Update on Congestion Management Process Activities at BMC

January 7, 2020
Current CMP Activities

- Quarterly Congestion Analysis Reports (since 2011)
- Online Traffic Count Dashboard (2019)
- Online CMP Analysis Tool (projected January 2020)
- Holiday Travel Tips (Since 2016)
Quarterly Congestion Analysis Report

Top 10 Bottleneck Locations

<table>
<thead>
<tr>
<th>Rank</th>
<th>Location</th>
<th>Average max length (miles)</th>
<th>Average Daily Duration</th>
<th>All Events/Incidents</th>
<th>Volume Estimate (AADT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I-695 OL @ EDMONDS AVE/EXIT 14</td>
<td>3.42</td>
<td>2 h 39 m</td>
<td>517</td>
<td>102,468</td>
</tr>
<tr>
<td>2</td>
<td>US-50 W @ BAY BRIDGE</td>
<td>4.55</td>
<td>2 h</td>
<td>684</td>
<td>31,798</td>
</tr>
<tr>
<td>3</td>
<td>MD-295 S @ MD-198</td>
<td>2.80</td>
<td>3 h 47 m</td>
<td>119</td>
<td>48,852</td>
</tr>
<tr>
<td>4</td>
<td>I-695 I-1 @ SECURITY BLVD/EXIT 17</td>
<td>2.42</td>
<td>3 h 12 m</td>
<td>351</td>
<td>101,851</td>
</tr>
<tr>
<td>5</td>
<td>I-895 N @ HOLABIRD AVE/EXIT 10</td>
<td>1.80</td>
<td>4 h 12 m</td>
<td>219</td>
<td>34,346</td>
</tr>
<tr>
<td>6</td>
<td>I-895 S @ HOLABIRD AVE/EXIT 10</td>
<td>1.06</td>
<td>5 h 34 m</td>
<td>118</td>
<td>26,542</td>
</tr>
<tr>
<td>7</td>
<td>I-55 S @ MD-43/WHITE MARSH BLVD/EXIT 67</td>
<td>7.01</td>
<td>57 m</td>
<td>212</td>
<td>79,200</td>
</tr>
<tr>
<td>8</td>
<td>MD-3 S @ MD-42/CONWAY RD/DAVIDSONVILLE RD</td>
<td>1.09</td>
<td>5 h 30 m</td>
<td>8</td>
<td>33,542</td>
</tr>
<tr>
<td>9</td>
<td>MD-295 N @ CANINE RD</td>
<td>2.13</td>
<td>2 h 23 m</td>
<td>166</td>
<td>49,320</td>
</tr>
<tr>
<td>10</td>
<td>US-50 E @ BAY BRIDGE</td>
<td>5.05</td>
<td>1 h 05 m</td>
<td>953</td>
<td>37,473</td>
</tr>
</tbody>
</table>

Baltimore Metropolitan Council

BRTB
### Quarterly Congestion Analysis Report

<table>
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<tr>
<th>Location</th>
<th>Average max length (miles)</th>
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</tr>
</thead>
<tbody>
<tr>
<td>I-695 OL @ EDMONDSON AVE/EXIT 14</td>
<td>3.42</td>
<td>2 h 39 m</td>
<td>537</td>
<td>102,468</td>
</tr>
</tbody>
</table>

**Speed for I-695 OL @ EDMONDSON AVE/EXIT 14**

Averaged per five minutes for Jul 01, 2019 through Sep 30, 2019

Outer Loop

![Speed graph](image-url)
Online Traffic Count Dashboard

- Developed in 2019

- Source: SHA shapefiles including BMC sourced counts

- Volume and Classification Counts (No turning movements)

https://baltometro.org/transportation/data-maps/traffic-count-database
Online Traffic Count Dashboard
Online Traffic Count Dashboard

Dashboard Gallery

Dashboard Gallery

Dashboards combine graphs, charts, tables and maps to help users explore and understand complex data sets. In cooperation with our partners Salisbury University's Eastern Shore Regional GIS Cooperative (ESRGC) and Towson University's Center for Geographic Information Systems (CGIS), the Maryland Department of Information Technology (DoIT) will help Maryland state agencies develop and host dashboards. The primary requirement is the underlying data sets are shared as open data through Maryland's Open Data Portal or the GIS Data Catalog.

Traffic Count Locations in the Baltimore Region

This dashboard showcases traffic count characteristics. Average Annual Daily Traffic (AADT) and Average Annual Weekday Daily Traffic (AAWDT) counts at each location are graphed by year. Select a traffic count location to see the AADT and AAWDT graphed by year and vehicle type. Developed by the Baltimore Metropolitan Council.
Online CMP Analysis Tool

**Purpose:** Interactive online GIS allowing users to visualize congested areas in the region alongside planned projects to alleviate congestion. The tool will allow for before and after study of projects as they occur.

**Current layers**
- Top 25 bottlenecks in the region (including AADT)
- Average Morning and Evening Speeds
- Long Range Plan and TIP Project Locations
- Baseline speed and bottleneck data for 2018 (2019 data to be added in 1st half of calendar year 2020)

**Future plans**
- Integration into ArcGIS StoryMaps format
- Additional Advanced Performance Measures
- Annual updates for “before after” analysis
Online CMP Analysis Tool
Online CMP Analysis Tool
Online CMP Analysis Tool

Start of Bottleneck

Rank: #12
Location: I-695 IL @ MD-542/LOCH RAVEN BLVD/EXIT 29
Lat/Long: 39.401420, -76.563430
Length: 4.34 miles
Daily Duration: 1 hour 04 minutes
Average Annual Daily Traffic: 87,207
Online CMP Analysis Tool
2019 Thanksgiving Travel Tips

Post Holiday Analysis
BMC Holiday Travel Tips

The I-95 Corridor Coalition has used BMC as an example of how to use probe data to provide travel tips on its website: https://i95coalition.org/forum/viewtopic.php?t=267

Baltimore Metropolitan Council's Thanksgiving Travel Tips

Check out BMC’s use of the VPP Suite in providing travel tips around the Baltimore region:

BMC Holiday Travel Tips

BMC has been publishing Holiday Travel Tips since 2016 for the following Holidays:

- Memorial Day Weekend
- July 4th Holiday
- Labor Day Weekend
- Thanksgiving Day
Travel Tips are done in consultation with travel recommendations from the Maryland Transportation Authority MdTA. BMC uses probe data to create maps and charts to support MdTA recommendations for the best time to get on the roads.
Our partners at the Maryland Transportation Authority (MdTA) offered these travel tips for the Thanksgiving Day holiday:

MDTA is reminding motorists using I-95 to travel these off-peak hours:

**Tuesday and Wednesday, November 26-27, before 6 a.m. and after 11 p.m.**

**Thursday and Friday, November 28-29, before 7 a.m. and after 9 p.m.**

**Saturday and Sunday, November 29-30, before 9 a.m. and after 9 p.m.**
BMC Holiday Travel Tips

Animated Maps

The following animated maps show speeds on the major highways of the Baltimore Region on the Tuesday and Wednesday before Thanksgiving in 2018. Just press play to see a 24-hour time-lapse animation of both days side by side. Pan around and zoom in or out to take see what conditions on your family’s route to Thanksgiving dinner may look like this year.
BMC Holiday Travel Tips

BMC Region Limited Access Speed Trend Map for November 21, 2018
Bottlenecks

Wednesday 11/21/2018

<table>
<thead>
<tr>
<th>Rank</th>
<th>Location</th>
<th>miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I-95 N @ MD-24/EXIT 77</td>
<td>6.75</td>
</tr>
<tr>
<td>2</td>
<td>I-95 N @ MD-100/EXIT 43</td>
<td>5.32</td>
</tr>
<tr>
<td>3</td>
<td>I-695 OL @ EDMONDSON AVE/EXIT 14</td>
<td>3.46</td>
</tr>
<tr>
<td>4</td>
<td>I-695 IL @ I-83/MD-25/EXIT 23</td>
<td>3.64</td>
</tr>
<tr>
<td>5</td>
<td>MD-295 S @ MD-198</td>
<td>2.71</td>
</tr>
<tr>
<td>6</td>
<td>I-695 CW @ I-70/EXIT 16</td>
<td>2.21</td>
</tr>
<tr>
<td>7</td>
<td>MD-295 N @ MD-648</td>
<td>3.35</td>
</tr>
<tr>
<td>8</td>
<td>I-695 OL @ SECURITY BLVD/EXIT 17</td>
<td>3.47</td>
</tr>
<tr>
<td>9</td>
<td>I-695 IL @ MD-295</td>
<td>2.31</td>
</tr>
<tr>
<td>10</td>
<td>I-95 N @ MD-152/EXIT 74</td>
<td>9.66</td>
</tr>
</tbody>
</table>
Average speeds on I-95 N between MD 43/White Marsh Blvd and MD 152/Mountain Rd
Performance Comparison - Speeds

Speed for I-95 Northbound between MD-43/Whitemarsh Blvd/Exit 67 and MD-24/Exit 77
Averaged per hour for November 21, 2018 and November 27, 2019

Northbound

Speed: The current estimated harmonic mean speed for the roadway segment in miles per hour.
- November 21, 2018 - INRIX
- November 21, 2018 5th and 95th percentile - INRIX
- November 21, 2018 25th and 75th percentile - INRIX
- November 27, 2019 - INRIX
- November 27, 2019 25th and 75th percentile - INRIX
- November 27, 2019 5th and 95th percentile - INRIX
Time Spiral Comparison

2018
11am-8pm
Time Spiral Comparison

The center represents the beginning of Nov 27, 2019 and the outer edge represents the end of Nov 27, 2019.

2019
11:30am – 7:45pm
Congestion Times

I-95 N from Harbor Tunnel Thruway to MD-24

Averaged by 1 hour for November 27, 2019

November 27, 2019 (Wednesday)

Speed (mph)

0 15 30 40 55 65

BMC

BRTB
Travel Time Comparison – 2018 vs. 2019

I-95 Speed Limit Travel Time
Before
- Wednesday 11/21/2018

After
- Wednesday 11/27/2019

4 PM - 7 PM

95th Percentile

39.3 minutes in 2019

57.9 minutes in 2018

BMC
For More Information

Ed Stylc
410-732-0500 x1031
estylc@baltometro.org
www.baltometro.org