

# District 04 Mobility Performance Report

2017 Forth Quarter

**DEPARTMENT OF TRANSPORTATION**

July 6, 2018  
District 4-Office of Highway Operations

## District 04 Mobility Performance Report

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2017 Forth Quarter

### EXECUTIVE SUMMARY

#### Overview

Caltrans District 4 is comprised of nine counties that border the San Francisco Bay: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma Counties. Although these are urban counties, they do contain a large amount of sparsely populated land.

The Mobility Performance quarterly analysis compares information with over a year ago and over last quarter in the following performance measures:

- 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 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 11.6 million VHD at the 35 mph speed threshold, and 21.5 million VHD at the 60 mph threshold. Compared to the same quarter the year before, there was an 10.2% increase in 35 mph total quarterly delay and 8% increase in 60 mph total quarterly delay. This increase may be due to the recovering economy and also a 5% increase in good working detector that were able to capture more congestion.

The average weekday delay experienced in this quarter was approximately 153 thousand VHD at 35 mph, and 288 thousand VHD at 60 mph. Thursday was the most congested day of the week.

Alameda County with 4.1 million vehicle hours of total delay at 35 mph during the fourth quarter was the most congested county in the District.

Santa Clara County with 3.0 million vehicle hours of total delay at 35 mph was second most congested county in the District.

## Quarterly Mobility Statistics

Measure	Graph	Percentage Change									
		Over one year ago	Over last quarter								
Vehicle Miles of Travel (VMT)	<p>Miles (Billions)</p> <table border="1"> <caption>Vehicle Miles of Travel (VMT) - Miles (Billions)</caption> <thead> <tr> <th>Quarter</th> <th>Miles (Billions)</th> </tr> </thead> <tbody> <tr> <td>2016 Q4</td> <td>7.5</td> </tr> <tr> <td>2017 Q3</td> <td>8</td> </tr> <tr> <td>2017 Q4</td> <td>7.8</td> </tr> </tbody> </table>	Quarter	Miles (Billions)	2016 Q4	7.5	2017 Q3	8	2017 Q4	7.8	3% ↑	-3.2% ↓
Quarter	Miles (Billions)										
2016 Q4	7.5										
2017 Q3	8										
2017 Q4	7.8										
Total Vehicle Hours of Delay (VHD) at 35 mph	<p>Hours (Millions)</p> <table border="1"> <caption>Total Vehicle Hours of Delay (VHD) at 35 mph - Hours (Millions)</caption> <thead> <tr> <th>Quarter</th> <th>Hours (Millions)</th> </tr> </thead> <tbody> <tr> <td>2016 Q4</td> <td>10.5</td> </tr> <tr> <td>2017 Q3</td> <td>11.6</td> </tr> <tr> <td>2017 Q4</td> <td>11.6</td> </tr> </tbody> </table>	Quarter	Hours (Millions)	2016 Q4	10.5	2017 Q3	11.6	2017 Q4	11.6	10.2% ↑	-0.3% ↓
Quarter	Hours (Millions)										
2016 Q4	10.5										
2017 Q3	11.6										
2017 Q4	11.6										
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph	<p>Hours (Thousands)</p> <table border="1"> <caption>Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph - Hours (Thousands)</caption> <thead> <tr> <th>Quarter</th> <th>Hours (Thousands)</th> </tr> </thead> <tbody> <tr> <td>2016 Q4</td> <td>141</td> </tr> <tr> <td>2017 Q3</td> <td>149</td> </tr> <tr> <td>2017 Q4</td> <td>153</td> </tr> </tbody> </table>	Quarter	Hours (Thousands)	2016 Q4	141	2017 Q3	149	2017 Q4	153	8.2% ↑	2.9% ↑
Quarter	Hours (Thousands)										
2016 Q4	141										
2017 Q3	149										
2017 Q4	153										
Total Vehicle Hours of Delay (VHD) at 60 mph	<p>Hours (Millions)</p> <table border="1"> <caption>Total Vehicle Hours of Delay (VHD) at 60 mph - Hours (Millions)</caption> <thead> <tr> <th>Quarter</th> <th>Hours (Millions)</th> </tr> </thead> <tbody> <tr> <td>2016 Q4</td> <td>19.9</td> </tr> <tr> <td>2017 Q3</td> <td>21.9</td> </tr> <tr> <td>2017 Q4</td> <td>21.5</td> </tr> </tbody> </table>	Quarter	Hours (Millions)	2016 Q4	19.9	2017 Q3	21.9	2017 Q4	21.5	8% ↑	-1.7% ↓
Quarter	Hours (Millions)										
2016 Q4	19.9										
2017 Q3	21.9										
2017 Q4	21.5										
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph	<p>Hours (Thousands)</p> <table border="1"> <caption>Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph - Hours (Thousands)</caption> <thead> <tr> <th>Quarter</th> <th>Hours (Thousands)</th> </tr> </thead> <tbody> <tr> <td>2016 Q4</td> <td>271</td> </tr> <tr> <td>2017 Q3</td> <td>287</td> </tr> <tr> <td>2017 Q4</td> <td>288</td> </tr> </tbody> </table>	Quarter	Hours (Thousands)	2016 Q4	271	2017 Q3	287	2017 Q4	288	6.2% ↑	0.1% ↑
Quarter	Hours (Thousands)										
2016 Q4	271										
2017 Q3	287										
2017 Q4	288										

Measure	Graph	Percentage Change	
Average Vehicle Hours of Delay by Day of Week at 60 mph		<p>Largest Magnitude Decrease over one year ago</p> <p>-</p>	<p>Largest Magnitude Decrease over last quarter</p> <p>Friday -17.5%</p>
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Weekdays		<p>Largest Magnitude Weekday Decrease over one year ago</p> <p>7 PM -0.6%</p>	<p>Largest Magnitude Weekday Decrease over last quarter</p> <p>10 AM -21.4%</p>
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Saturdays		<p>Largest Magnitude Saturday Decrease over one year ago</p> <p>11 PM -9.3%</p>	<p>Largest Magnitude Saturday Decrease over last quarter</p> <p>12 PM -36.3%</p>
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Sundays/Holidays		<p>Largest Magnitude Sun./Holiday Decrease over one year ago</p> <p>11 AM -6.7%</p>	<p>Largest Magnitude Sun./Holiday Decrease over last quarter</p> <p>12 PM -25.2%</p>
		<p>Largest Magnitude Weekday Increase over one year ago</p> <p>Tuesday 13.6%</p>	<p>Largest Magnitude Weekday Increase over last quarter</p> <p>Monday 7.3%</p>
		<p>Largest Magnitude Saturday Increase over one year ago</p> <p>8 AM 11.9%</p>	<p>Largest Magnitude Saturday Increase over last quarter</p> <p>6 PM 18.2%</p>
		<p>Largest Magnitude Sun./Holiday Increase over one year ago</p> <p>8 PM 61.9%</p>	<p>Largest Magnitude Sun./Holiday Increase over last quarter</p> <p>7 AM 579%</p>

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 Mateo -19.5%	Solano -26.4%
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
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 -5%	Off-Peak Day -16.9%
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
Average Number of Good and Bad Detectors		Change in Good over one year ago	Change in Good over last quarter
		5%	-1%
		Change in Bad over one year ago	Change in Bad over last quarter
		0%	4%

**Congestion by Route**

Route	County	Vehicle Hours of Delay at 35 mph			Difference 2017 Q4-2016 Q4		Difference 2017 Q4-2017 Q3		Rank		
		2016 Q4	2017 Q3	2017 Q4	Absolute	Percentage	Absolute	Percentage	2016 Q4	2017 Q3	2017 Q4
		180	Alameda	795053.2	1176950.8	1240545.9	445492.7	56%	63,595	5%	2
I880	Alameda	1149782.9	1083354.8	1096135.6	-53647.3	-5%	12,781	1%	1	2	2
US101	Santa Clara	761614.1	804852.7	809861.9	48247.8	6%	5,009	1%	3	3	3
US101	Sonoma	213242.7	788347.2	722893	509650.3	239%	(65,454)	-8%	19	4	4
I580	Alameda	656312.5	726146.3	718864.6	62552.1	10%	(7,282)	-1%	4	5	5
I280	Santa Clara	485659.1	483530.6	625236.2	139577.1	29%	141,706	29%	6	7	6
SR85	Santa Clara	447586.6	427763	565166.1	117579.5	26%	137,403	32%	7	8	7
US101	San Mateo	607964.5	541847.6	515217.9	-92746.6	-15%	(26,630)	-5%	5	6	8
SR24	Contra Costa	391351.5	316934	396844.6	5493.1	1%	79,911	25%	9	13	9
I680	Contra Costa	408327.9	322149.2	371316.2	-37011.7	-9%	49,167	15%	8	11	10
US101	San Francisco	323733.2	358118.6	304303.3	-19429.9	-6%	(53,815)	-15%	12	9	11
SR4	Contra Costa	286575.3	297691.1	290156	3580.7	1%	(7,535)	-3%	14	14	12
SR237	Santa Clara	245309.8	321076.3	288733.7	43423.9	18%	(32,343)	-10%	17	12	13
SR84	Alameda	217819.6	260115.2	283378.8	65559.2	30%	23,264	9%	18	17	14
I80	Contra Costa	326139.9	257626.9	281636	-44503.9	-14%	24,009	9%	11	18	15
I680	Alameda	370355	335140	270154.8	-100200.2	-27%	(64,985)	-19%	10	10	16
I680	Santa Clara	170696.8	233413.7	254327.5	83630.7	49%	20,914	9%	23	20	17
SR92	San Mateo	308340.1	278335.8	238957.6	-69382.5	-23%	(39,378)	-14%	13	16	18
I880	Santa Clara	136320.5	138096.9	228893.2	92572.7	68%	90,796	66%	25	28	19
I80	San Francisco	276676.2	286665.6	220919.2	-55757	-20%	(65,746)	-23%	16	15	20
I80	Solano	171636.4	252995.8	195575	23938.6	14%	(57,421)	-23%	22	19	21
SR92	Alameda	178816.1	140680.3	192339.9	13523.8	8%	51,660	37%	21	26	22
US101	Marin	280717.8	178750.7	158197.1	-122520.7	-44%	(20,554)	-11%	15	24	23
I280	San Mateo	213233.8	194263.2	155381.7	-57852.1	-27%	(38,882)	-20%	20	23	24
SR238	Alameda	133990.8	160963.5	138411.1	4420.3	3%	(22,552)	-14%	26	25	25
SR37	Solano	148659.5	212598.1	125126.1	-23533.4	-16%	(87,472)	-41%	24	21	26
I580	Contra Costa	91283.8	138708.1	117833.7	26549.9	29%	(20,874)	-15%	29	27	27
SR24	Alameda	72006.6	85248.4	112005.7	39999.1	56%	26,757	31%	31	32	28
SR87	Santa Clara	85545.7	100637.5	110217	24671.3	29%	9,580	10%	30	30	29
SR12	Solano	68945.9	80057.4	101386.4	32440.5	47%	21,329	27%	32	33	30
SR17	Santa Clara	103987.8	201105.9	96615.3	-7372.5	-7%	(104,491)	-52%	28	22	31
I280	San Francisco	68265.9	69358.4	83982.9	15717	23%	14,625	21%	33	34	32
SR242	Contra Costa	67440.3	87874.5	81304.2	13863.9	21%	(6,570)	-7%	34	31	33
SR37	Sonoma	115752.4	118383.2	73478	-42274.4	-37%	(44,905)	-38%	27	29	34
SR152	Santa Clara	24155.2	23431.2	34653	10497.8	43%	11,222	48%	37	37	35
SR12	Napa	5482.6	20353.5	27111.3	21628.7	394%	6,758	33%	39	38	36
I980	Alameda	7818.5	1517	20886.3	13067.8	167%	19,369	1277%	38	42	37
SR37	Marin	53960.3	61091.1	14845.4	-39114.9	-72%	(46,246)	-76%	35	35	38
I680	Solano	39666.6	39507.2	8327.4	-31339.2	-79%	(31,180)	-79%	36	36	39
SR25	Santa Clara	4837	9900.5	7808.8	2971.8	61%	(2,092)	-21%	40	39	40
SR160	Contra Costa	0	2464.3	2334.7	2334.7		(130)	-5%		41	41
SR1	San Francisco	0	3040.3	2114.3	2114.3		(926)	-30%		40	42
I780	Solano	0	84.5	601.3	601.3		517	612%		46	43
I580	Marin	1308.6	398.1	487.6	-821	-63%	90	22%	41	43	44
I80	Napa	485.7	202.5	118.8	-366.9	-76%	(84)	-41%	42	45	45
SR156	Santa Clara	51.2	306.4	104.4	53.2	104%	(202)	-66%	44	44	46
SR29	Napa	73.5	6.2	0.3	-73.2	-100%	(6)	-95%	43	47	47
I380	San Mateo	0	0	0	0		-				
I880S	Alameda	0	0	0	0		-				
SR13	Alameda	0	0	0	0		-				
<b>TOTALS</b>		<b>10,516,983</b>	<b>11,622,084</b>	<b>11,584,790</b>	<b>1,067,806</b>	<b>10.2%</b>	<b>-37,294</b>	<b>-0.3%</b>			