



Update on Congestion Management Process Activities at BMC

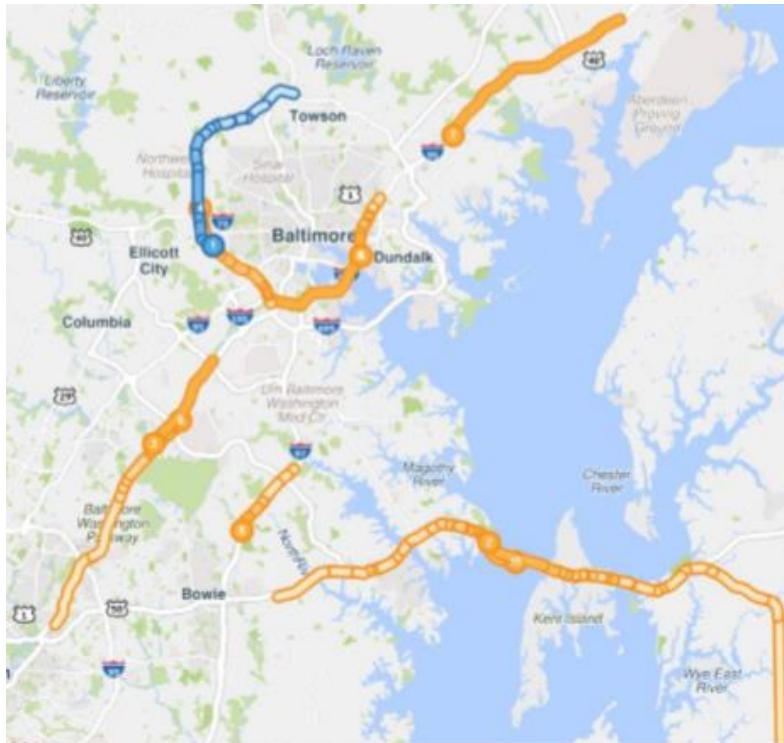
January 7, 2020



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

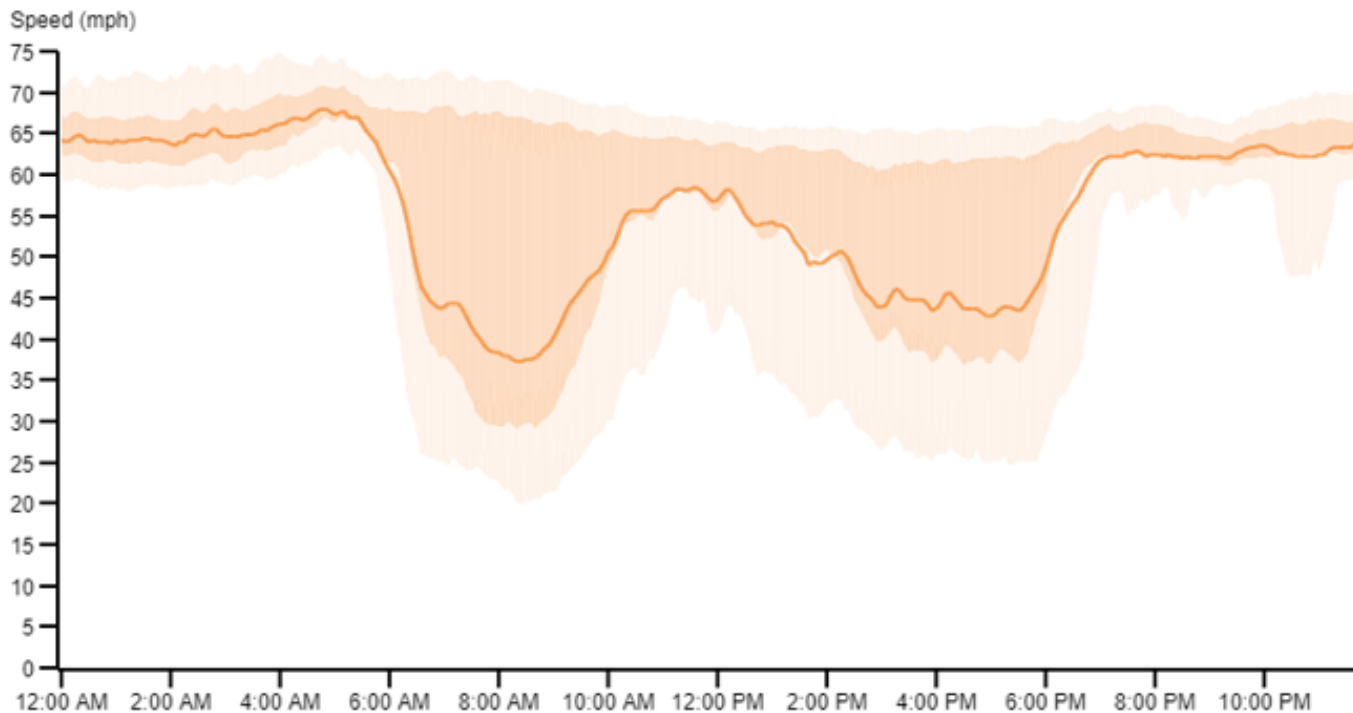


Rank	Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
1	I-695 OL @ EDMONDSON AVE/EXIT 14	3.42	2 h 39 m	537	102,468
2	US-50 W @ BAY BRIDGE	4.55	2 h	684	31,798
3	MD-295 S @ MD-198	2.80	3 h 47 m	119	48,852
4	I-695 IL @ SECURITY BLVD/EXIT 17	2.42	3 h 12 m	351	101,851
5	I-895 N @ HOLABIRD AVE/EXIT 10	1.80	4 h 12 m	229	34,346
6	I-895 S @ HOLABIRD AVE/EXIT 10	1.06	6 h 34 m	118	26,542
7	I-95 S @ MD-43/WHITE MARSH BLVD/EXIT 67	7.01	57 m	222	79,200
8	MD-3 S @ MD-424/CONWAY RD/DAVIDSONVILLE RD	1.09	5 h 30 m	8	33,542
9	MD-295 N @ CANINE RD	2.13	2 h 23 m	166	49,320
10	US-50 E @ BAY BRIDGE	5.05	1 h 05 m	953	37,473

Quarterly Congestion Analysis Report

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
I-695 OL @ EDMONDSON AVE/EXIT 14	3.42	2 h 39 m	537	102,468

Speed for I-695 OL @ EDMONDSON AVE/EXIT 14
Averaged per five minutes for Jul 01, 2019 through Sep 30, 2019
Outer Loop



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

Selected Location Details

Location ID BC007

Station Description IS395-20 MI S OF OSTEND ST

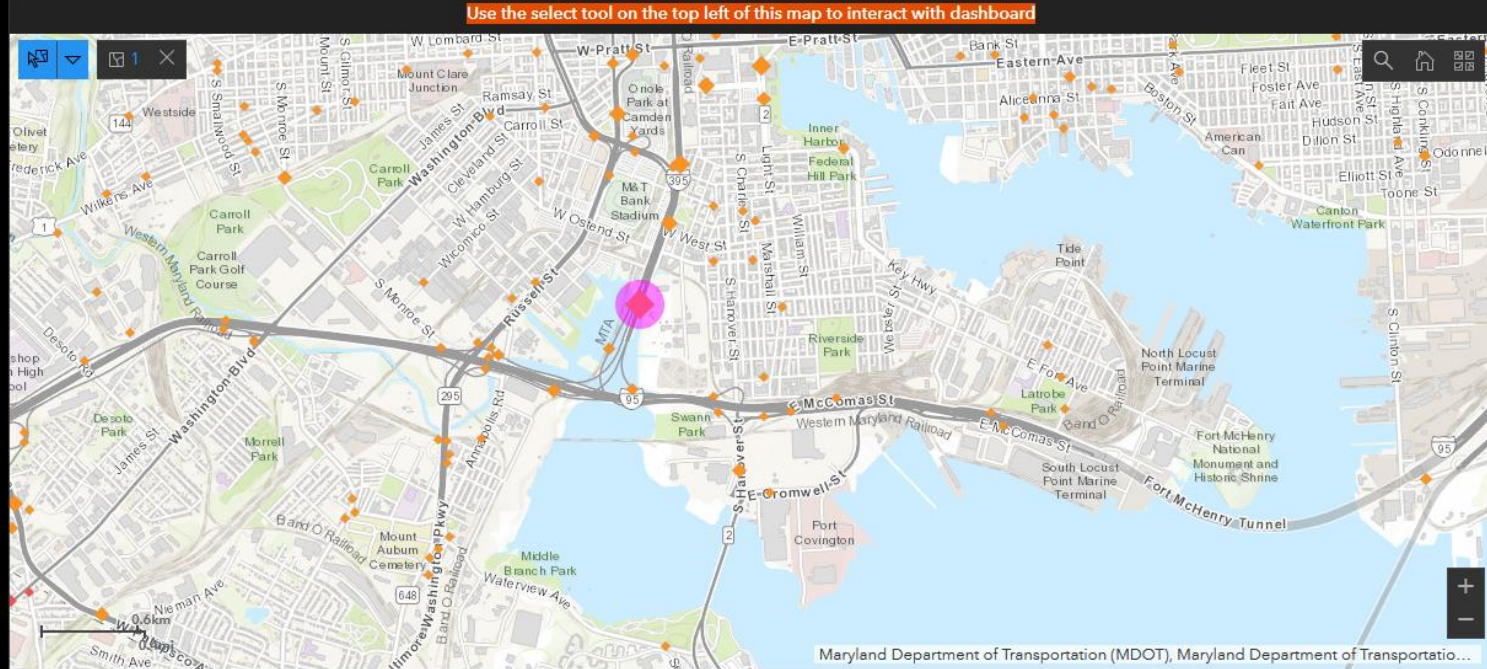
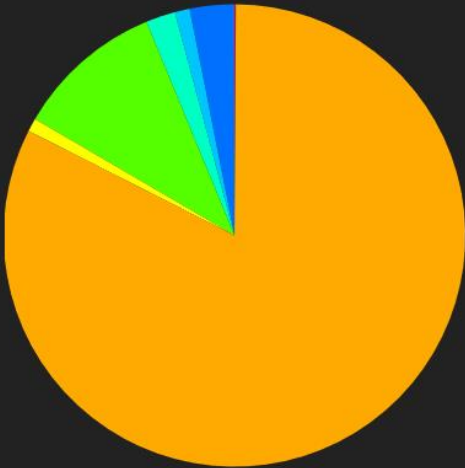
Rural/Urban Urban

Functional Class Interstate

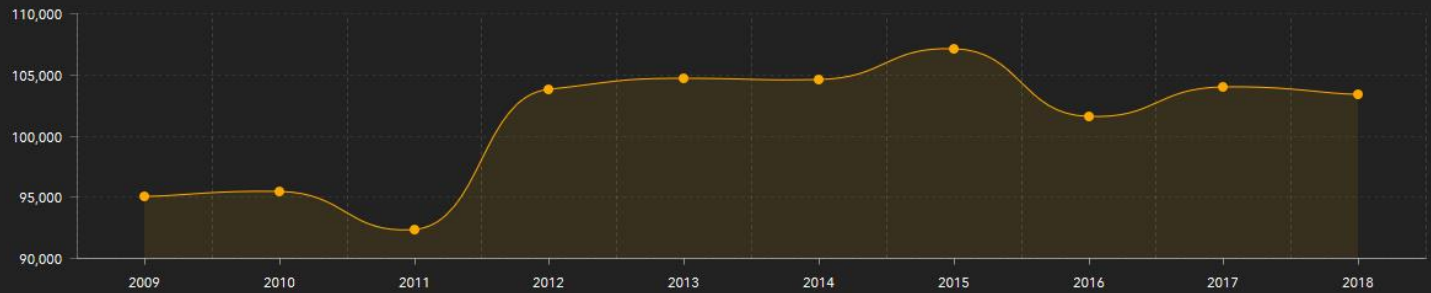
Number of Lanes 5

Count Details http://maps.roads.maryland.gov/itms_public/?stationID=BC007

Average Annual Daily Traffic by Vehicle Type



Average Annual Daily Traffic



AADT AAWDT

Data Source: Maryland Department of Transportation and State Highway Administration - Annual Average Daily Traffic

Online Traffic Count Dashboard



MARYLAND'S MAPPING & GIS DATA PORTAL
MD iMAP

Enter search term

Twitter YouTube ALL

HOME DASHBOARDS MAPS DATA INITIATIVES INNOVATE SUPPORT TRAINING PARTNERS

Dashboard Gallery

- > [Overview](#)
- > [FAQ](#)

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.

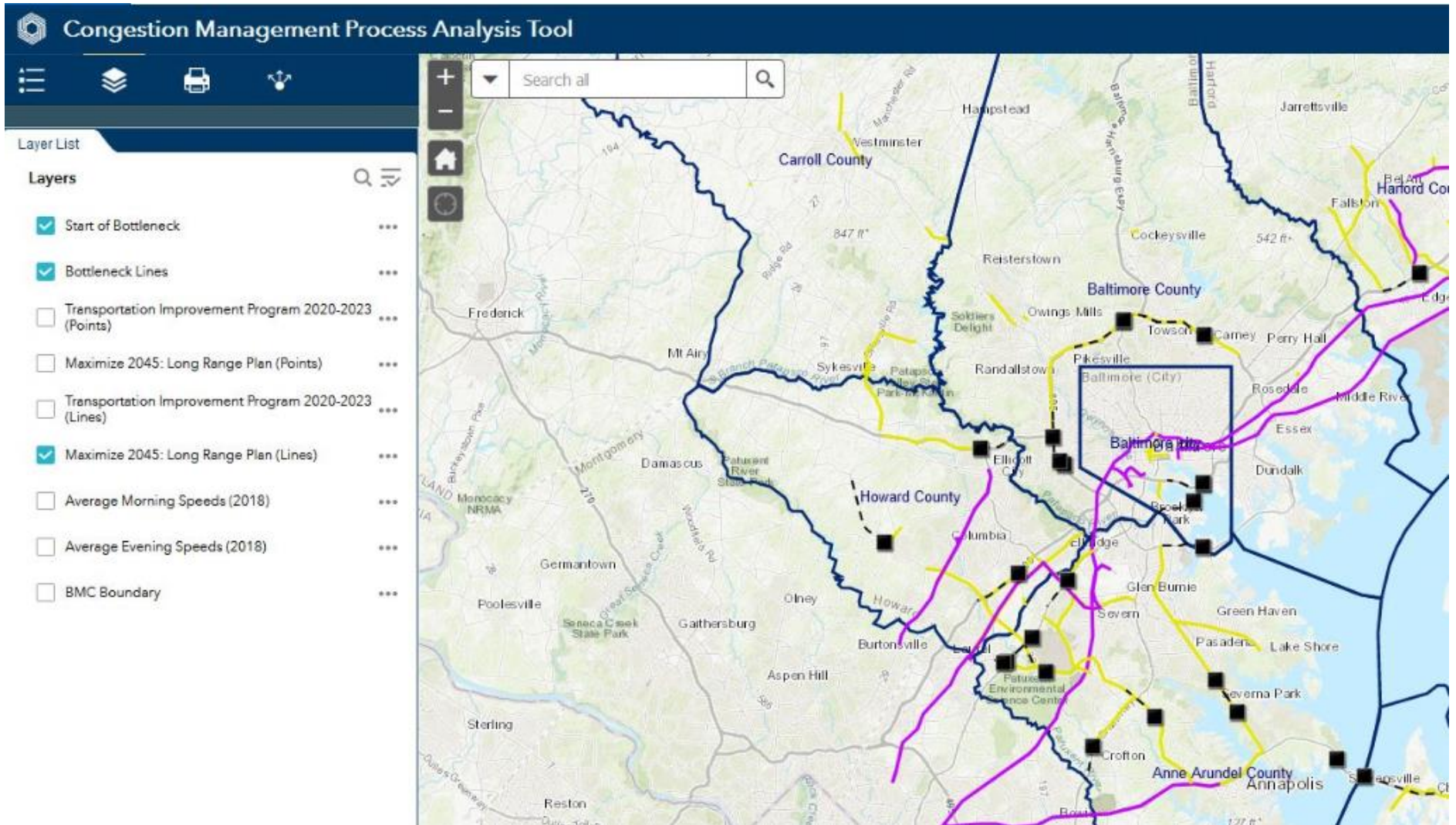
Current layers

- 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)

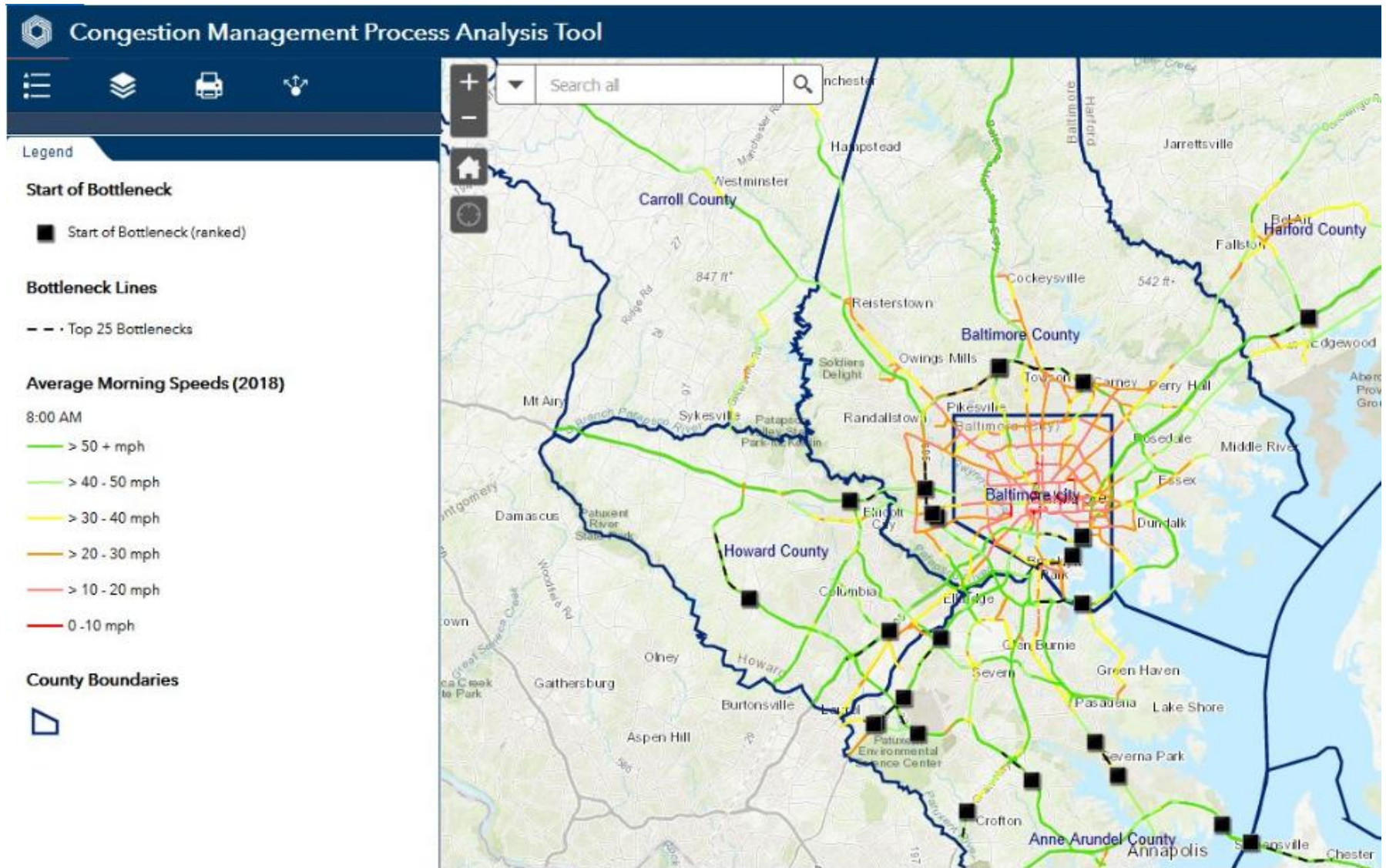
Future plans

- Integration into ArcGIS StoryMaps format
- Additional Advanced Performance Measures
- Annual updates for “before after” analysis

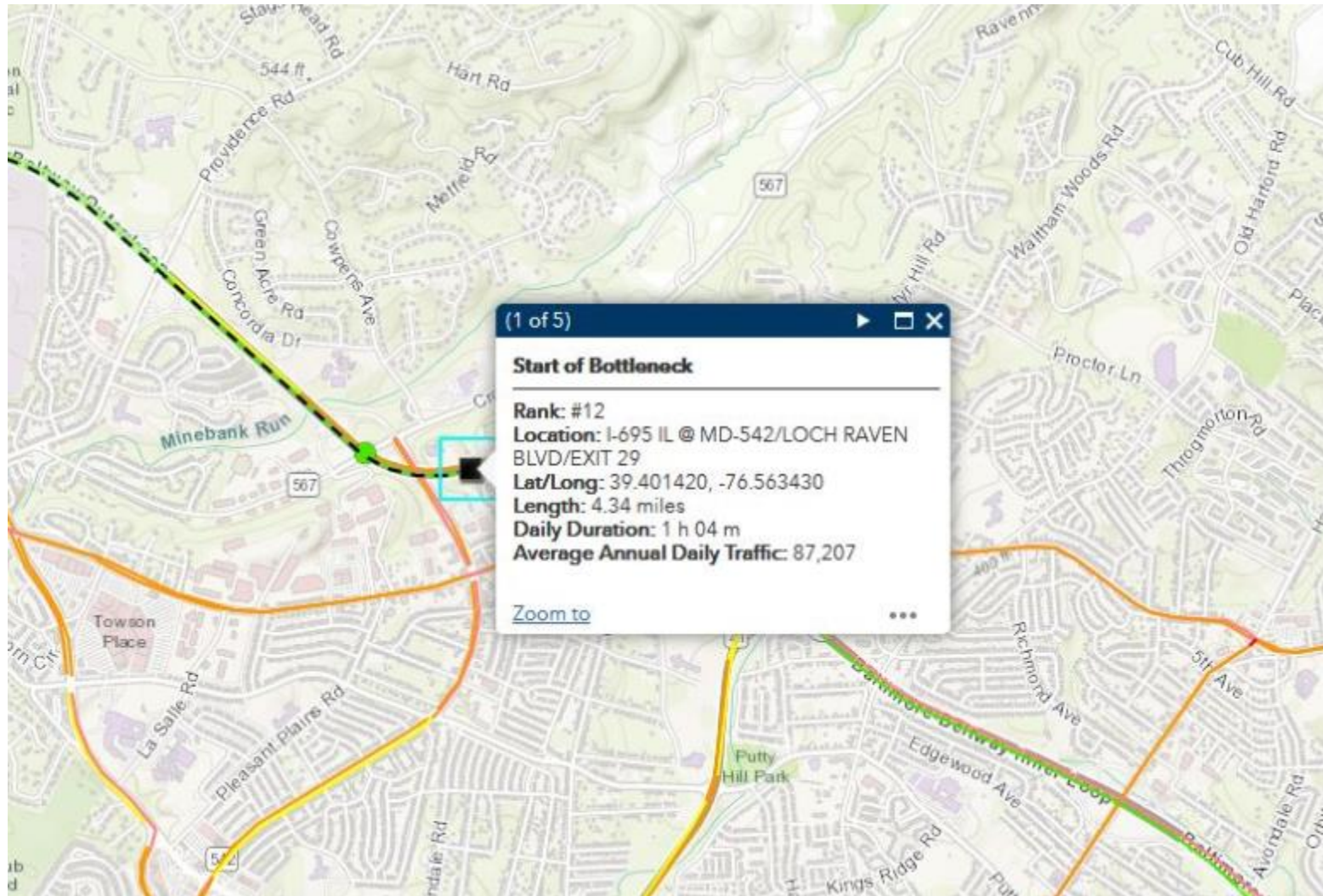
Online CMP Analysis Tool



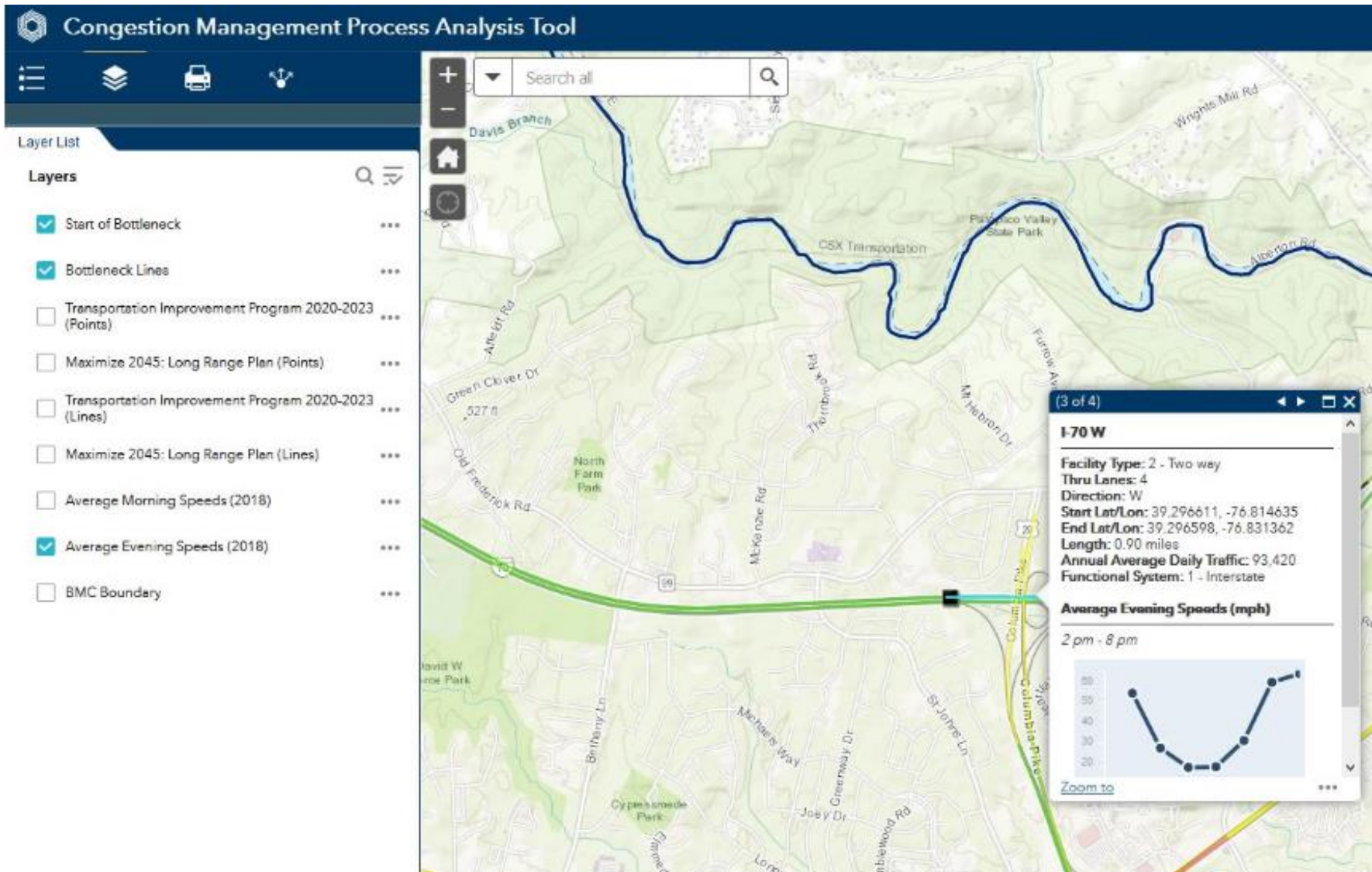
Online CMP Analysis Tool



Online CMP Analysis Tool



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



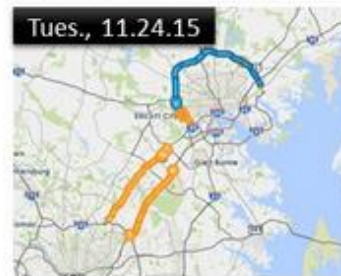
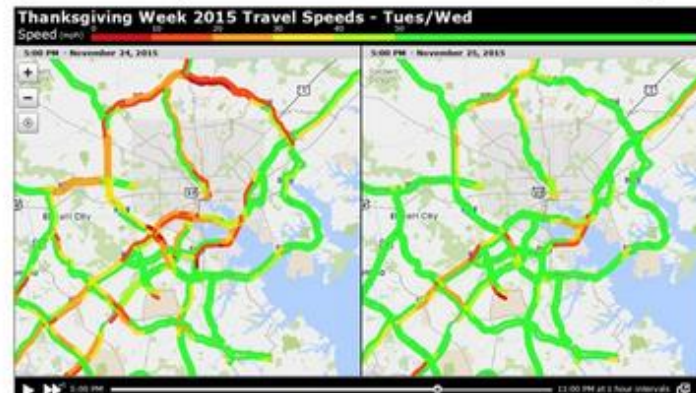
Check out BMC's use of the VPP Suite in providing travel tips around the Baltimore region:



Top 10 Bottleneck Locations from Thanksgiving Week 2015

Rank	Tuesday	Miles	Wednesday	Miles
1	I-695 OL @ I-70/EXIT 16	11.62	I-95 N @ MD-24/EXIT 77	8.56
2	I-695 OL @ US-40/EXIT 15	13.75	I-95 N @ MD-100/EXIT 43	9.58
3	I-95 N @ MD-100/EXIT 43	9.74	I-695 IL @ I-63/MD-25/EXIT 23	4.64
4	I-695 IL @ MD-41/PERRING PKWY/EXIT 30	5.82	I-695 OL @ EDMONDSON AVE/EXIT 14	5.81
5	I-695 OL @ MD-144/FREDERICK RD/EXIT 13	8.74	I-695 IL @ HARBOR TUNNEL THWY (NORTH)	1.41
6	I-695 OL @ EDMONDSON AVE/EXIT 14	7.51	I-95 S @ MD-43/WHITEMARSH BLVD/EXIT 67	14.92
7	MD-295 S @ MD-193	10.42	US-50 E @ SEVERN RIVER BRIDGE	3.3
8	MD-295 N @ MD-175	7.58	I-695 OL @ US-40/EXIT 15	4.57
9	I-695 IL @ I-70/EXIT 16	3.4	I-95 S @ MD-175/EXIT 41	4.73
10	I-95 N @ MD-175/EXIT 41	8.99	I-695 IL @ MD-41/PERRING PKWY/EXIT 30	3.13

IL = Inner Loop / OL = Outer Loop
 Congestion on Tuesday is heaviest on I-695 North, between I-95 and I-70. On Wednesday, I-95 North had the worst congestion. To combat that congestion, which suggests that travelers were leaving the Baltimore region, BMC staffers recommend taking alternative routes.



<http://www.baltometro.org/be-involved/transportation-options/thanksgiving-travel-2016>



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

BMC Holiday Travel Tips

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.

Travel Suggestions for Thanksgiving 2019

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.

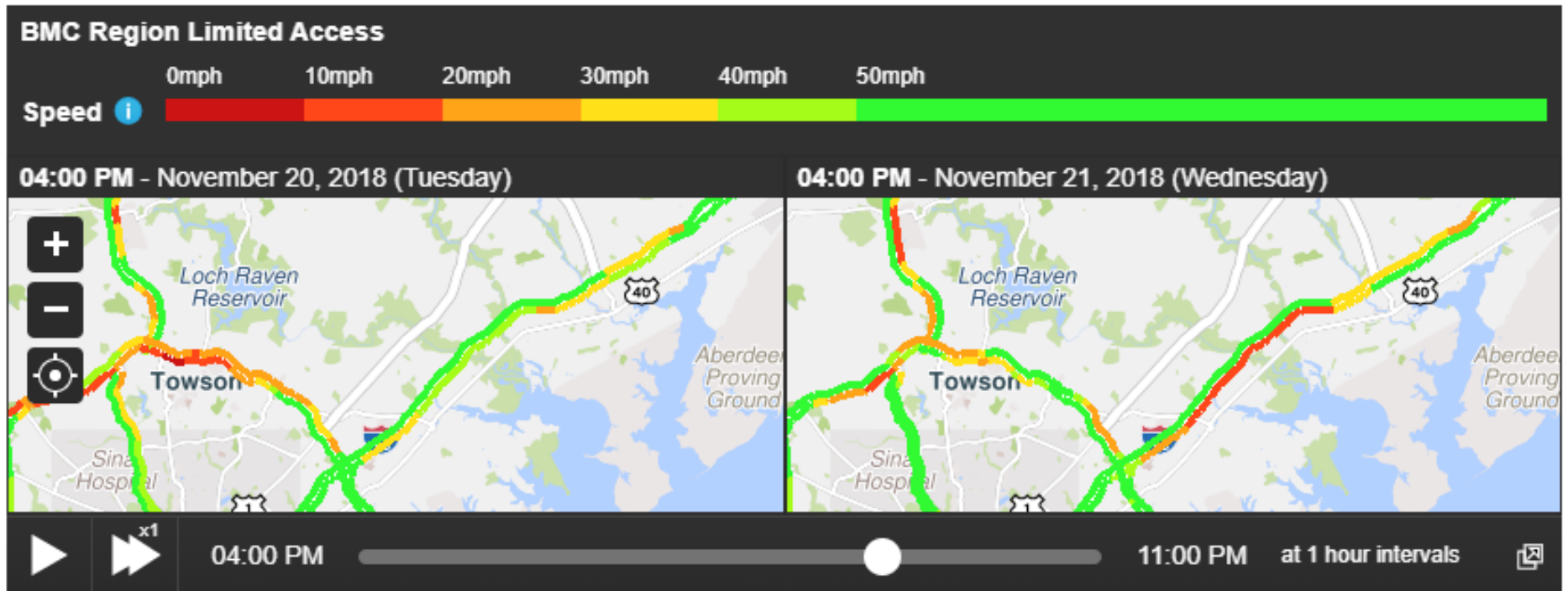
Thursday and Friday, November 28-29, before 7 a.m. and after 9 p.m.

Saturday and Sunday, November 29-30, before 9 a.m. and after 9 p.m.

BMC Holiday Travel Tips

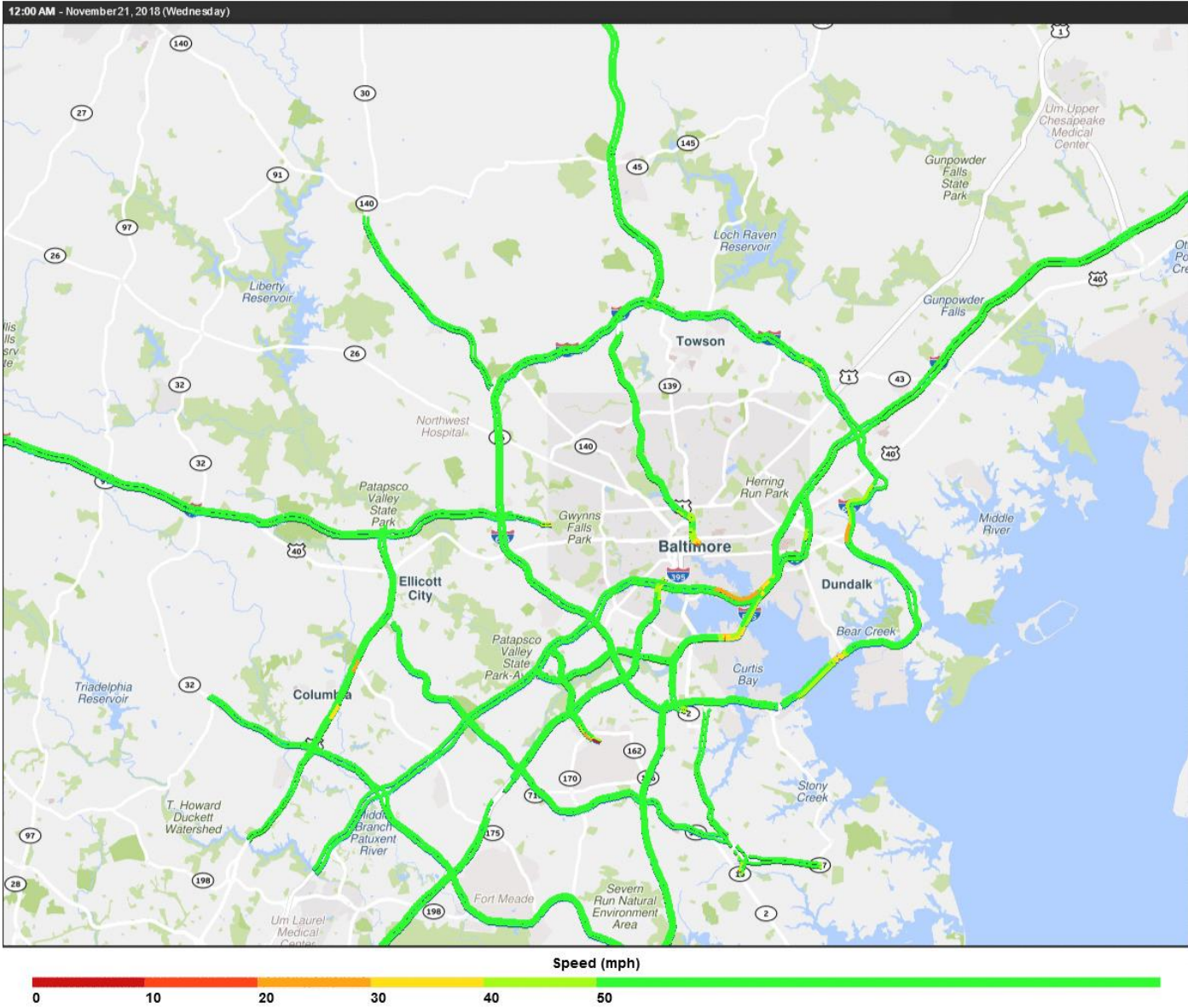
Animated Maps

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.



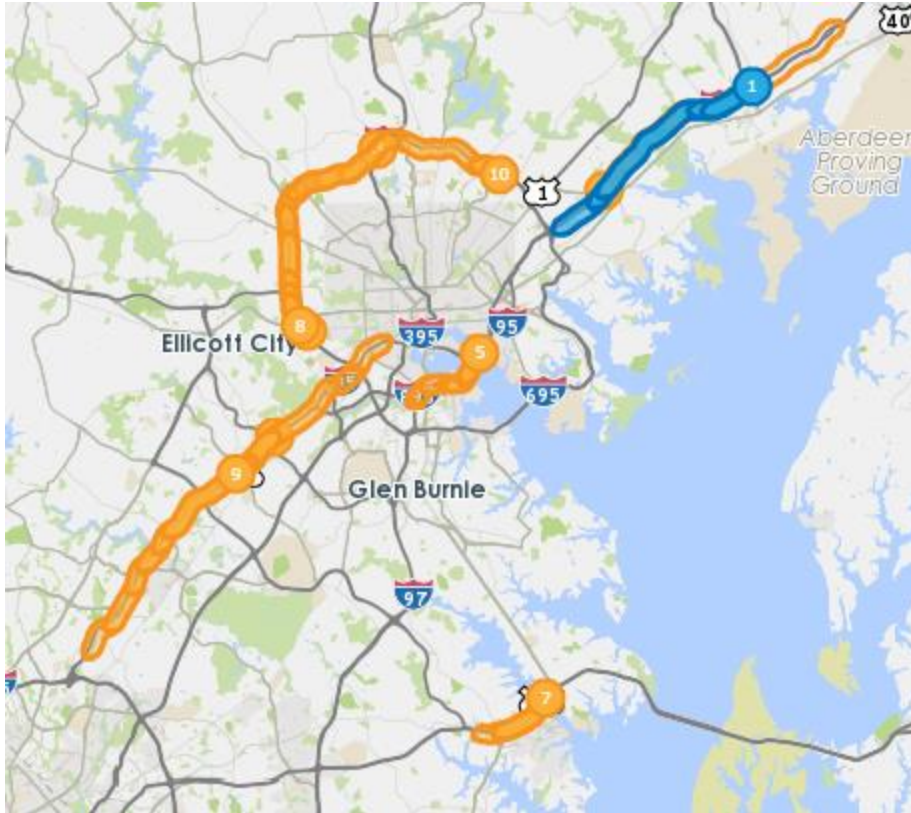
BMC Holiday Travel Tips

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



Bottlenecks

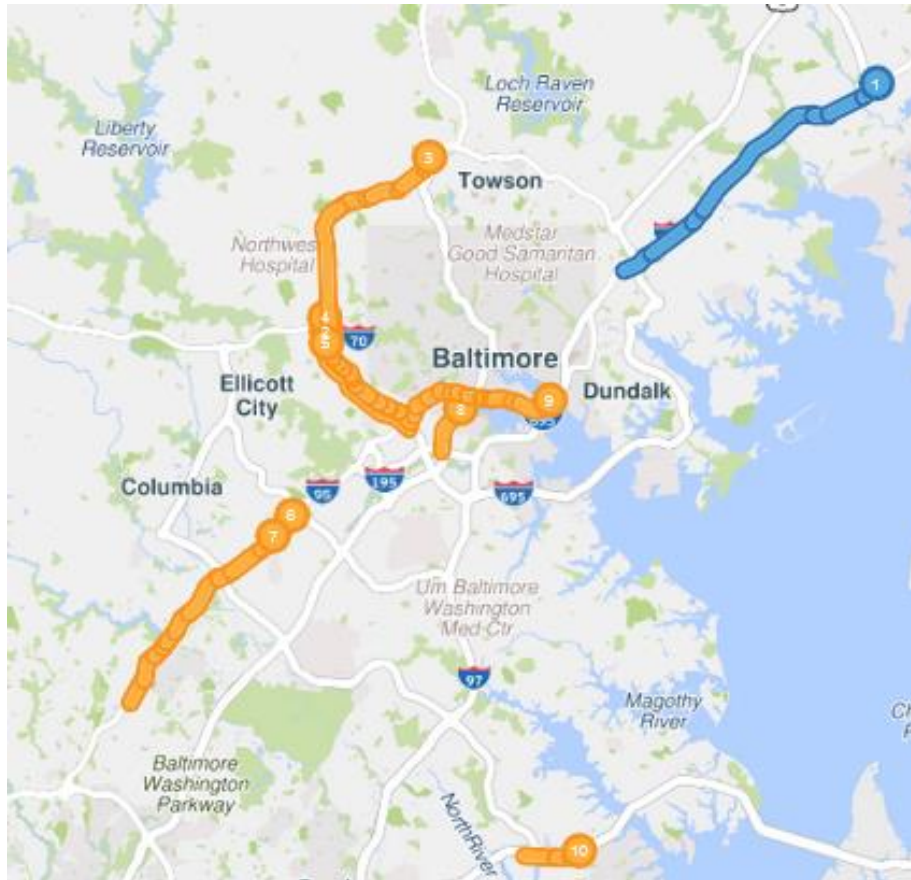
Wednesday 11/21/2018



Rank	Location	miles
1	I-95 N @ MD-24/EXIT 77	6.75
2	I-95 N @ MD-100/EXIT 43	5.32
3	I-695 OL @ EDMONDSON AVE/EXIT 14	3.46
4	I-695 IL @ I-83/MD-25/EXIT 23	3.64
5	MD-295 S @ MD-198	2.71
6	I-695 CW @ I-70/EXIT 16	2.21
7	MD-295 N @ MD-648	3.35
8	I-695 OL @ SECURITY BLVD/EXIT 17	3.47
9	I-695 IL @ MD-295	2.31
10	I-95 N @ MD-152/EXIT 74	9.66

Bottlenecks

Wednesday 11/27/2019



Rank Location

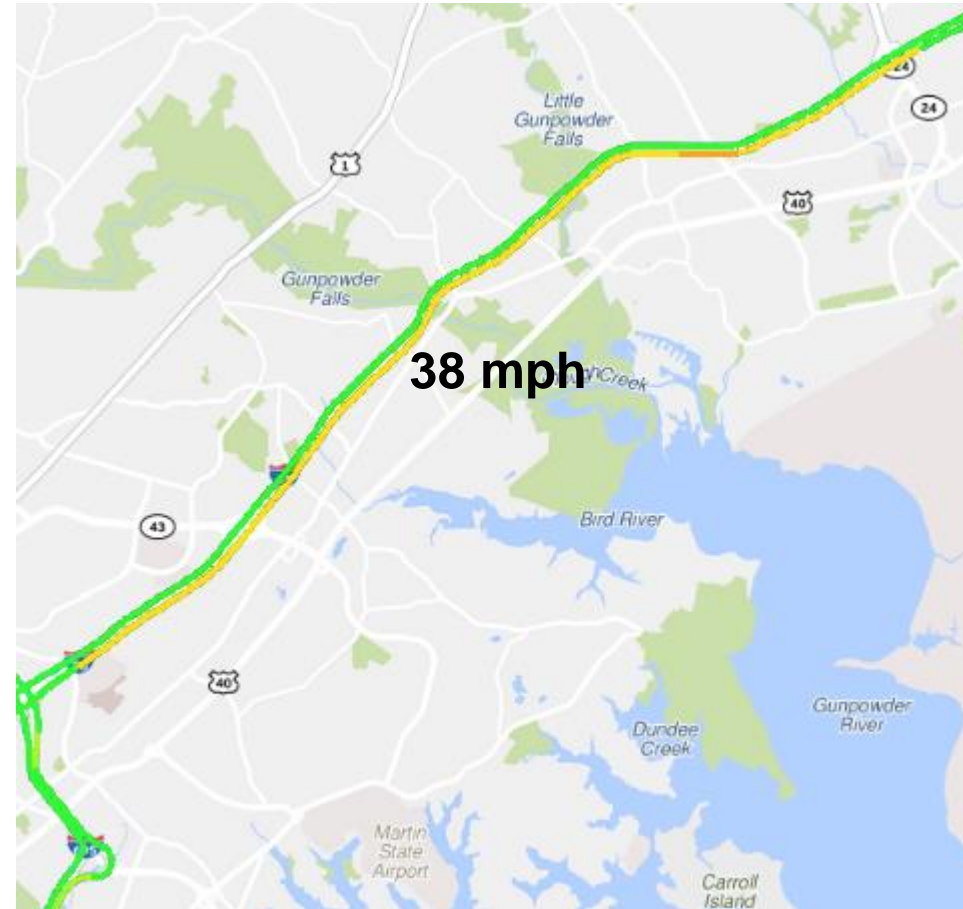
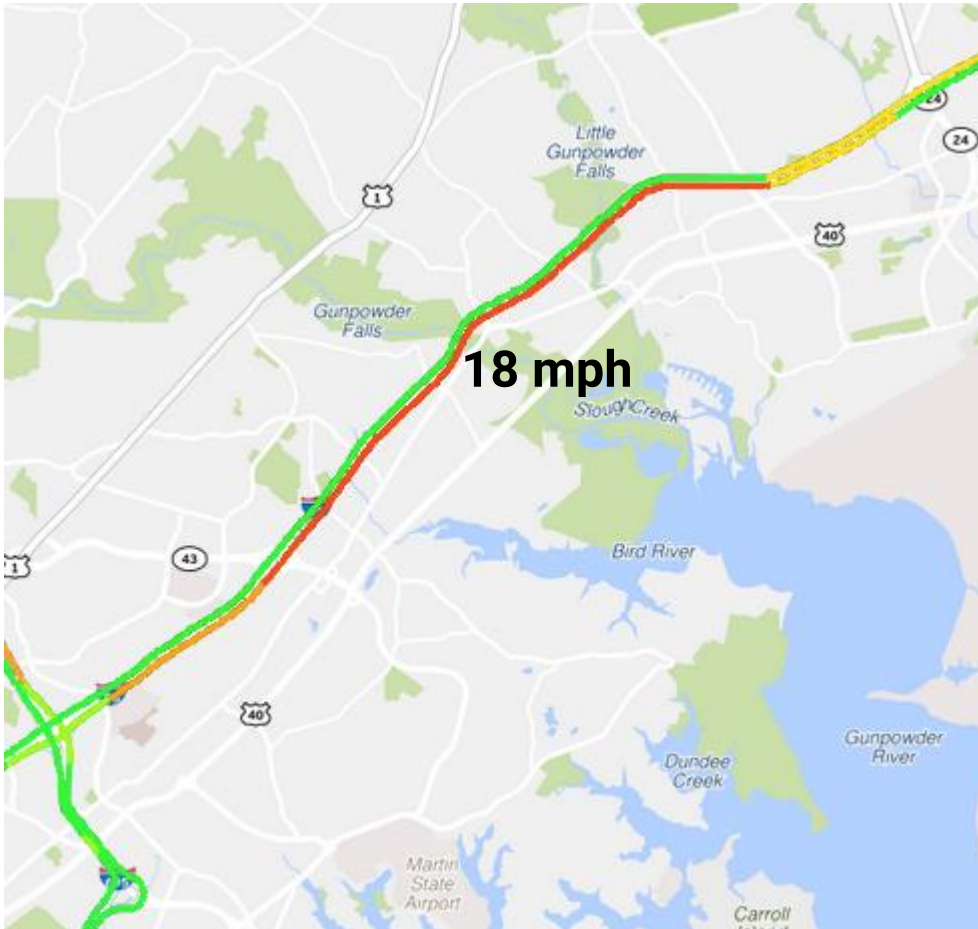
miles

1 I-95 N @ MD-24/EXIT 77	4.99
2 I-695 IL @ I-70/EXIT 16	5.86
3 I-695 IL @ I-83/MD-25/EXIT 23	3.32
4 I-695 IL @ SECURITY BLVD/EXIT 17	4.16
5 I-695 OL @ I-70/EXIT 16	3.27
6 I-95 N @ MD-100/EXIT 43	4.96
7 I-95 N @ MD-175/EXIT 41	4.7
8 MD-295 N @ MD-648	2.07
9 I-95 N @ FORT MCHENRY TUNNEL	3.77
10 US-50 E @ MD-450/EXIT 23	2.43

Speed Map 2018 & 2019 – 4pm

2018

2019



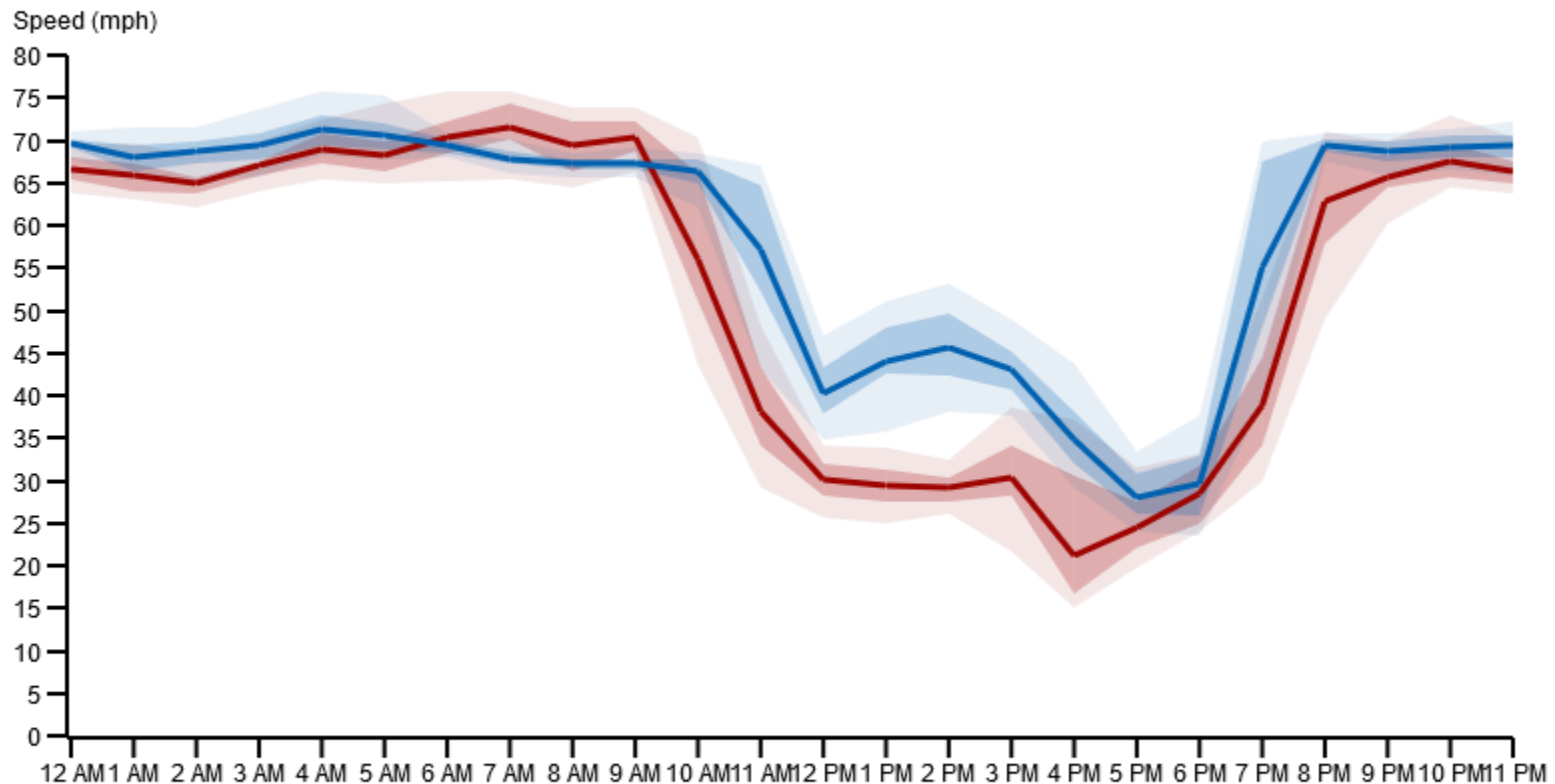
Average speeds on I-95 N between MD 43/White Marsh Blvd and MD 152/Mountain Rd

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

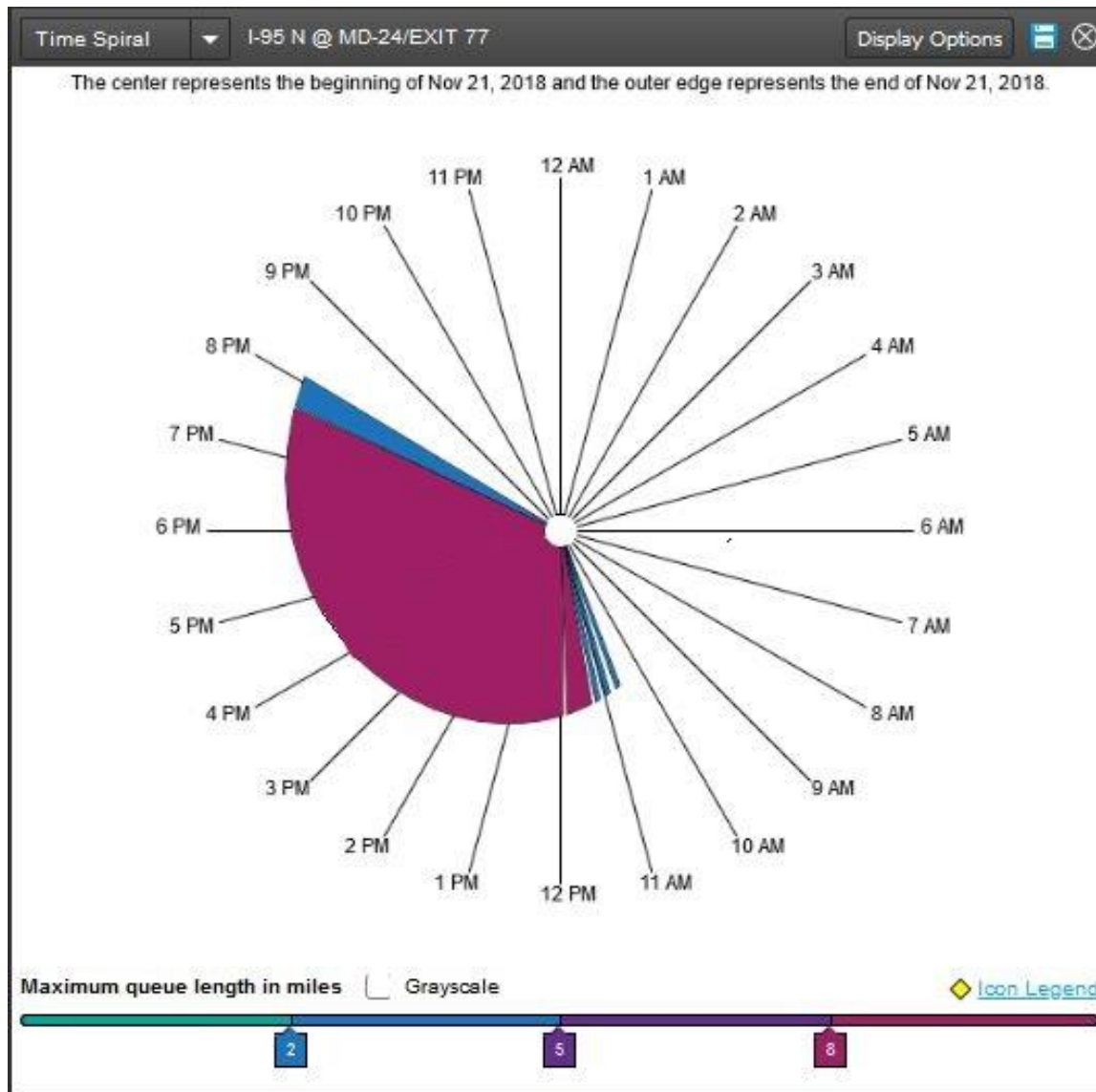
Northbound



Speed: The current estimated harmonic mean speed for the roadway segment in miles per hour.

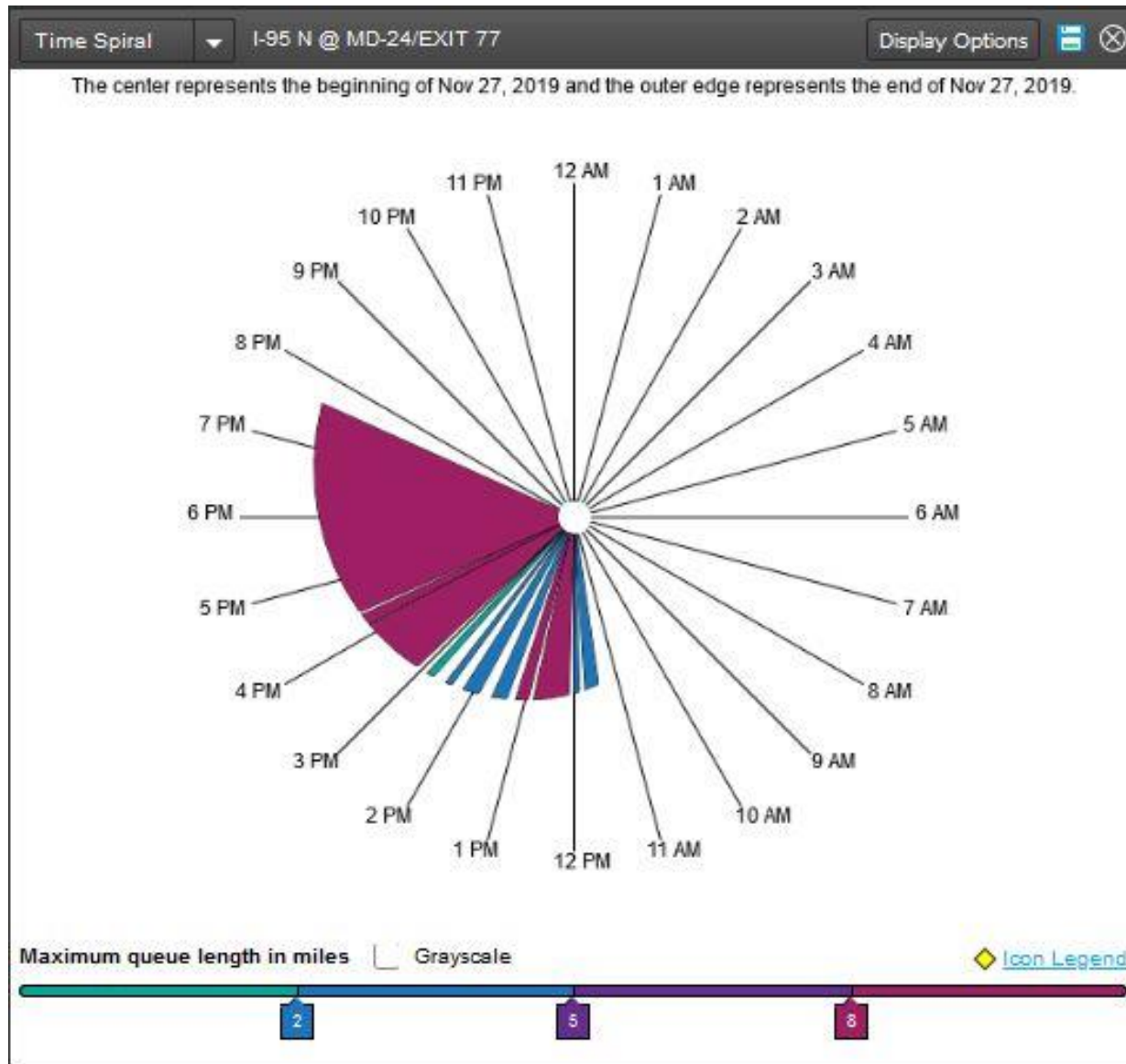
- November 21, 2018 - INRIX
- November 21, 2018 25th and 75th percentile - INRIX
- November 21, 2018 5th and 95th percentile - INRIX
- November 27, 2019 - INRIX
- November 27, 2019 25th and 75th percentile - INRIX
- November 27, 2019 5th and 95th percentile - INRIX

Time Spiral Comparison



2018
11am-8pm

Time Spiral Comparison

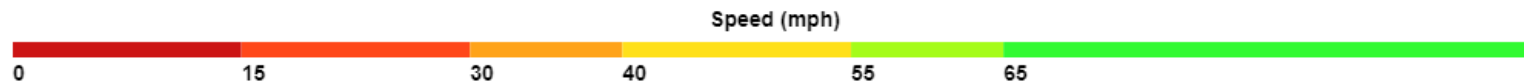
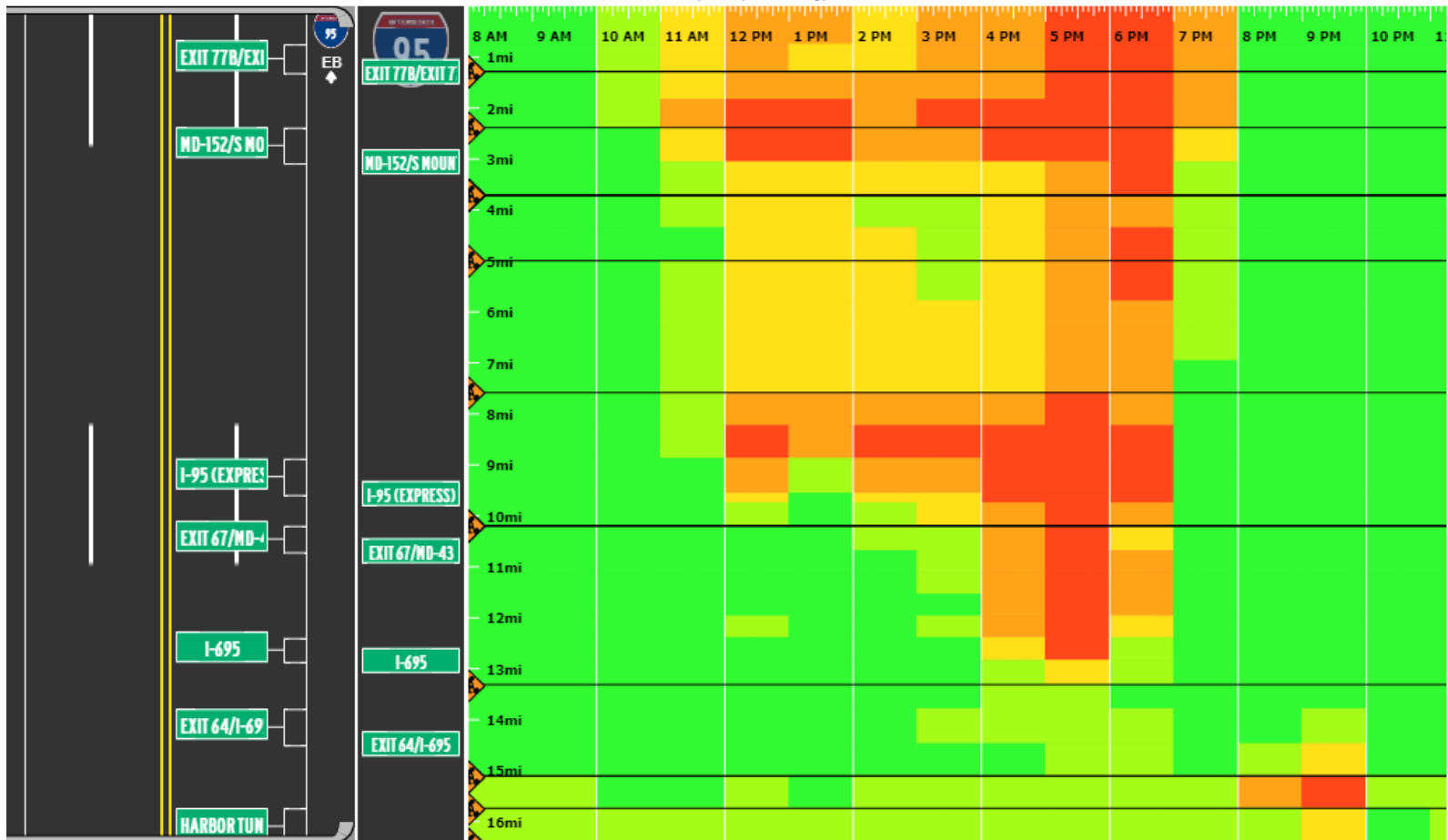


2019
11:30am – 7:45pm

Congestion Times

I-95 N from Harbor Tunnel Thruway to MD-24 Averaged by 1 hour for November 27, 2019

November 27, 2019 (Wednesday)



Travel Time Comparison – 2018 vs. 2019



Travel Time Comparison - Using INRIX XD data

I-95

--- Speed Limit Travel Time ⓘ

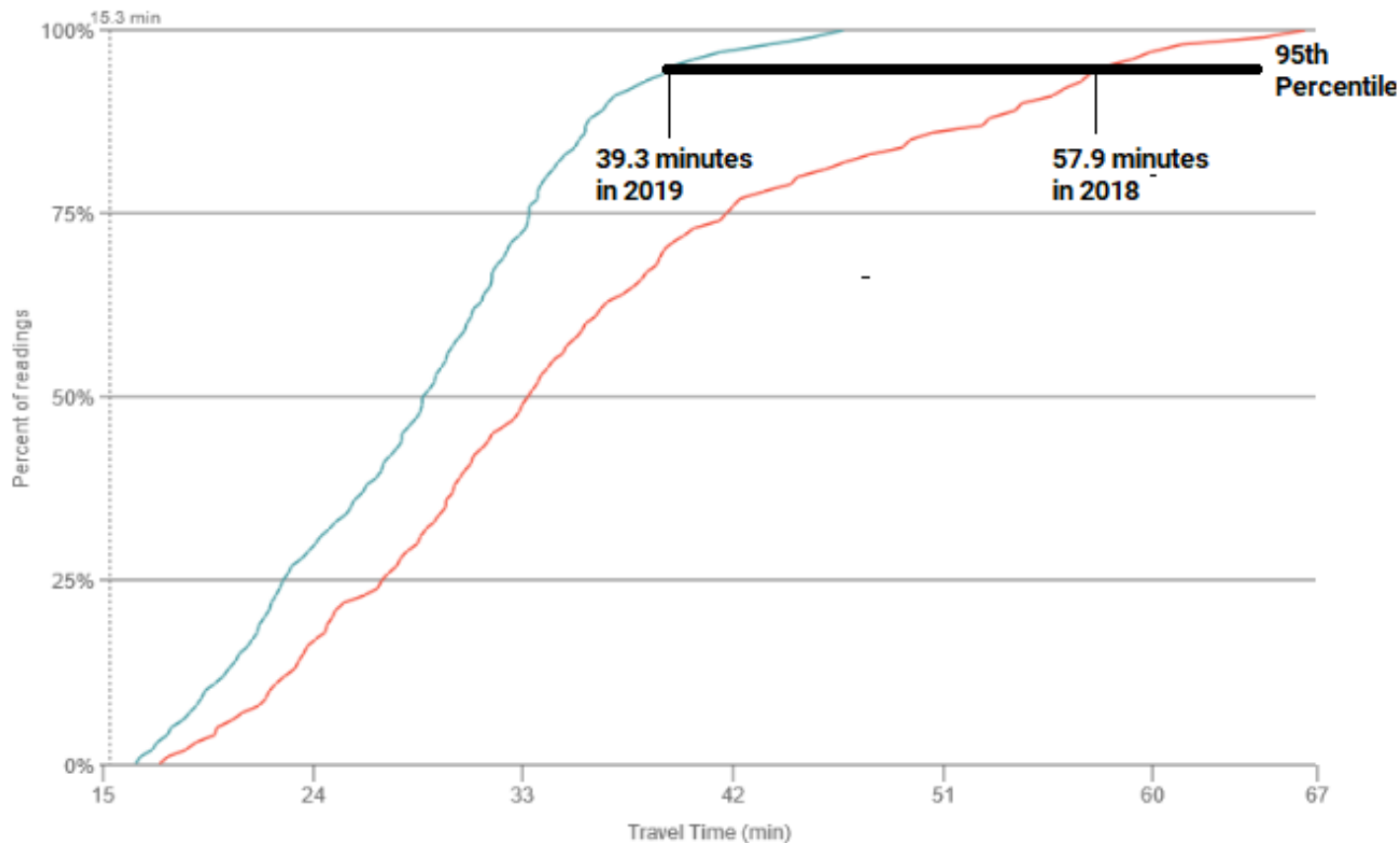
Before

After

Wednesday 11/21/2018

Wednesday 11/27/2019

4 PM - 7 PM



For More Information

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