.69	48	2.27	20,897	6,070
SAC	US50-W	15th St	ML	PM	4.50	L1.345	38.56	-121.49	55	1.31	20,306	7,270

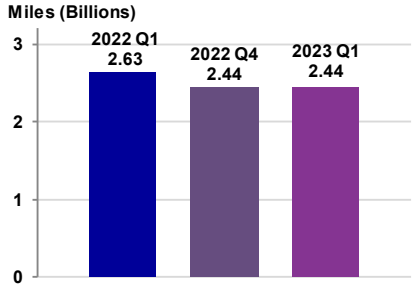
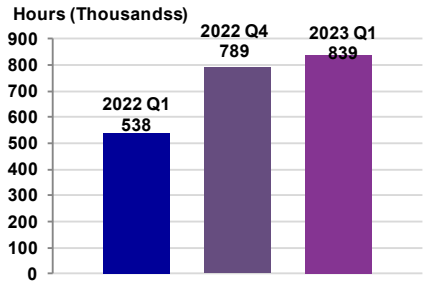
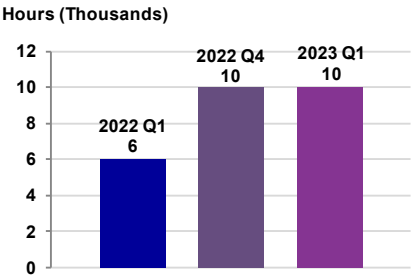
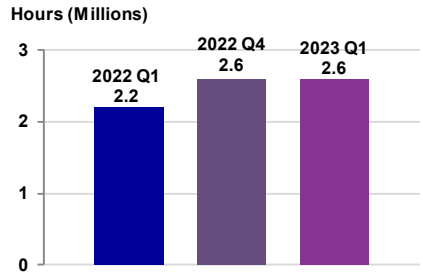
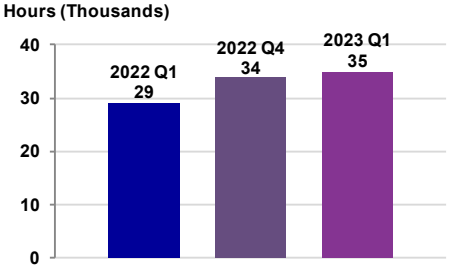
Notes:

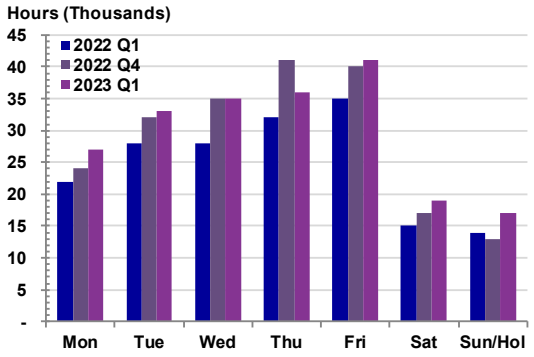
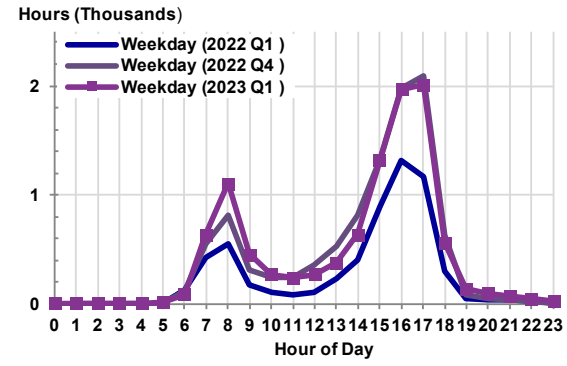
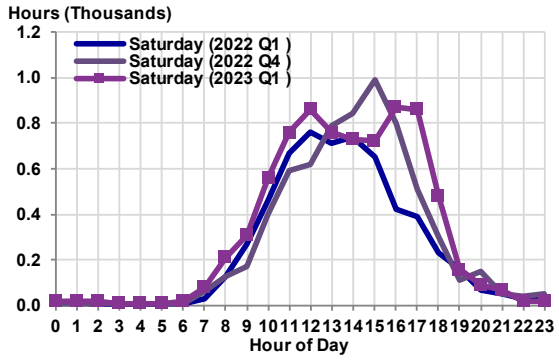
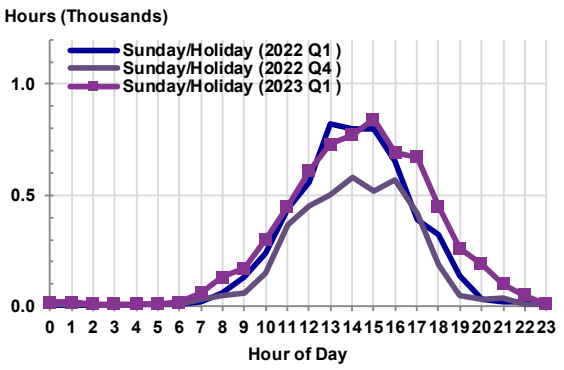
- For the table above, the quarterly delay calculation was based upon a 60-mph threshold, for the a.m. or p.m. weekday peak period.
- Traffic demand pattern has returned back to pre-COVID condition. As indicated by the bottlenecks table above, all these congested locations were caused by commute traffic. Congested location caused by recreational traffic was dropped of the chat. For example, EB-50 at Pioneer Trail/South Lake Tahoe was dropped off from the table.
- 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

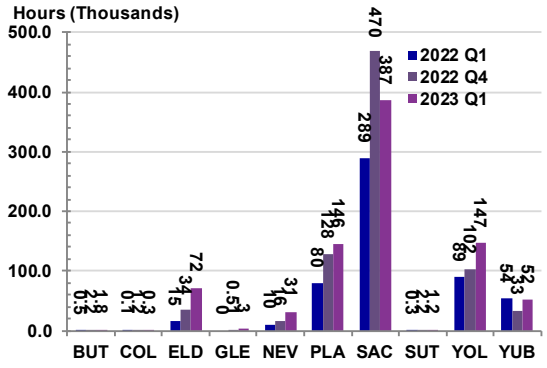
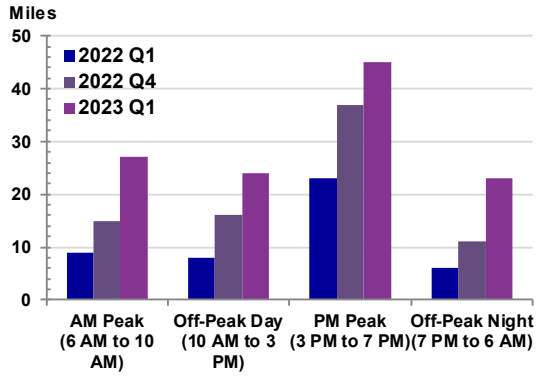
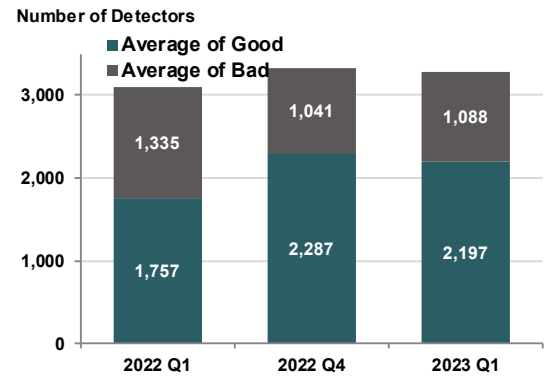
hours will be based on traffic demand and will be activated 24/7, including holidays when minimum traffic thresholds are met. The ramp meters will be active every day including weekends and holidays.

- 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 are under construction right now.
- The project on SR 65/I-80 interchange is completed for Phase 1. This phase included 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.

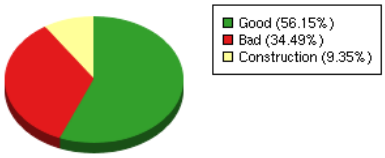
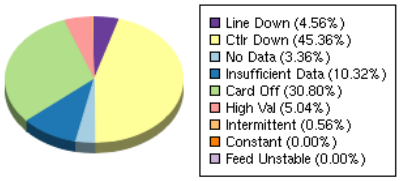
Quarterly Mobility Statistics

Measure	Graph	Percentage Change	
Vehicle Miles of Travel (VMT)		Over one year ago	Over last quarter
		-7%	-0.1%
		↓	↓
Total Vehicle Hours of Delay (VHD) at 35 mph		Over one year ago	Over last quarter
		55.9%	6.3%
		↑	↑
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph		Over one year ago	Over last quarter
		69.4%	1.4%
		↑	↑
Total Vehicle Hours of Delay (VHD) at 60 mph		Over one year ago	Over last quarter
		20.7%	3.1%
		↑	↑
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph		Over one year ago	Over last quarter
		19.3%	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	Largest Magnitude Decrease over last quarter
		–	Thursday -11%
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
		Wednesday 25.1%	Sun/Hol 28.6%
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
		6 AM -34.7%	2 PM -21.8%
		Largest Magnitude Weekday Increase over one year ago	Largest Magnitude Weekday Increase over last quarter
		5 PM 71.6%	8 AM 36.3%
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
		11 PM -37.3%	3 PM -27.5%
		Largest Magnitude Saturday Increase over one year ago	Largest Magnitude Saturday Increase over last quarter
		5 PM 122.4%	5 PM 69%
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
		1 PM -10.4%	–
		Largest Magnitude Sun./Holiday Increase over one year ago	Largest Magnitude Sun./Holiday Increase over last quarter
		5 PM 73.1%	3 PM 60.2%

Measure	Graph	Percentage Change	
Total Vehicle Hours of Delay (VHD) by County at 35 mph		Largest Magnitude Decrease over one year ago YUB -3.8%	Largest Magnitude Decrease over last quarter SAC -17.7%
		Largest Magnitude Increase over one year ago SAC 33.5%	Largest Magnitude Increase over last quarter YOL 43.3%
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 –
		Largest Magnitude Increase over one year ago PM Peak 100.6%	Largest Magnitude Increase over last quarter AM Peak 86.1%
Average Number of Good and Bad Detectors		Change in Good over one year ago 25%	Change in Good over last quarter -4%
		Change in Bad over one year ago -18%	Change in Bad over last quarter 5%

The Figure below is a screenshot displaying detector health data taken on 01/01/2023, at the beginning of Q1 2023. This Figure illustrates the percentage of detector health per route to determine which detectors are measuring the performance of our 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 one third 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.

% Working	Suspected Errors
	

Status by Freeway

Freeway	# Det	% Good	% Bad	% Construction	Suspected Error								
					Line Down	Ctlr Down	No Data	Insufficient Data	Card Off	High Val	Intermittent	Constant	Feed Unstable
I5-N	208	38.9	61.1	8.2	1.9	29.3	0.0	6.3	21.2	2.4	0.0	0.0	0.0
I5-S	198	40.9	59.1	8.6	2.0	26.3	1.5	12.6	12.6	4.0	0.0	0.0	0.0
SR12-E	2	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SR12-W	2	50.0	50.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0
SR20-E	7	85.7	14.3	0.0	0.0	0.0	0.0	0.0	14.3	0.0	0.0	0.0	0.0
SR20-W	8	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SR28-E	3	66.7	33.3	0.0	0.0	0.0	0.0	0.0	33.3	0.0	0.0	0.0	0.0
SR28-W	3	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SR45-N	3	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SR45-S	3	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SR49-N	1	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SR49-S	1	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
US50-E	471	62.6	37.4	21.0	5.1	21.9	0.0	0.2	4.9	5.3	0.0	0.0	0.0
US50-W	451	53.9	46.1	24.4	5.5	24.6	0.0	0.2	11.8	3.1	0.9	0.0	0.0
SR51-N	109	74.3	25.7	0.0	0.0	7.3	0.0	9.2	6.4	1.8	0.9	0.0	0.0
SR51-S	96	78.1	21.9	0.0	0.0	7.3	0.0	8.3	4.2	1.0	1.0	0.0	0.0
SR65-N	53	86.8	13.2	3.8	0.0	3.8	5.7	0.0	3.8	0.0	0.0	0.0	0.0
SR65-S	69	81.2	18.8	2.9	0.0	11.6	1.4	0.0	5.8	0.0	0.0	0.0	0.0
SR70-E	16	75.0	25.0	0.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	0.0
SR70-W	13	76.9	23.1	0.0	0.0	0.0	0.0	0.0	23.1	0.0	0.0	0.0	0.0
I80-E	487	63.4	36.6	4.9	0.0	20.9	2.7	1.8	10.9	0.2	0.0	0.0	0.0
I80-W	440	67.0	33.0	5.5	0.0	13.0	3.0	3.6	13.4	0.0	0.0	0.0	0.0
SR89-N	5	80.0	20.0	0.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0
SR89-S	5	60.0	40.0	0.0	0.0	0.0	0.0	20.0	20.0	0.0	0.0	0.0	0.0
SR99-N	278	74.8	25.2	5.4	0.0	4.3	1.1	6.5	12.6	0.7	0.0	0.0	0.0
SR99-S	282	59.9	40.1	7.1	0.0	10.6	2.1	9.2	16.3	1.8	0.0	0.0	0.0
SR113-N	13	46.2	53.8	0.0	0.0	53.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SR113-S	15	33.3	66.7	0.0	0.0	46.7	0.0	0.0	20.0	0.0	0.0	0.0	0.0
SR160-N	6	50.0	50.0	33.3	0.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0
SR160-S	8	50.0	50.0	50.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0
SR162-E	4	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SR162-W	4	50.0	50.0	0.0	0.0	0.0	0.0	0.0	25.0	0.0	25.0	0.0	0.0
SR193-E	2	50.0	50.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0
SR193-W	1	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SR267-E	2	50.0	50.0	50.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0
SR267-W	2	0.0	100.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0
SR275-W	3	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I505-N	8	50.0	50.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0
I505-S	3	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Totals	**3,285**	**61.9**	**38.1**	**10.3**	**1.7**	**17.3**	**1.3**	**3.9**	**11.7**	**1.9**	**0.2**	**0.0**	**0.0**

Overall, congestion and delay have increased slightly, and travel demand (VMT) was almost the same when compared to the previous quarter. See table below for reference.

Congestion by Route											
		Vehicle Hours of Delay at 35 mph			Difference 2023 Q1-2022 Q1		Difference 2023 Q1-2022 Q4		Rank		
Route	County	2022 Q1	2022 Q4	2023 Q1	Absolute	Percentage	Absolute	Percentage	2022 Q1	2022 Q4	2023 Q1
SR51	Sacramento	103,302	162,879	150,298	46,996	45.5%	-12,582	-7.7%	1	1	1
I80	Yolo	83,060	82,297	122,390	39,330	47.4%	40,093	48.7%	2	4	2
SR99	Sacramento	72,675	97,406	83,901	11,226	15.4%	-13,505	-13.9%	4	3	3
US50	El Dorado	67,111	34,013	71,006	3,895	5.8%	36,993	108.8%	5	8	4
I80	Placer	41,468	66,113	64,163	22,695	54.7%	-1,950	-3.0%	7	5	5
SR65	Placer	32,754	56,919	61,252	28,498	87.0%	4,334	7.6%	8	7	6
US50	Sacramento	31,611	57,736	59,316	27,705	87.6%	1,580	2.7%	9	6	7
I5	Sacramento	73,034	122,213	58,889	-14,145	-19.4%	-63,324	-51.8%	3	2	8
SR70	Yuba	53,809	32,885	51,749	-2,061	-3.8%	18,864	57.4%	6	9	9
I80	Sacramento	6,955	27,049	33,574	26,620	382.8%	6,525	24.1%	11	10	10
I80	Nevada	9,566	15,557	27,769	18,203	190.3%	12,212	78.5%	10	11	11
SR89	Placer	5,036	4,107	17,508	12,472	247.7%	13,401	326.3%	12	14	12
US50	Yolo	3,438	14,979	13,132	9,693	281.9%	-1,848	-12.3%	13	12	13
I5	Yolo	2,699	5,121	11,259	8,559	317.1%	6,137	119.8%	14	13	14
SR49	Nevada	109	45	2,651	2,541	2325.1%	2,606	5777.2%	22	27	15
SR162	Glenn	2	487	2,558	2,557	159793.8%	2,071	425.0%	32	21	16
SR28	Placer	394	827	2,459	2,065	524.4%	1,631	197.2%	19	20	17
SR99	Butte	492	2,204	1,841	1,349	274.4%	-364	-16.5%	17	15	18
SR99	Sutter	246	2,168	1,182	935	379.7%	-987	-45.5%	21	16	19
SR89	El Dorado	1,045	139	721	-324	-31.0%	582	420.4%	16	23	20
I5	Glenn	2	26	440	438	27387.5%	414	1591.5%	31	28	21
SR12	Sacramento	2,005	2,119	402	-1,603	-80.0%	-1,717	-81.0%	15	17	22
SR20	Colusa	97	1,170	230	133	137.5%	-940	-80.4%	24	19	23
SR267	Placer	47	70	216	169	360.4%	146	208.7%	26	25	24
SR160	Sacramento	269	1,641	200	-68	-25.4%	-1,441	-87.8%	20	18	25
SR20	Nevada	398	225	120	-277	-69.7%	-105	-46.5%	18	22	26
SR113	Yolo	102	76	36	-66	-64.7%	-40	-52.4%	23	24	27
I5	Colusa	3	11	32	29	1032.1%	21	185.6%	30	30	28
SR70	Sutter	4	4	16	12	300.0%	12	290.5%	29	33	29
SR45	Colusa	0	58	5	5		-54	-92.3%		26	30
SR20	Sutter	56	6	1	-55	-98.2%	-5	-82.5%	25	31	31
SR113	Sutter	14	1	1	-14	-95.1%	0	16.7%	28	35	32
I505	Yolo	27	13	0	-27	-98.9%	-12	-97.6%	27	29	33
SR162	Butte	1	4	0	-1	-81.8%	-4	-95.2%	33	32	34
SR20	Yuba	0	0	0	0		0				34
SR45	Glenn	0	2	0	0	-75.0%	-2	-93.8%	34	34	36
I505	Yuba	0	0	0	0		0				
SR275	Yolo	0	0	0	0		0				
TOTALS		**591,830**	**790,572**	**839,316**	**247,486**	**41.8%**	**48,744**	**6.2%**			

As indicated by the table above, the Total Delay for all monitored routes has increased to *839,572* hours, an increase of *6.2%* when compared with previous quarter.

Based on the total delay by route, Sacramento SR-51 was the worst performing freeway in District 3 due to its bottleneck locations. 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.