District 08 Mobility Performance Report

2016 Third Quarter

DEPARTMENT OF TRANSPORTATION

October 12, 2016
: Ramin Ghodsi
EXECUTIVE SUMMARY

Overview

Caltrans District 8 contains two counties located in southern California: San Bernardino and Riverside Counties. Both counties are part of the Inland Empire, with Riverside County has a population of almost 2.3 million residents and San Bernardino County with 2.1 million residents. Although these are urban counties, they do contain a large amount of sparsely populated National Forest and National Recreation Area 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), Bottleneck Locations
- 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 second quarter of 2016, total delay equaled 1.8 million Vehicle Hours of Delay (VHD) at the 35 mph speed threshold, and 5.9 million VHD at the 60 mph threshold. The average weekday delay experienced in this quarter was approximately 25 thousand VHD at 35 mph, and 80 thousand VHD at 60 mph. The Vehicle Miles of Travel (VMT) equaled 7 billion miles for this quarter. The total delay at 35 mph is 860,419 for Riverside County and 956,982 for San Bernardino County. The total delay at 60 mph is 2,788,913 for Riverside County and 3,125,793 for San Bernardino County.

PROJECT STATUS

The Following District 8 projects are currently being constructed or are scheduled for construction for 2016. These current and future (planned) projects will relieve congestion in District 8:

RIVERSIDE COUNTY

RIV 15; INSTALL AND UPGRADE TMS ELEMENTS; EA 0G770
Install new Fiber Optic infrastructure on Rte 15 from PM 0.00/41.80 and upgrade newly installed wireless vehicle detection stations. Connect all the existing TMS elements to the newly installed Fiber Optic infrastructure.

Approve Construction Contract Date- 3/06/2017

RIV 215; INSTALL AND UPGRADE TMS ELEMENTS; EA 0G780
Install new Fiber Optic infrastructure on Rte 215 from PM 8.40/38.80 and upgrade newly installed wireless vehicle detection stations. Connect all the existing TMS elements to the newly installed Fiber Optic infrastructure.

Approve Construction Contract Date- 3/30/2016

RIV 91; CIP; EA 0F540
Construct 1 MF lane & 2 Toll Express lane each direction on RTE 91 from PM 0.00/11.55. Project in Construction Express Lanes scheduled to be opened in January 2017.

Approve Construction Contract Date- 5/09/2013
SAN BERNARDINO COUNTY

SBD 15; I-15/215 DEVORE INTERCHANGE IMPROVEMENT; EA 0K710

I-15/I-215 Devore Interchange Improvement.

  Approve Construction Contract Date- 11/26/2012 & CCA-06/12/2017

SBD 10; REPLACE RANDOM SLABS ON MAINLINE & CONNECTORS; EA 0Q760

Replace random slabs on Mainline & Connectors. Also upgrade all the detection TMS elements on Rte 10 from PM 0.00/30.90

  Approve Construction Contract Date- 01/15/15
## Top Ten Bottleneck AM Period

<table>
<thead>
<tr>
<th>Rank</th>
<th>County</th>
<th>Freeway</th>
<th>CA Postmile</th>
<th>Approximate Location</th>
<th>Average Extent (miles)</th>
<th>Total Delay (hours)</th>
<th>Total Duration (hours)</th>
<th>Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Riverside</td>
<td>SR71-S</td>
<td>2.5</td>
<td>S/O PRADO DAM RD</td>
<td>3.75</td>
<td>77758.8</td>
<td>242.33</td>
<td>AM</td>
</tr>
<tr>
<td>2</td>
<td>Riverside</td>
<td>1215-N</td>
<td>40.929</td>
<td>MARTIN LUTHER KING</td>
<td>2.28</td>
<td>37219.5</td>
<td>187.83</td>
<td>AM</td>
</tr>
<tr>
<td>3</td>
<td>Riverside</td>
<td>SR91-W</td>
<td>4.218</td>
<td>MAPLE</td>
<td>2.10</td>
<td>36042</td>
<td>221.92</td>
<td>AM</td>
</tr>
<tr>
<td>4</td>
<td>Riverside</td>
<td>SR60-W</td>
<td>11.6</td>
<td>W/O Main Street</td>
<td>3.53</td>
<td>21729.8</td>
<td>91.75</td>
<td>AM</td>
</tr>
<tr>
<td>5</td>
<td>Riverside</td>
<td>1215-S</td>
<td>44.908</td>
<td>Center St</td>
<td>2.77</td>
<td>19585.7</td>
<td>80.83</td>
<td>AM</td>
</tr>
<tr>
<td>6</td>
<td>Riverside</td>
<td>115-N</td>
<td>52.27</td>
<td>PHILADELPHIA UC</td>
<td>0.83</td>
<td>19254.9</td>
<td>162.58</td>
<td>AM</td>
</tr>
<tr>
<td>7</td>
<td>San Bernardino</td>
<td>115-S</td>
<td>0.969</td>
<td>JURUPA</td>
<td>1.49</td>
<td>15121</td>
<td>83.83</td>
<td>AM</td>
</tr>
</tbody>
</table>

## Top Ten Bottleneck PM Period

<table>
<thead>
<tr>
<th>Rank</th>
<th>County</th>
<th>Freeway</th>
<th>CA Postmile</th>
<th>Approximate Location</th>
<th>Average Extent (miles)</th>
<th>Total Delay (hours)</th>
<th>Total Duration (hours)</th>
<th>Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>San Bernardino</td>
<td>115-N</td>
<td>3.2</td>
<td>4TH ST NB ONR</td>
<td>1.58</td>
<td>56095.2</td>
<td>205.08</td>
<td>PM</td>
</tr>
<tr>
<td>2</td>
<td>San Bernardino</td>
<td>115-S</td>
<td>0.969</td>
<td>JURUPA</td>
<td>1.66</td>
<td>54485.5</td>
<td>206.50</td>
<td>PM</td>
</tr>
<tr>
<td>3</td>
<td>Riverside</td>
<td>1215-S</td>
<td>40.76</td>
<td>MLK SB ON</td>
<td>2.06</td>
<td>35559</td>
<td>236.00</td>
<td>PM</td>
</tr>
<tr>
<td>4</td>
<td>Riverside</td>
<td>1215-S</td>
<td>R32.5</td>
<td>OLEANDER AVE</td>
<td>3.78</td>
<td>32536.8</td>
<td>141.00</td>
<td>PM</td>
</tr>
<tr>
<td>5</td>
<td>Riverside</td>
<td>SR91-E</td>
<td>9.337</td>
<td>E/O MCKINLEY</td>
<td>1.91</td>
<td>29798.9</td>
<td>191.25</td>
<td>PM</td>
</tr>
<tr>
<td>6</td>
<td>San Bernardino</td>
<td>1210-E</td>
<td>8</td>
<td>E/B MILLIKEN ONR</td>
<td>3.43</td>
<td>25816.4</td>
<td>115.25</td>
<td>PM</td>
</tr>
<tr>
<td>7</td>
<td>Riverside</td>
<td>SR91-W</td>
<td>10.724</td>
<td>PIERCE</td>
<td>1.38</td>
<td>25117.9</td>
<td>189.08</td>
<td>PM</td>
</tr>
<tr>
<td>8</td>
<td>San Bernardino</td>
<td>1210-E</td>
<td>2</td>
<td>.4 M E/O MOUNTAIN</td>
<td>1.08</td>
<td>23516.1</td>
<td>162.92</td>
<td>PM</td>
</tr>
<tr>
<td>9</td>
<td>Riverside</td>
<td>SR91-E</td>
<td>R.413</td>
<td>County Line</td>
<td>0.60</td>
<td>23064.3</td>
<td>251.33</td>
<td>PM</td>
</tr>
<tr>
<td>10</td>
<td>Riverside</td>
<td>115-N</td>
<td>52.27</td>
<td>PHILADELPHIA UC</td>
<td>0.80</td>
<td>21284.4</td>
<td>179.75</td>
<td>PM</td>
</tr>
</tbody>
</table>
### Average Vehicle Hours of Delay by Day of Week at 60 mph

<table>
<thead>
<tr>
<th>Measure</th>
<th>Graph</th>
<th>Percentage Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Vehicle Hours of Delay by Day of Week at 60 mph</td>
<td><img src="image1" alt="Graph" /></td>
<td>Largest Magnitude Decrease over one year ago: Saturday -25.2%</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Measure</th>
<th>Graph</th>
<th>Percentage Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Vehicle Hours of Delay by Hour of Day at 35 mph, Weekdays</td>
<td><img src="image2" alt="Graph" /></td>
<td>Largest Magnitude Weekday Decrease over one year ago: 6 AM -8.8%</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Measure</th>
<th>Graph</th>
<th>Percentage Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Vehicle Hours of Delay by Hour of Day at 35 mph, Saturdays</td>
<td><img src="image3" alt="Graph" /></td>
<td>Largest Magnitude Saturday Decrease over one year ago: 4 PM -50%</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Measure</th>
<th>Graph</th>
<th>Percentage Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Vehicle Hours of Delay by Hour of Day at 35 mph, Sundays/Holidays</td>
<td><img src="image4" alt="Graph" /></td>
<td>Largest Magnitude Sun/Holiday Decrease over one year ago: 3 PM -39.6%</td>
</tr>
</tbody>
</table>
### Total Vehicle Hours of Delay (VHD) by County

**Measure:** Hours (Millions)

- **2015 Q3**
- **2016 Q2**
- **2016 Q3**

**Riverside**
- 2015 Q3: 1.2
- 2016 Q2: 1.0
- 2016 Q3: 0.9

**San Bernardino**
- 2015 Q3: 1.8
- 2016 Q2: 1.5
- 2016 Q3: 1.3

**Percentage Change**

- **Largest Magnitude Decrease over one year ago**
  - Riverside: -9.7%
  - San Bernardino: -13%

- **Largest Magnitude Increase over one year ago**
  - Riverside: -9.7%
  - San Bernardino: 33.4%

- **Largest Magnitude Decrease over last quarter**
  - Riverside: -1.3%
  - San Bernardino: 33.4%

### Average Non-Holiday Weekday Equivalent Lost Lane Mile Hours at 35 mph

**Measure:** Miles

- **2015 Q3**
- **2016 Q2**
- **2016 Q3**

**Average Non-Holiday Weekday Equivalent Lost Lane Mile Hours at 35 mph**

- **AM Peak (6 AM to 10 AM)**
  - 2015 Q3: 25
  - 2016 Q2: 20
  - 2016 Q3: 15

- **Off-Peak Day (10 AM to 3 PM)**
  - 2015 Q3: 50
  - 2016 Q2: 40
  - 2016 Q3: 30

- **PM Peak (3 PM to 7 PM)**
  - 2015 Q3: 75
  - 2016 Q2: 60
  - 2016 Q3: 50

- **Off-Peak Night (7 PM to 6 AM)**
  - 2015 Q3: 10
  - 2016 Q2: 8
  - 2016 Q3: 6

**Percentage Change**

- **Largest Magnitude Decrease over one year ago**
  - Off-Peak Night: -48.8%

- **Largest Magnitude Increase over one year ago**
  - AM Peak: 5.9%

- **Largest Magnitude Decrease over last quarter**
  - Off-Peak Night: 4%

- **Largest Magnitude Increase over last quarter**
  - AM Peak: 7%

### Average Number of Good and Bad Detectors

**Measure:** Number of Detectors

- **Average of Good**
  - 2015 Q3: 2,345
  - 2016 Q2: 2,286
  - 2016 Q3: 2,170

- **Average of Bad**
  - 2015 Q3: 2,714
  - 2016 Q2: 2,658
  - 2016 Q3: 2,833

**Percentage Change**

- **Change in Good over one year ago**
  - 4%

- **Change in Good over last quarter**
  - 7%

- **Change in Bad over one year ago**
  - -7%

- **Change in Bad over last quarter**
  - -5%
## Congestion by Route

<table>
<thead>
<tr>
<th>Route</th>
<th>County</th>
<th>2016 Q3</th>
<th>2016 Q2</th>
<th>2016 Q3</th>
<th>Difference 2016 Q3-2016 Q2</th>
<th>Difference 2016 Q3-2016 Q2</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>L-15</td>
<td>San Bernardino</td>
<td>41259.7</td>
<td>20572.7</td>
<td>31684.1</td>
<td>-56648.7</td>
<td>-23%</td>
<td>2</td>
</tr>
<tr>
<td>SR-41</td>
<td>Riverside</td>
<td>51392.6</td>
<td>20100.0</td>
<td>27347.7</td>
<td>-23371.6</td>
<td>-46%</td>
<td>1</td>
</tr>
<tr>
<td>L-17</td>
<td>Riverside</td>
<td>24661.7</td>
<td>28182.0</td>
<td>22461.9</td>
<td>-5759.7</td>
<td>-3%</td>
<td>3</td>
</tr>
<tr>
<td>L-215</td>
<td>Riverside</td>
<td>130820.8</td>
<td>201149.8</td>
<td>216594.1</td>
<td>85973.3</td>
<td>66%</td>
<td>7</td>
</tr>
<tr>
<td>L-10</td>
<td>San Bernardino</td>
<td>21455.4</td>
<td>23787.2</td>
<td>20753.6</td>
<td>-7013.5</td>
<td>-3%</td>
<td>4</td>
</tr>
<tr>
<td>L-19</td>
<td>San Bernardino</td>
<td>132486.2</td>
<td>110682.6</td>
<td>170761.6</td>
<td>38390.3</td>
<td>29%</td>
<td>6</td>
</tr>
<tr>
<td>SR-60</td>
<td>San Bernardino</td>
<td>161391.3</td>
<td>51530.2</td>
<td>150432.2</td>
<td>-10991.1</td>
<td>-7%</td>
<td>5</td>
</tr>
<tr>
<td>SR-49</td>
<td>Riverside</td>
<td>36510.2</td>
<td>60864.5</td>
<td>68257.2</td>
<td>-11746.5</td>
<td>-19%</td>
<td>7</td>
</tr>
<tr>
<td>L-215</td>
<td>San Bernardino</td>
<td>18756.1</td>
<td>60876.4</td>
<td>88029.7</td>
<td>46031.9</td>
<td>28%</td>
<td>11</td>
</tr>
<tr>
<td>SR-71</td>
<td>Riverside</td>
<td>20542.2</td>
<td>51418</td>
<td>46399.1</td>
<td>66540.9</td>
<td>13%</td>
<td>10</td>
</tr>
<tr>
<td>SR-71</td>
<td>San Bernardino</td>
<td>26544.1</td>
<td>38294.4</td>
<td>43100.4</td>
<td>13556.3</td>
<td>40%</td>
<td>9</td>
</tr>
<tr>
<td>L-16</td>
<td>Riverside</td>
<td>2053</td>
<td>10363.5</td>
<td>5270.4</td>
<td>2347.4</td>
<td>0%</td>
<td>12</td>
</tr>
<tr>
<td>SR-259</td>
<td>San Bernardino</td>
<td>6</td>
<td>94.5</td>
<td>128.5</td>
<td>128.5</td>
<td>53%</td>
<td>15</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td></td>
<td>1,032,573</td>
<td>1,589,062</td>
<td>1,817,406</td>
<td>105,173</td>
<td>-5.5%</td>
<td>13</td>
</tr>
</tbody>
</table>