

District 10 Mobility Performance Report

2020 Fourth Quarter

DEPARTMENT OF TRANSPORTATION

January 29, 2021
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District 10 Mobility Performance Report

2020 Fourth 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) no longer includes these two counties in the quarterly report.

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 fourth quarter, total delay equaled 374 thousand vehicle hours of delay (VHD) at the 35 mph speed threshold and 1.5 million VHD at the 60 mph threshold. Compared to the same quarter the year before, there was a 49.0 percent total delay decrease in 35 mph quarterly delay and 29.4

percent total delay decrease in 60 mph quarterly delay. The average weekday delay experienced in this quarter was approximately 5,214 VHD at 35 mph and 20,926 VHD at 60 mph. Compared to the same quarter the year before, there was a 49.8 percent decrease in 35 mph average weekday quarterly delay and 29.4 percent decrease in 60 mph average weekday quarterly delay. The decreased delay numbers at 35 mph and 60 mph can mainly be attributed to the fact that the COVID-19 lockdown began mid-March and ran through the fourth quarter of 2020.

Top Ten Bottlenecks for Quarter 4

County	Shift	Fwy	Abs PM	CA PM	Latitude	Longitude	# Days Active	Avg Extent (Miles)	Total Delay (veh-hrs)	Total Duration (mins)
STA	PM	SR132-E	9.42	1.556	37.64	-121.25	55	5.87	39,775	9,080
SJ	AM	I205-W	1.69	0.761	37.74	-121.54	50	1.91	35,542	7,180
SJ	PM	I205-E	9.44	R8.51	37.76	-121.41	57	1.64	20,426	9,715
SJ	PM	SR99-S	240.43	4.64	37.77	-121.18	57	0.91	16,952	9,880
SJ	PM	SR99-S	238.76	2.971	37.76	-121.15	54	1.47	15,733	7,120
SJ	AM	I205-W	3.31	2.38	37.74	-121.51	18	4.90	15,480	1,580
SJ	PM	SR4-E	66.43	R18.9	37.96	-121.25	35	3.01	12,908	2,920
SJ	PM	I205-E	7.47	R6.543	37.76	-121.44	51	2.02	10,621	4,125
SJ	PM	I205-E	6.801	R5.871	37.757341	-121.45472	53	0.911321	4744	3180
STA	PM	SR99-S	227.83	R16.799	37.65	-121.02	32	2.02	7,224	2,465

SUMMARY TABLE FOR THE 2020 Q4 REPORT

The following District 10 projects are currently being constructed or are scheduled for construction effective January 2021. 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

End Project – 10/02/2023

MER 99 SB LIVINGSTON MEDIAN WIDENING; EA 10-0Q122

Lane widening from 2 to 3 lanes

Approve Construction Contract Date – 01/19/2019

End Project – 10/01/2021

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
End Project – 11/01/2022

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 PRS/PDS; PA&ED Scheduled for mid-2016
End Project – Estimated to be mid 2021

SJ 120 RAMP METERING IMPROVEMENTS; EA 10-1F040

Install ramp meters along SR 4 between the I-5 and SR 99 Connectors
Currently in PS&E
End Project – Estimated to be 2023

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

Install ramp meters and ITS elements along I205 from MacArthur to Grant Line Road
Currently in PS&E
End Project – Estimated to be 2022

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 2025

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 2025

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 2025

STANISLAUS COUNTY

STA 99 / SJ 99 RAMP METERING & MAINLINE IMPROVEMENTS; EA 10-1C300

Improve Mainline and Ramp Operations; Standardize Structure Clearance; Add Auxiliary Lane
Project Complete

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 increase the Vehicle Miles Traveled while reducing 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 2020 Q4 Quarterly Mobility Statistics.

2020 Q4 Quarterly Mobility Statistics District 10

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

Measure	Graph	Percentage Change							
Vehicle Miles of Travel (VMT)	<p>Miles (Billions)</p> <table border="1" style="margin: auto;"> <tr><th>Year</th><th>Q4</th></tr> <tr><td>2019</td><td>1.8</td></tr> <tr><td>2020</td><td>1.7</td></tr> </table>	Year	Q4	2019	1.8	2020	1.7	Over one year ago	Over last quarter
		Year	Q4						
		2019	1.8						
2020	1.7								
-6.7%	-2.3%								
↓	↓								
Total Vehicle Hours of Delay (VHD) at 35 mph	<p>Hours (Thousands)</p> <table border="1" style="margin: auto;"> <tr><th>Year</th><th>Q4</th></tr> <tr><td>2019</td><td>733</td></tr> <tr><td>2020</td><td>374</td></tr> </table>	Year	Q4	2019	733	2020	374	Over one year ago	Over last quarter
		Year	Q4						
		2019	733						
2020	374								
-49%	10.9%								
↓	↑								
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph	<p>Hours</p> <table border="1" style="margin: auto;"> <tr><th>Year</th><th>Q4</th></tr> <tr><td>2019</td><td>10,394</td></tr> <tr><td>2020</td><td>5,214</td></tr> </table>	Year	Q4	2019	10,394	2020	5,214	Over one year ago	Over last quarter
		Year	Q4						
		2019	10,394						
2020	5,214								
-49.8%	9.9%								
↓	↑								
Total Vehicle Hours of Delay (VHD) at 60 mph	<p>Hours (Millions)</p> <table border="1" style="margin: auto;"> <tr><th>Year</th><th>Q4</th></tr> <tr><td>2019</td><td>2.1</td></tr> <tr><td>2020</td><td>1.5</td></tr> </table>	Year	Q4	2019	2.1	2020	1.5	Over one year ago	Over last quarter
		Year	Q4						
		2019	2.1						
2020	1.5								
-29.4%	0.2%								
↓	↑								
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph	<p>Hours (Thousands)</p> <table border="1" style="margin: auto;"> <tr><th>Year</th><th>Q4</th></tr> <tr><td>2019</td><td>30</td></tr> <tr><td>2020</td><td>21</td></tr> </table>	Year	Q4	2019	30	2020	21	Over one year ago	Over last quarter
		Year	Q4						
		2019	30						
2020	21								
-29.4%	2.5%								
↓	↑								

2020 Q4 Quarterly Mobility Statistics District 10

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

Measure	Graph	Percentage Change	
<p>Average Vehicle Hours of Delay by Day of Week at 60 mph</p>		<p>Largest Magnitude Decrease over one year ago</p> <p>Thursday -35.1% ↓</p> <p>Largest Magnitude Increase over one year ago</p> <p>–</p>	<p>Largest Magnitude Decrease over last quarter</p> <p>Monday -4.1% ↓</p> <p>Largest Magnitude Increase over last quarter</p> <p>Friday 7.1% ↑</p>
<p>Average Vehicle Hours of Delay by Hour of Day at 35 mph, Weekdays</p>		<p>Largest Magnitude Weekday Decrease over one year ago</p> <p>7 AM -72.9% ↓</p> <p>Largest Magnitude Weekday Increase over one year ago</p> <p>–</p>	<p>Largest Magnitude Weekday Decrease over last quarter</p> <p>5 AM -30.7% ↓</p> <p>Largest Magnitude Weekday Increase over last quarter</p> <p>5 PM 34.3% ↑</p>
<p>Average Vehicle Hours of Delay by Hour of Day at 35 mph, Saturdays</p>		<p>Largest Magnitude Saturday Decrease over one year ago</p> <p>4 PM -79.3% ↓</p> <p>Largest Magnitude Saturday Increase over one year ago</p> <p>–</p>	<p>Largest Magnitude Saturday Decrease over last quarter</p> <p>1 PM -17.4% ↓</p> <p>Largest Magnitude Saturday Increase over last quarter</p> <p>6 AM 285.9% ↑</p>
<p>Average Vehicle Hours of Delay by Hour of Day at 35 mph, Sundays/Holidays</p>		<p>Largest Magnitude Sun./Holiday Decrease over one year ago</p> <p>2 PM -49.4% ↓</p> <p>Largest Magnitude Sun./Holiday Increase over one year ago</p> <p>6 PM 12% ↑</p>	<p>Largest Magnitude Sun./Holiday Decrease over last quarter</p> <p>1 PM -49% ↓</p> <p>Largest Magnitude Sun./Holiday Increase over last quarter</p> <p>4 PM 71% ↑</p>

1/29/2021

2020 Q4 Quarterly Mobility Statistics District 10

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

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
		San Joaquin -40.7%	Merced -12.7%
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
		Amador 300.6%	San Joaquin 14.6%
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
		AM Peak -51.4%	Off-Peak Day -9.4%
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
		Off-Peak Night 17.4%	PM Peak 12.1%
Average Number of Good and Bad Detectors		Change in Good over one year ago	Change in Good over last quarter
		4%	4%
		Change in Bad over one year ago	Change in Bad over last quarter
		9%	-9%

2020 Q4 Quarterly Mobility Statistics District 10

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

Congestion by Route											
Route	County	Vehicle Hours of Delay at 35 mph			Difference 2020 Q4-2019 Q4		Difference 2020 Q4-2020 Q3		Rank		
		2019 Q4	2020 Q3	2020 Q4	Absolute	Percentage	Absolute	Percentage	2019 Q4	2020 Q3	2020 Q4
I205	San Joaquin	294576.9	152318.4	106411.8	-188165.1	-64%	(45,907)	-30%	1	1	1
SR99	San Joaquin	81795.1	56464.9	71680.9	-10114.2	-12%	15,216	27%	5	2	2
I5	San Joaquin	99537	41210.5	55397.2	-44139.8	-44%	14,187	34%	4	3	3
SR99	Stanislaus	191063.2	36801.7	38511.7	-152551.5	-80%	1,710	5%	2	4	4
I580	San Joaquin	108957	5577.7	31245.1	-77711.9	-71%	25,667	460%	3	10	5
SR132	Stanislaus	24584.5	22366.2	29152.4	4567.9	19%	6,786	30%	8	5	6
SR120	San Joaquin	25581.2	15104.4	20190.8	-5390.4	-21%	5,086	34%	7	6	7
SR4	San Joaquin	30513.4	14460.5	12733.5	-17779.9	-58%	(1,727)	-12%	6	7	8
SR99	Merced	17463.8	11978.3	12066.7	-5397.1	-31%	88	1%	9	8	9
SR132	San Joaquin	6638	4616.3	6117	-521	-8%	1,501	33%	11	11	10
SR12	San Joaquin	5800.3	3826.2	4304	-1496.3	-26%	478	12%	12	12	11
I5	Stanislaus	12871.8	10487.8	3531.5	-9340.3	-73%	(6,956)	-66%	10	9	12
SR108	Tuolumne	3567.6	2007.7	2812.1	-755.5	-21%	804	40%	14	14	13
I5	Merced	782.2	2878.9	2026.9	1244.7	159%	(852)	-30%	15	13	14
SR219	Stanislaus	4016.8	1668.2	1491.7	-2525.1	-63%	(177)	-11%	13	15	15
SR16	Amador	201.1	279.2	834.2	633.1	315%	555	199%	18	18	16
SR165	Merced	695.9	1577.3	425.4	-270.5	-39%	(1,152)	-73%	16	16	17
SR152	Merced	35	487.2	252.9	217.9	623%	(234)	-48%	20	17	18
SR49	Tuolumne	74.8	2.6	67.2	-7.6	-10%	65	2485%	19	22	19
SR49	Mariposa	466.6	44.3	63.8	-402.8	-86%	20	44%	17	19	20
SR124	Amador	14.6	1.2	25.3	10.7	73%	24	2008%	21	23	21
SR88	Amador	0.8	1.1	15.8	15	1875%	15	1336%	23	24	22
SR104	Amador	2.9	4.2	3.7	0.8	28%	(1)	-12%	22	21	23
SR120	Tuolumne	0	19.5	1.9	1.9		(18)	-90%		20	24
SR120	Stanislaus	0	0	0	0		-				
TOTALS		909,241	384,184	399,364	-509,877	-56.1%	15,179	4.0%			