

District 10 Mobility Performance Report

2023 First Quarter

DEPARTMENT OF TRANSPORTATION

July 7, 2023
: Jaime Q. Quesada

District 10 Mobility Performance Report

2023 First Quarter

EXECUTIVE SUMMARY

Overview

Caltrans District 10 contains eight counties located within the Central Valley (San Joaquin / Stanislaus / Merced) and the Sierra Nevada (Amador / Calaveras / Tuolumne / Mariposa / Alpine). Over the years detection in Alpine and Calaveras Counties has been sparse, so the District 10 Mobility Performance Report (MPR) was not including these two counties in the quarterly report. However, Alpine and Calaveras Counties have been added back into the MPR as detection has improved and been implemented more in rural area.

The MPR quarterly analysis compares information in the current quarter to that of the previous quarter and the quarter one year prior. The following are the performance measures reported in the MPR:

- Vehicle Miles Traveled (VMT)
- Vehicle Hours of Delay (VHD)
- Lost Lane Miles (LLM)
- Detector Health (DH)

This information is based on data collected every day of the quarter, twenty-four hours a day, by automated vehicle detector stations deployed on urban-area freeways where congestion is regularly experienced. The MPR presents congestion information at 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 engineering experience and District input.

FINDINGS

In the first quarter of 2023, total delay equaled 510 thousand vehicle hours of delay (VHD) at the 35 mph speed threshold and 1.8 million VHD at the 60 mph threshold. Compared to the same quarter the year before, there was a 3.4 percent total delay increase in 35 mph quarterly delay and 0.9 percent total delay decrease in 60 mph quarterly delay. The average weekday delay experienced in this quarter was approximately 7,436 VHD at 35 mph and 25,379 VHD at 60 mph. Compared to the same quarter the year before, there was a 2.9 percent increase in 35 mph average weekday quarterly delay and 1.0 percent decrease in 60 mph average weekday quarterly delay. The slight increases in delay numbers at 35 mph and slight decreases in delay numbers at 60 mph can mainly be attributed to the fact that traffic patterns from the first quarter of 2022 have stabilized in the past 12 months. It is expected that the second quarter of 2023 will continue the same trend with slight increases or decreases in delay.

Top Ten Bottlenecks for Quarter 1

County	Shift	Fwy	Abs PM	CA PM	Latitude	Longitude	# Days Active	Avg Extent (Miles)	Total Delay (veh-hrs)	Total Duration (mins)
SJ	AM	I205-W	1.69	0.761	37.74	-121.54	61	2.30	98,193	13,685
SJ	PM	SR99-S	236.56	0.776	37.74	-121.12	53	2.35	27,551	7,770
SJ	PM	SR99-S	238.76	2.971	37.76	-121.15	43	2.69	26,468	5,960
SJ	AM	I580-W	15.30	14.7	37.73	-121.55	36	4.71	19,174	4,025
SJ	PM	SR120-E	0.42	R0.914	37.79	-121.30	61	1.26	9,781	9,005
STA	PM	SR99-S	227.83	R16.799	37.65	-121.02	46	1.09	9,297	5,650
SJ	PM	I205-E	12.87	R11.94	37.77	-121.34	35	1.80	8,742	3,160
SJ	AM	I205-W	6.18	R5.248	37.75	-121.46	23	1.68	7,389	2,450
SJ	PM	I205-E	10.22	R9.29	37.76	-121.39	31	1.80	6,746	2,265
SJ	PM	I5-N	468.70	R23.21	37.91	-121.29	37	2.06	6,296	2,310

SUMMARY TABLE FOR THE 2023 Q1 REPORT

The following District 10 projects are currently being constructed or are scheduled for construction effective July 2023. These current and future (planned) projects will further relieve congestion in District 10:

MERCED COUNTY

MER 99 NB LIVINGSTON MEDIAN WIDENING; EA 10-0Q121

Lane widening from 2 to 3 lanes

Approve Construction Contract Date – 08/01/2021

Projected End Project – 10/02/2023

MER 152 – LOS BANOS BYPASS SEGMENT I; EA 10-41911

Convert 4 lane expressway to 6 lane freeway
Approve Construction Contract Date – 05/15/2018
On Hold (No Updates) – 07/07/2023

SAN JOAQUIN COUNTY

SJ 4 RAMP METERING IMPROVEMENTS; EA 10-1F180

Install ramp meters along SR 4 between the I-5 and SR 99 Connectors
Currently in RTL
End Project – Estimated to be mid 2024

SJ 120 RAMP METERING IMPROVEMENTS; EA 10-1F040

Install ramp meters along SR 4 between the I-5 and SR 99 Connectors
Currently waiting to be programmed
End Project – Estimated to be 2030

I-205 SMART CORRIDOR PHASE 2; EA 10-1C330

Install ramp meters and ITS elements along I205 from MacArthur to Grant Line Road
Currently RTL was Achieved in June 2021
End Project – Estimated to be 2025

I-205 – MOUNTAIN HOUSE PARKWAY INTERCHANGE PROJECT; EA 10-1E210

Improve the I-205 – Mountain House Parkway Interchange to accommodate planned future growth in and around the City of Tracy
Currently in PS&E
End Project – Estimated to be 2028

I-205 – LAMMERS ROAD / 11TH STREET INTERCHANGE PROJECT; EA 10-0H910

Construct the I-205 – Lammers Road / 11th Street Interchange to accommodate planned future growth in and around the City of Tracy
Currently in PS&E
End Project – Estimated to be 2028

I-205 – CHRISMAN ROAD INTERCHANGE PROJECT; EA 10-0H880

Construct the I-205 – Chrisman Road Interchange to accommodate planned future growth in and around the eastern commercial zone of the City of Tracy.
Currently in PA&ED
End Project – Estimated to be 2028

I-580 – PATTERSON PASS ROAD INTERCHANGE PROJECT; EA 10-1E220

Improve the I-205 – Patterson Pass Road Interchange to accommodate planned future growth in and around the City of Tracy
Currently in PS&E
End Project – Estimated to be 2028

The above capacity increasing, ramp metering, interchange improvement, and interchange construction projects are located on the routes, in the cities, and in the counties that experience the most congestion in District 10. It is expected that the projects will help reduce congestion and delay as the population and demand in District 10 grows over the next 10 years.

The next section of this report summarizes the District 10 2023 Q1 Quarterly Mobility Statistics.

2023 Q1 Quarterly Mobility Statistics District 10

Data may change in coming months due to on-going reconciliation process

Measure	Graph	Percentage Change									
		Over one year ago	Over last quarter								
Vehicle Miles of Travel (VMT)	<p>Miles (Billions)</p> <table border="1"> <tr><th>Year/Quarter</th><th>Value</th></tr> <tr><td>2022 Q1</td><td>1.87</td></tr> <tr><td>2022 Q4</td><td>1.92</td></tr> <tr><td>2023 Q1</td><td>1.81</td></tr> </table>	Year/Quarter	Value	2022 Q1	1.87	2022 Q4	1.92	2023 Q1	1.81	Over one year ago	Over last quarter
		Year/Quarter	Value								
		2022 Q1	1.87								
2022 Q4	1.92										
2023 Q1	1.81										
-3%	-5.4%										
Total Vehicle Hours of Delay (VHD) at 35 mph	<p>Hours (Thousands)</p> <table border="1"> <tr><th>Year/Quarter</th><th>Value</th></tr> <tr><td>2022 Q1</td><td>493.1</td></tr> <tr><td>2022 Q4</td><td>553.7</td></tr> <tr><td>2023 Q1</td><td>510</td></tr> </table>	Year/Quarter	Value	2022 Q1	493.1	2022 Q4	553.7	2023 Q1	510	Over one year ago	Over last quarter
		Year/Quarter	Value								
		2022 Q1	493.1								
2022 Q4	553.7										
2023 Q1	510										
3.4%	-7.9%										
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph	<p>Hours</p> <table border="1"> <tr><th>Year/Quarter</th><th>Value</th></tr> <tr><td>2022 Q1</td><td>7223</td></tr> <tr><td>2022 Q4</td><td>7823</td></tr> <tr><td>2023 Q1</td><td>7436</td></tr> </table>	Year/Quarter	Value	2022 Q1	7223	2022 Q4	7823	2023 Q1	7436	Over one year ago	Over last quarter
		Year/Quarter	Value								
		2022 Q1	7223								
2022 Q4	7823										
2023 Q1	7436										
2.9%	-4.9%										
Total Vehicle Hours of Delay (VHD) at 60 mph	<p>Hours (Millions)</p> <table border="1"> <tr><th>Year/Quarter</th><th>Value</th></tr> <tr><td>2022 Q1</td><td>1.8</td></tr> <tr><td>2022 Q4</td><td>1.9</td></tr> <tr><td>2023 Q1</td><td>1.8</td></tr> </table>	Year/Quarter	Value	2022 Q1	1.8	2022 Q4	1.9	2023 Q1	1.8	Over one year ago	Over last quarter
		Year/Quarter	Value								
		2022 Q1	1.8								
2022 Q4	1.9										
2023 Q1	1.8										
-0.9%	-6.6%										
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph	<p>Hours (Thousands)</p> <table border="1"> <tr><th>Year/Quarter</th><th>Value</th></tr> <tr><td>2022 Q1</td><td>26</td></tr> <tr><td>2022 Q4</td><td>26</td></tr> <tr><td>2023 Q1</td><td>25</td></tr> </table>	Year/Quarter	Value	2022 Q1	26	2022 Q4	26	2023 Q1	25	Over one year ago	Over last quarter
		Year/Quarter	Value								
		2022 Q1	26								
2022 Q4	26										
2023 Q1	25										
-1%	-3.5%										

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2023 Q1 Quarterly Mobility Statistics District 10

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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 -5.8% ↓	Thursday -16.6% ↓
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
		Monday 9.9% ↑	Monday 18.1% ↑
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
		4 PM -26.1% ↓	5 PM -24.3% ↓
		Largest Magnitude Weekday Increase over one year ago	Largest Magnitude Weekday Increase over last quarter
		8 AM 65.9% ↑	8 AM 39.9% ↑
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
		7 AM -77.2% ↓	6 PM -58.2% ↓
		Largest Magnitude Saturday Increase over one year ago	Largest Magnitude Saturday Increase over last quarter
		2 PM 83.9% ↑	1 PM 111.2% ↑
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
		3 PM -40.1% ↓	2 PM -72.3% ↓
		Largest Magnitude Sun./Holiday Increase over one year ago	Largest Magnitude Sun./Holiday Increase over last quarter
		8 PM 461.3% ↑	7 PM 17.3% ↑

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2023 Q1 Quarterly Mobility Statistics District 10

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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
		STA -11.5%	STA -16.4%
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
		PM Peak -14.7%	PM Peak -19.8%
Average Number of Good and Bad Detectors		Change in Good over one year ago	Change in Good over last quarter
		12%	6%
		Change in Bad over one year ago	Change in Bad over last quarter
		-1%	-4%

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2023 Q1 Quarterly Mobility Statistics District 10

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Congestion by Route												
Route	County	Vehicle Hours of Delay at 35 mph			Difference 2023 Q1-2022 Q1		Difference 2023 Q1-2022 Q4		Rank			
		2022 Q1	2022 Q4	2023 Q1	Absolute	Percentage	Absolute	Percentage	2022 Q1	2022 Q4	2023 Q1	
I205	SJ	226,539	138,131	157,394	-69,145	-30.5%	19,263	13.9%	1	1	1	
SR99	STA	100,972	109,214	87,003	-13,969	-13.8%	-22,212	-20.3%	2	3	2	
SR99	SJ	72,124	113,248	81,442	9,318	12.9%	-31,806	-28.1%	3	2	3	
I5	SJ	50,135	76,792	65,688	15,553	31.0%	-11,104	-14.5%	4	4	4	
I580	STA	0	0	25,012	25,012		25,012				5	
SR120	SJ	26,605	32,722	23,075	-3,530	-13.3%	-9,648	-29.5%	7	5	6	
SR132	STA	33,782	22,851	20,220	-13,563	-40.1%	-2,631	-11.5%	5	6	7	
I5	STA	4,787	15,827	15,777	10,989	229.5%	-50	-0.3%	11	7	8	
SR4	SJ	27,266	4,079	8,994	-18,272	-67.0%	4,915	120.5%	6	12	9	
SR152	MER	8,954	9,562	6,636	-2,318	-25.9%	-2,926	-30.6%	10	9	10	
SR99	MER	15,432	5,418	6,208	-9,224	-59.8%	790	14.6%	8	11	11	
SR132	SJ	3,146	3,512	6,028	2,882	91.6%	2,516	71.7%	13	13	12	
SR12	SJ	3,686	5,516	3,696	10	0.3%	-1,820	-33.0%	12	10	13	
SR108	TUO	2,754	2,165	2,645	-108	-3.9%	481	22.2%	14	14	14	
SR219	TUO	0	0	2,182	2,182		2,182				15	
I580	SJ	11,497	10,712	818	-10,679	-92.9%	-9,894	-92.4%	9	8	17	
SR120	TUO	504	327	496	-8	-1.6%	169	51.8%	18	19	18	
I5	MER	163	1,670	414	251	154.2%	-1,256	-75.2%	20	16	19	
SR16	AMA	838	1,421	374	-464	-55.4%	-1,047	-73.7%	17	17	20	
SR140	MER	0	1	87	87		86	17280.0%		29	22	
SR49	MPA	71	105	56	-15	-20.8%	-49	-46.3%	22	20	23	
SR88	ALP	1	43	29	29	4100.0%	-14	-31.5%	24	22	24	
SR219	STA	1,914	1,791	8	-1,906	-99.6%	-1,783	-99.5%	16	15	25	
SR104	AMA	0	19	8	8		-12	-61.3%		23	26	
SR124	AMA	0	3	1	1		-1	-50.0%		27	27	
SR88	SJ	140	3	1	-139	-99.6%	-2	-81.5%	21	28	28	
SR4	STA	0	0	0	0		0				29	
SR89	ALP	0	3	0	0		-3	-93.1%		26	29	
SR12	CAL	0	11	0	0	-66.7%	-11	-99.1%	25	24	31	
SR49	TUO	9	89	0	-9	-98.8%	-89	-99.9%	23	21	31	
SR140	MPA	0	0	0	0		0					
SR4	CAL	0	0	0	0		0					
TOTALS		593,962	556,290	515,613	-78,349	-13.2%	-40,677	-7.3%				

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