District 10 Mobility Performance Report

2017 Second Quarter

DEPARTMENT OF TRANSPORTATION

August 15, 2017
: Jaime Q. Quesada
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 or annual analysis.

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 second quarter, total delay equaled 73 thousand vehicle hours of delay (VHD) at the 35 mph speed threshold (45.3% decrease over one year ago; 11.3% decrease over last quarter), and 320 thousand VHD at the 60 mph threshold (35.3% decrease over one year ago; 7.8% increase over last quarter). The average weekday delay experienced in this quarter was approximately 1,105 VHD at 35 mph (40.6% decrease over one year ago; 8.4% decrease over last quarter), and 4,170 VHD at 60 mph (25.5% decrease over one year ago; 32.4% decrease over last quarter). The decreases in VHD can be attributed to completion of the I5 widening which included HOV lanes, SR 99 South Stockton Widening, and SR 99 Manteca Widening projects.

Top Ten Bottlenecks for 2017 Quarter 2

<table>
<thead>
<tr>
<th>FWY</th>
<th>COUNTY</th>
<th>LOCATION</th>
<th>SHIFT</th>
<th># DAYS ACTIVE</th>
<th>EXTENT (MILES)</th>
<th>TOTAL DELAY (VEH- HRS)</th>
<th>TOTAL DURATION (MINS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I205-W</td>
<td>SJ</td>
<td>E of Hansen Rd</td>
<td>AM</td>
<td>54</td>
<td>4.8</td>
<td>120872</td>
<td>8410</td>
</tr>
<tr>
<td>SR99-S</td>
<td>STA</td>
<td>Kansas Ave</td>
<td>PM</td>
<td>45</td>
<td>1.5</td>
<td>9665</td>
<td>4000</td>
</tr>
<tr>
<td>SR99-S</td>
<td>SJ</td>
<td>N/O Jack Tone Rd</td>
<td>PM</td>
<td>49</td>
<td>0.4</td>
<td>4146</td>
<td>2265</td>
</tr>
<tr>
<td>SR99-S</td>
<td>SJ</td>
<td>S/O Austin Rd OC</td>
<td>PM</td>
<td>52</td>
<td>0.2</td>
<td>3974</td>
<td>7360</td>
</tr>
<tr>
<td>SR99-S</td>
<td>SJ</td>
<td>S/O Rte 120</td>
<td>PM</td>
<td>45</td>
<td>0.6</td>
<td>3798</td>
<td>5065</td>
</tr>
<tr>
<td>SR219-W</td>
<td>STA</td>
<td>E/O SR 99</td>
<td>PM</td>
<td>24</td>
<td>2.3</td>
<td>1158</td>
<td>1720</td>
</tr>
<tr>
<td>I5-N</td>
<td>SJ</td>
<td>N/O French Camp Rd</td>
<td>PM</td>
<td>34</td>
<td>0.2</td>
<td>502</td>
<td>1875</td>
</tr>
<tr>
<td>SR219-W</td>
<td>STA</td>
<td>E/O SR 99</td>
<td>AM</td>
<td>24</td>
<td>2.3</td>
<td>406</td>
<td>445</td>
</tr>
<tr>
<td>SR99-N</td>
<td>SJ</td>
<td>N/O E Hammer Lane OC</td>
<td>AM</td>
<td>23</td>
<td>0.6</td>
<td>398</td>
<td>1780</td>
</tr>
<tr>
<td>I5-S</td>
<td>SJ</td>
<td>N/O French Camp Rd OC</td>
<td>AM</td>
<td>10</td>
<td>0.4</td>
<td>301</td>
<td>385</td>
</tr>
</tbody>
</table>

The following District 10 projects are currently being constructed or are scheduled for construction effective August 2017. These current and future (planned) projects will further relieve congestion in District 10:

**MERCED COUNTY**
**MER 99 MISSION AVENUE INTERCHANGE / FREEWAY; EA 10-36311**
Convert from 4 lane expressway to 6 lane freeway on an 8 lane right of way
Approve Construction Contract Date – 04/07/2008
End Project – 04/02/2018
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 – 10/01/2020

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 2020

SJ 99 – SOUTH STOCKTON WIDENING; EA 10-3A100
Widen existing freeway from 4 to 6 lanes
Approve Construction Contract Date – 12/3/2012
End Project – 12/5/2017

SJ 120 RAMP METERING IMPROVEMENTS; EA 10-1F040
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 2020

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 PA&ED
End Project – 11/01/2021

STANISLAUS COUNTY
STA 99 – PELANDALE INTERCHANGE; EA 10-47210
Modify Existing Interchange
Approve Construction Contract Date – 4/15/2014
End Project – 12/1/2017
**STA 99 – KIERNAN INTERCHANGE; EA 10-0L330**
Reconstruct Interchange  
Approve Construction Contract Date – 2/1/2013  
End Project – 11/30/2017

**STA 99 / SJ 99 RAMP METERING & MAINLINE IMPROVEMENTS; EA 10-1C300**
Improve Mainline and Ramp Operations; Standardize Structure Clearance; Add Auxiliary Lane  
Currently in PA&ED  
End Project – Estimated to be mid 2020

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 2017 Q2 Quarterly Mobility Statistics.
### 2017 Q2 Quarterly Mobility Statistics – District 10

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

<table>
<thead>
<tr>
<th>Measure</th>
<th>Graph</th>
<th>Percentage Change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Over one year ago</td>
</tr>
<tr>
<td>Vehicle Miles of Travel (VMT)</td>
<td><img src="image1" alt="Bar Graph" /></td>
<td>12.5%</td>
</tr>
<tr>
<td>Total Vehicle Hours of Delay (VHD) at 35 mph</td>
<td><img src="image2" alt="Bar Graph" /></td>
<td>-45.3%</td>
</tr>
<tr>
<td>Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph</td>
<td><img src="image3" alt="Bar Graph" /></td>
<td>-40.6%</td>
</tr>
<tr>
<td>Total Vehicle Hours of Delay (VHD) at 60 mph</td>
<td><img src="image4" alt="Bar Graph" /></td>
<td>-35.3%</td>
</tr>
<tr>
<td>Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph</td>
<td><img src="image5" alt="Bar Graph" /></td>
<td>-33%</td>
</tr>
</tbody>
</table>
Average Vehicle Hours of Delay by Day of Week at 60 mph

Average Vehicle Hours of Delay by Hour of Day at 35 mph, Weekdays

Average Vehicle Hours of Delay by Hour of Day at 35 mph, Saturdays

Average Vehicle Hours of Delay by Hour of Day at 35 mph, Sundays/Holidays

Percentage Change

- Largest Magnitude Decrease over one year ago
- Largest Magnitude Decrease over last quarter

- Largest Magnitude Increase over one year ago
- Largest Magnitude Increase over last quarter

- Largest Magnitude Decrease over one year ago
- Largest Magnitude Decrease over last quarter

- Largest Magnitude Increase over one year ago
- Largest Magnitude Increase over last quarter

- Largest Magnitude Decrease over one year ago
- Largest Magnitude Decrease over last quarter

- Largest Magnitude Increase over one year ago
- Largest Magnitude Increase over last quarter

- Largest Magnitude Decrease over one year ago
- Largest Magnitude Decrease over last quarter

- Largest Magnitude Increase over one year ago
- Largest Magnitude Increase over last quarter

- Largest Magnitude Decrease over one year ago
- Largest Magnitude Decrease over last quarter

- Largest Magnitude Increase over one year ago
- Largest Magnitude Increase over last quarter

- Largest Magnitude Decrease over one year ago
- Largest Magnitude Decrease over last quarter

- Largest Magnitude Increase over one year ago
- Largest Magnitude Increase over last quarter

Data may change in coming months due to on-going data reconciliation process.
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<table>
<thead>
<tr>
<th>Measure</th>
<th>Graph</th>
<th>Percentage Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Vehicle Hours of Delay (VHD) by County at 35 mph</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average Non-Holiday Weekday Equivalent Lost Lane Mile Hours at 35 mph</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Detectors</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Largest Magnitude Decrease over one year ago**
- San Joaquin: -53.8%
- Stanislaus: 44.8%

**Largest Magnitude Decrease over last quarter**
- San Joaquin: -30.9%
- Stanislaus: 225.2%

**Largest Magnitude Increase over one year ago**
- Stanislaus: 44.8%

**Largest Magnitude Increase over last quarter**
- Stanislaus: 225.2%

**PM Peak Decrease over one year ago**
- 38.5%

**PM Peak Decrease over last quarter**
- 16.3%

**Off-Peak Day Increase over one year ago**
- 27.2%

**Off-Peak Day Increase over last quarter**
- 12%

**Average Number of Good and Bad Detectors**
- Good: 655, 1,123, 1,261
- Bad: 1,282, 550, 835

**Change in Good over one year ago**
- -30%

**Change in Good over last quarter**
- -4%

**Change in Bad over one year ago**
- 93%

**Change in Bad over last quarter**
- 12%
**Congestion by Route**

<table>
<thead>
<tr>
<th>Route</th>
<th>County</th>
<th>Vehicle Hours of Delay at 35 mph</th>
<th>Difference 2017 Q2-2016 Q2</th>
<th>Difference 2017 Q2-2017 Q1</th>
<th>Absolute</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-20</td>
<td>San Joaquin</td>
<td>285.786</td>
<td>-97.581</td>
<td>-34.1%</td>
<td>68.693</td>
<td>1</td>
</tr>
<tr>
<td>SR99</td>
<td>San Joaquin</td>
<td>47.205</td>
<td>-10.229</td>
<td>-21.5%</td>
<td>31.532</td>
<td>2</td>
</tr>
<tr>
<td>SR99</td>
<td>Stanislaus</td>
<td>13.575</td>
<td>4.096</td>
<td>34.4%</td>
<td>15.317</td>
<td>3</td>
</tr>
<tr>
<td>I-5</td>
<td>San Joaquin</td>
<td>3.745</td>
<td>472</td>
<td>284%</td>
<td>2.457</td>
<td>4</td>
</tr>
<tr>
<td>SR219</td>
<td>Stanislaus</td>
<td>0</td>
<td>727</td>
<td>38.4%</td>
<td>-725</td>
<td>5</td>
</tr>
<tr>
<td>SR332</td>
<td>San Joaquin</td>
<td>0.476</td>
<td>2.582</td>
<td>258.2%</td>
<td>2.108</td>
<td>6</td>
</tr>
<tr>
<td>SR4</td>
<td>San Joaquin</td>
<td>9.789</td>
<td>-8.781</td>
<td>-89.0%</td>
<td>607</td>
<td>7</td>
</tr>
<tr>
<td>SR99</td>
<td>Merced</td>
<td>7.099</td>
<td>-6.388</td>
<td>-90.0%</td>
<td>-642</td>
<td>8</td>
</tr>
<tr>
<td>SR120</td>
<td>San Joaquin</td>
<td>0</td>
<td>-5</td>
<td>-100.0%</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>I-5</td>
<td>Merced</td>
<td>0</td>
<td>-636</td>
<td>-100.0%</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>I-5</td>
<td>Stanislaus</td>
<td>975</td>
<td>-273</td>
<td>-100.0%</td>
<td>-17</td>
<td>11</td>
</tr>
<tr>
<td>SR104</td>
<td>Amador</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>12</td>
</tr>
<tr>
<td>SR108</td>
<td>Tuolumne</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>13</td>
</tr>
<tr>
<td>SR112</td>
<td>San Joaquin</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td>SR112</td>
<td>Tuolumne</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td>SR152</td>
<td>Mariposa</td>
<td>835</td>
<td>-835</td>
<td>-100.0%</td>
<td>-10</td>
<td>16</td>
</tr>
<tr>
<td>SR40</td>
<td>Mariposa</td>
<td>201</td>
<td>-201</td>
<td>-100.0%</td>
<td>0</td>
<td>17</td>
</tr>
</tbody>
</table>

**TOTALS**

| 385,039 | 240,720 | 261,714 | -123,216 | -32.0% | 20,994 | 5.7% |

Data may change in coming months due to ongoing data reconciliation process.

SR 219 Stanislaus: No delay detected in 2016 Q2
SR 132 San Joaquin: No delay detected in 2016 Q2
SR 120 San Joaquin: No delay detected in 2016 Q2
I-5 Merced: No delay detected in 2017 Q1 and 2017 Q2
I-5 Stanislaus: No delay detected in 2017 Q2
SR 104 Amador: No delay detected in 2016 Q2, 2017 Q1, and 2017 Q2
SR 108 Tuolumne: No delay detected in 2016 Q2, 2017 Q1, and 2017 Q2
SR 12 San Joaquin: No delay detected in 2016 Q2, 2017 Q1, and 2017 Q2
SR 120 Tuolumne: No delay detected in 2016 Q2, 2017 Q1, and 2017 Q2
SR 152 Merced: No delay detected in 2017 Q2
SR 49 Mariposa: No delay detected in 2017 Q2