Baltimore Regional Transportation Board

New Annual Congestion Analysis Report

Quarterly Bottleneck Reports

Technical Committee August 7th 2018

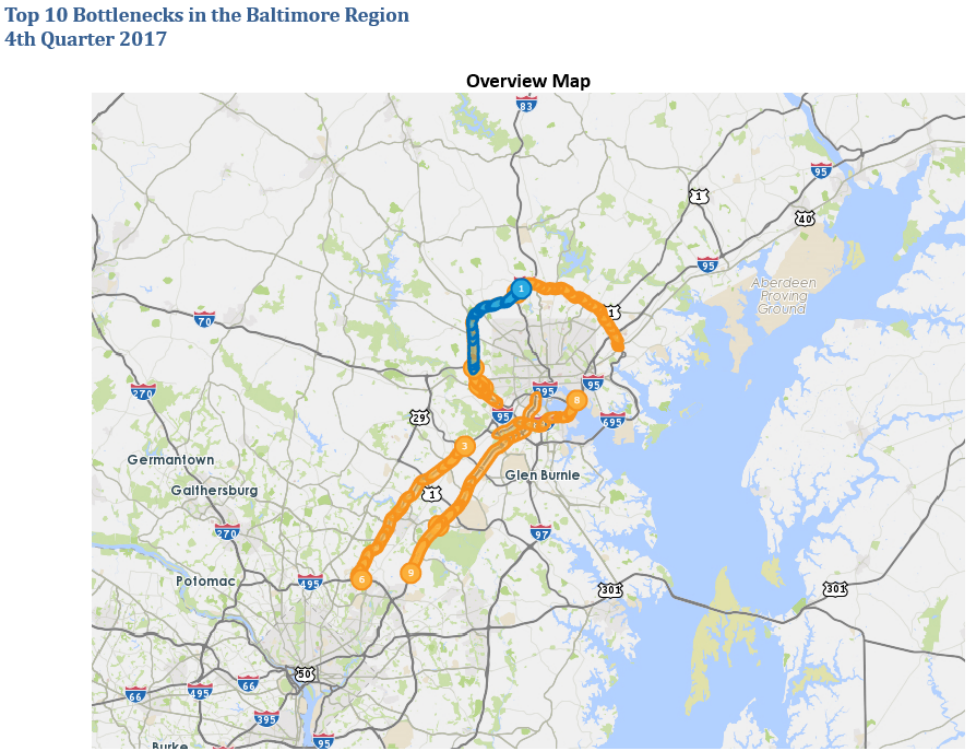
BMC

Quarterly Congestion Analysis Reports

- **Have been reporting on the Top Ten Congested Corridors in the Region Since 2011**
- **Vehicle Probe Data provided by University of MD CATT Lab**
  - Top 10 Bottlenecks in the Baltimore region:
    - Report with maps and graphics
    - Explanations of what is occurring at each location
  - Part of the Congestion Management Process

Quarterly Report Examples

- Location Map
- Limited access highways and major arterials only currently



Quarterly Report Examples

- Top 10 List

	Location	Impact	Average max length (miles)	Average Daily Duration	Total Duration	All Events Incidents
1	I-695 IL @ I-83/MD-25/EXIT 23	69,102	3.52	3 h 54 m	15 d 00 h 07 m	452
2	I-695 OL @ EDMONDSON AVE/EXIT 14	58,243	4.86	2 h 04 m	7 d 22 h 38 m	1,039
3	I-95 N @ MD-100/EXIT 43	53,148	4.23	2 h 15 m	8 d 16 h 30 m	361
4	I-695 OL @ US-40/EXIT 15	51,977	3.82	2 h 29 m	9 d 12 h 43 m	935
5	MD-295 S @ MD-198	49,167	2.58	3 h 21 m	12 d 21 h 51 m	365
6	I-95 S @ I-495/EXIT 27-25	47,942	2.28	3 h 37 m	13 d 21 h 06 m	258
7	I-695 IL @ I-70/EXIT 16	42,926	2.00	3 h 18 m	12 d 15 h 51 m	265
8	I-895 N @ HARBOR TUNNEL THWY (NORTH)	40,739	0.70	4 h 12 m	16 d 03 h 23 m	270
9	MD-295 S @ POWDER MILL RD	39,505	4.96	1 h 35 m	6 d 01 h 57 m	271
10	I-695 OL @ I-83/MD-25/EXIT 23	34,816	4.59	1 h 23 m	5 d 08 h 17 m	540

By Impact Factor

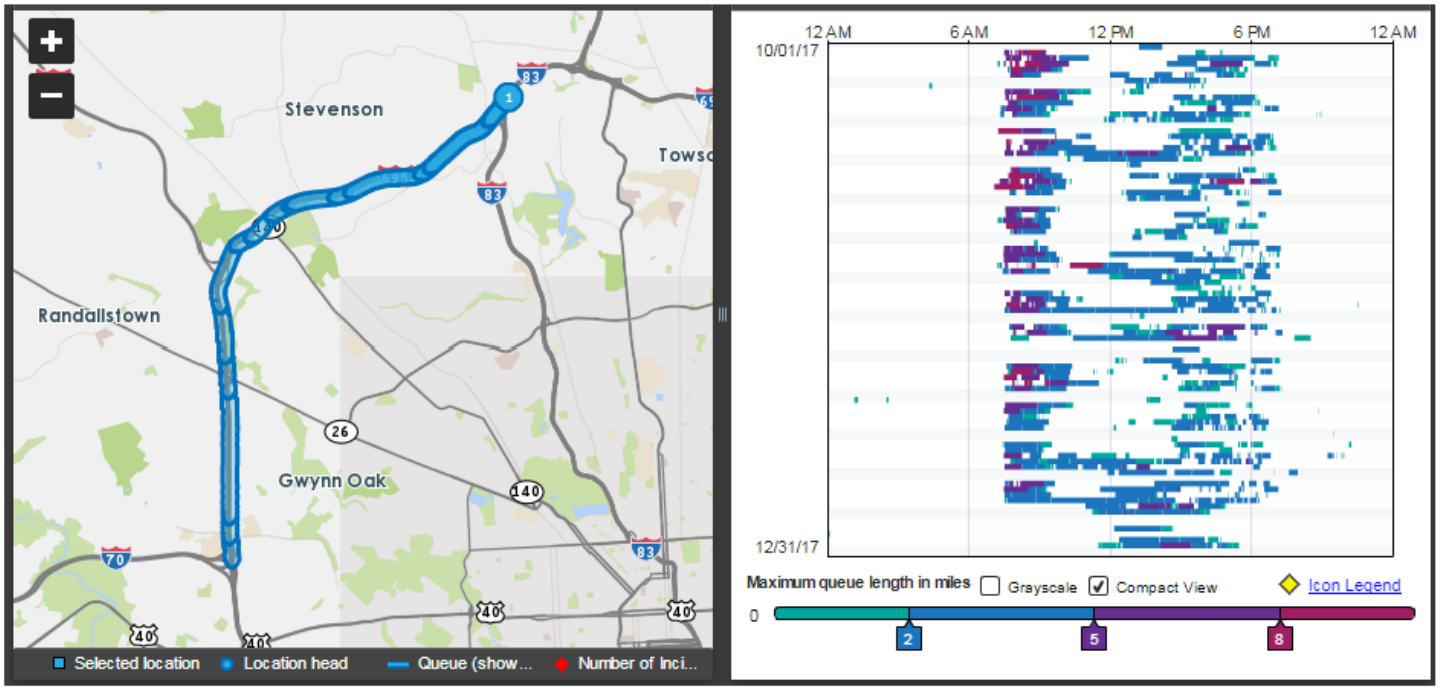
(Number of Occurrences x Average Duration in Minutes x Average Length)

Quarterly Report Examples

- Listing

#1 Ranked Bottleneck in the Baltimore Region – 4th Quarter 2017

Location	Impact	Average max length (miles)	Average Daily Duration	Total Duration	All Events/Incidents
I-695 IL @ I-83/MD-25/EXIT 23	69.102	3.52	3 h 54 m	15 d 00 h 07 m	452



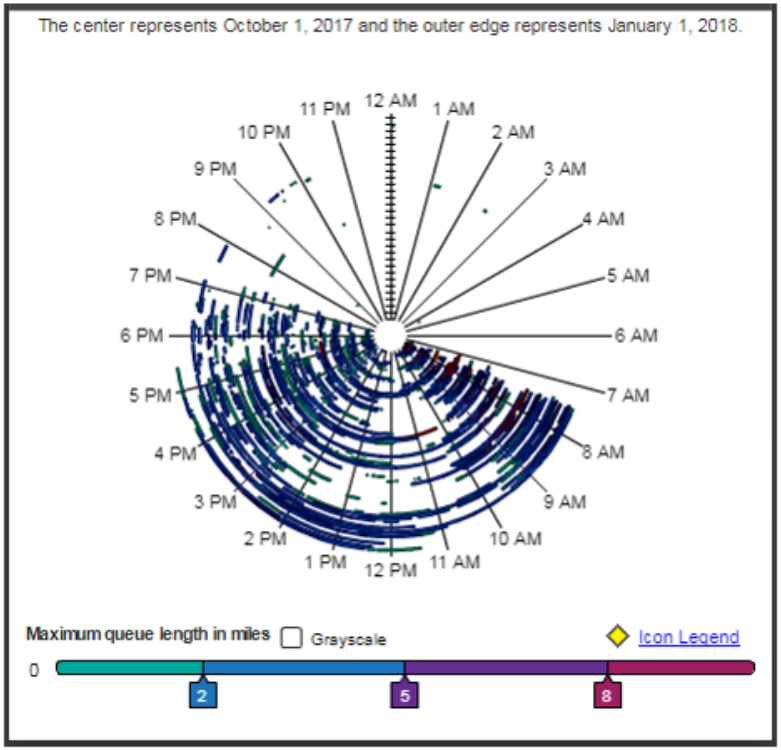
***Notes:** Rush hour congestion more severe during the AM peak period. The lane drop approaching the ramp to southbound I-83 is a contributing factor, as are merging and weaving at the interchanges in this segment*

Quarterly Report Examples

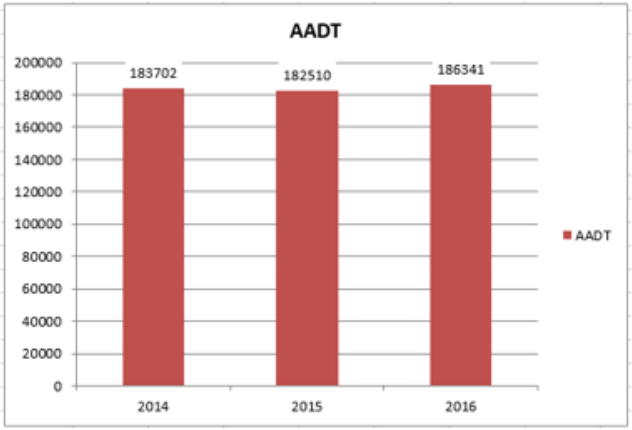
- Listing

#1 Ranked Bottleneck in the Baltimore Region –4th Quarter 2017

Location	Impact	Average max length (miles)	Average Daily Duration	Total Duration	All Events/Incidents
I-695 IL @ I-83/MD-25/EXIT 23	69,102	3.52	3 h 54 m	15 d 00 h 07 m	452



Traffic Volumes – Average Annual Daily Traffic (AADT)
STATION_DESCRIPTION IS695-.50 MI N OF GREENSPRING AVE



Quarterly Report 2018

- New Analytics

How are bottleneck conditions tracked?

- **Rank** - The ranked position of the location according to the current table ordering by Total Delay - Raw speed drop weighted by vehicle miles traveled (VMT) factor
- **Average max length** - The average maximum length, in miles, of queues formed by congestion originating at the location
- **Average daily duration** - The average amount of time per day that congestion is identified originating at the location
- **All Events/Incidents** - The number of traffic events and incidents that occurred within the space of the bottleneck at any time during the time period being analyzed
- **Volume Estimate** - AADT weighted by queue length

Rank	Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
1	I-695 OL @ EDMONDSON AVE/EXIT 14	5.01	2 h 43 m	834	88946
2	I-695 IL @ I-83/MD-25/EXIT 23	3.53	2 h 56 m	463	95048
3	I-695 IL @ I-70/EXIT 16	2.11	2 h 54 m	233	95068
4	I-695 OL @ US-40/EXIT 15	3.57	1 h 48 m	766	89650
5	I-95 N @ MD-100/EXIT 43	4.23	1 h 22 m	310	95604
6	I-95 N @ MD-295/BALTIMORE WASHINGTON PKWY/EXIT 52	2.26	1 h 50 m	641	93260
7	MD-295 S @ POWDER MILL RD	5.26	1 h 24 m	318	45940
8	I-695 IL @ MD-542/LOCH RAVEN BLVD/EXIT 29	3.71	53 m	496	85789
9	I-95 N @ MD-175/EXIT 41	3.23	1 h 12 m	243	95344
10	I-695 OL @ I-83/MD-25/EXIT 23	3.48	1 h 06 m	484	79378

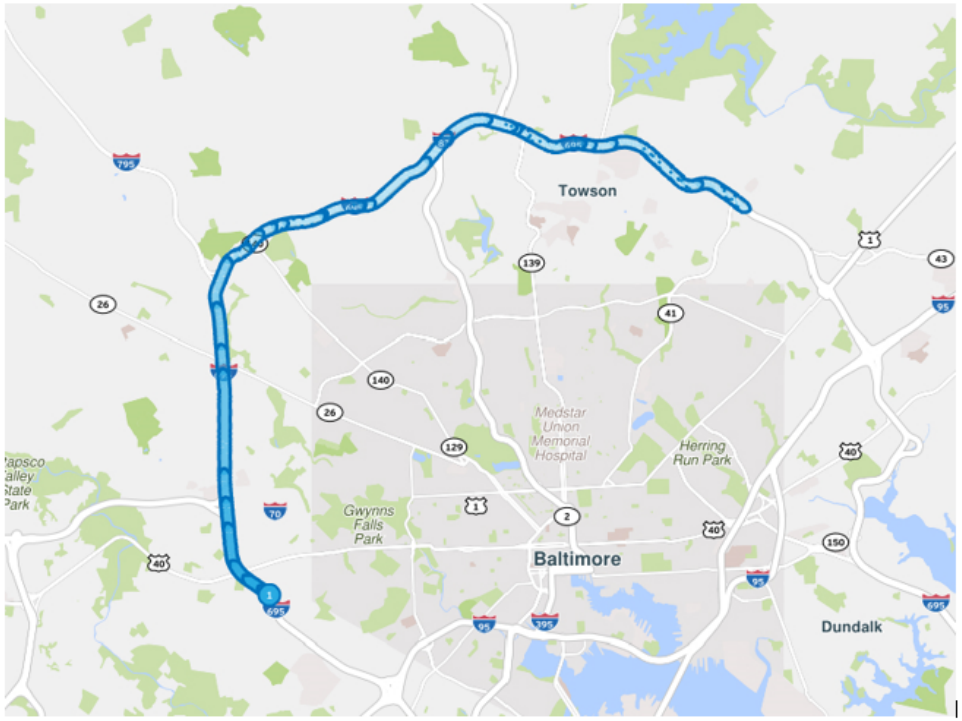
IL = Inner Loop OL = Outer Loop

Quarterly Report 2018

- Simplified Graphics

#1 Ranked Bottleneck in the Baltimore Region – 1st Quarter 2018

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
I-695 OL @ EDMONDSON AVE/EXIT 14	5.01	2 h 43 m	834	88946

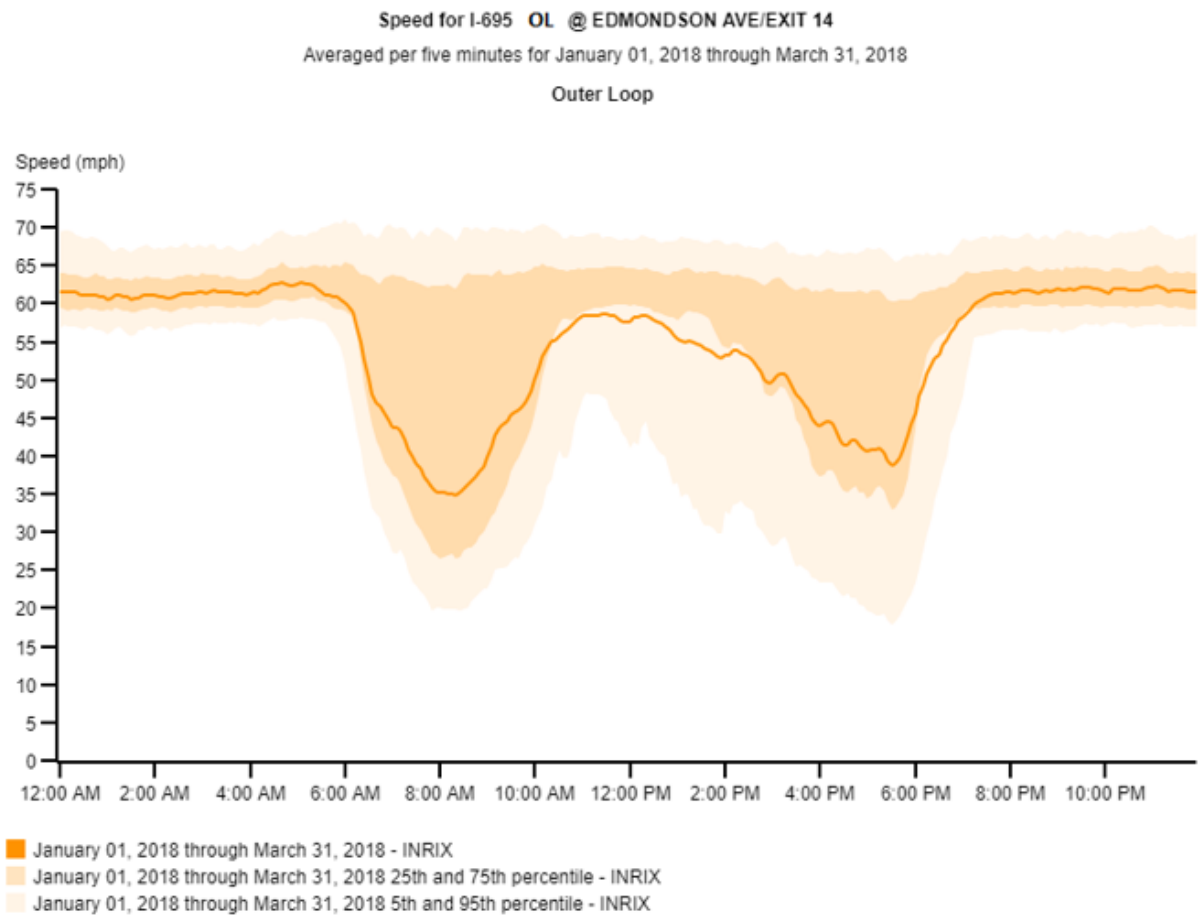


***Notes:** The core congestion extends from just south of US-40/Baltimore National Pike to MD-140/Reisterstown Rd in both the morning and afternoon rush hour with the AM rush being more severe. A few times during the 1st quarter of 2018 it extended as far as Towson. A beltway widening project is underway in the area.*

BMC BRTB

Quarterly Report 2018

- Simplified Graphics



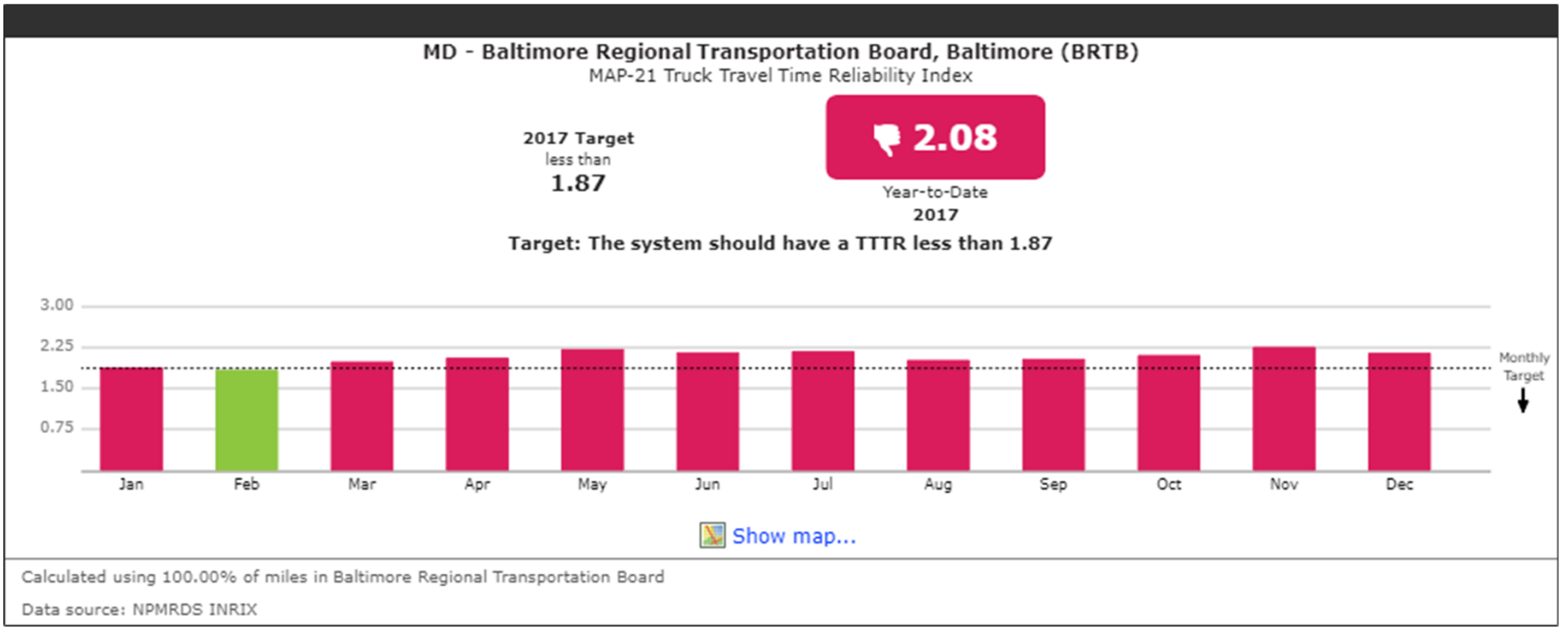
Annual Congestion Analysis Report

- Future – 2018
- Expanded version of quarterly reports
- Probe Data Analytics Suite no longer limited to 3 month queries
- Top 25 regional bottlenecks
- Top 10 (or more) for each regional jurisdiction
- Not limited to limited access highways or arterials
- Includes all roads in the available probe data coverage

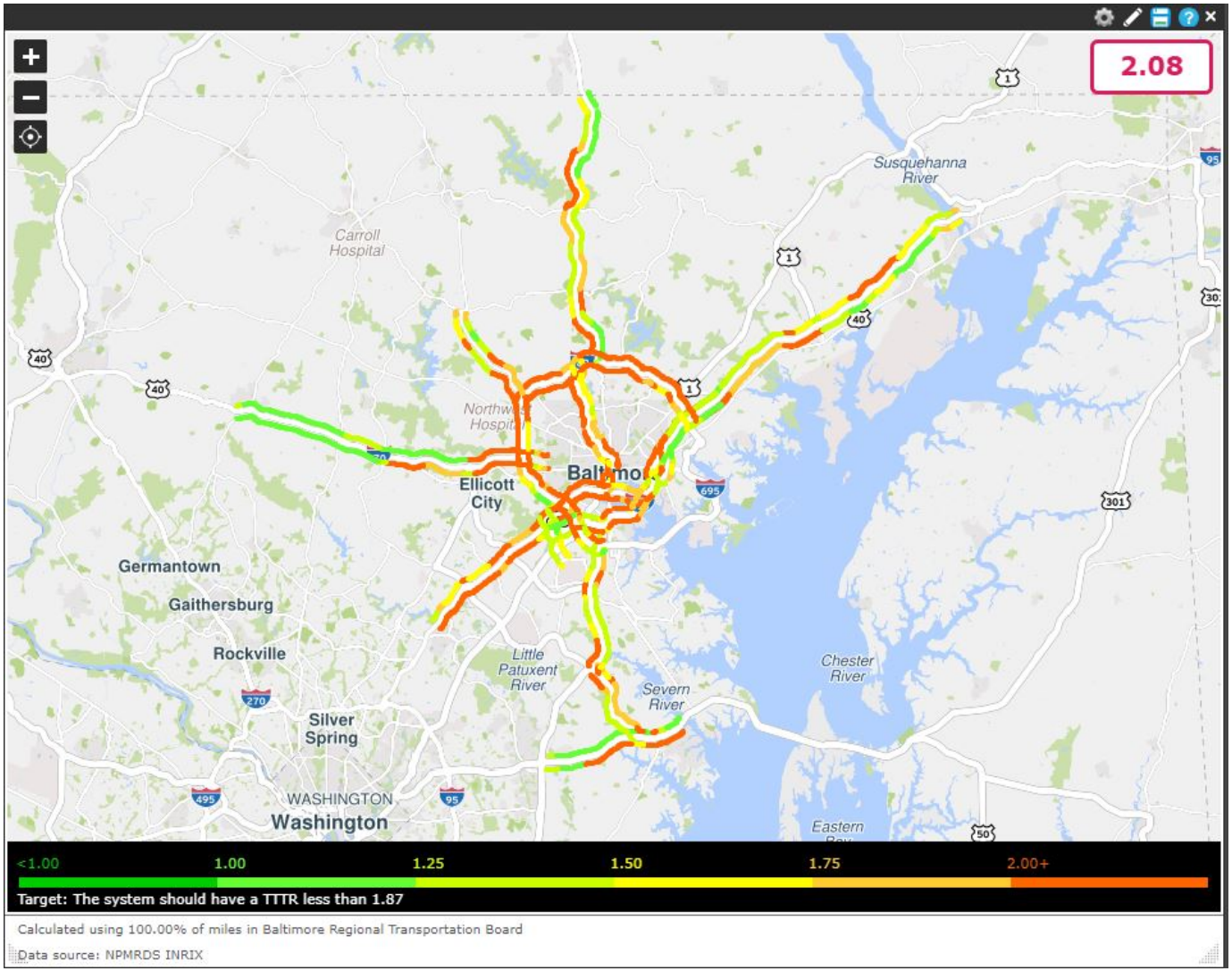
Annual Report – New Features

- Status of congestion regionally and by jurisdiction
- New MAP-21 performance measures – Travel Time Reliability Measures (MPA & UZA) , Peak Hour Excessive Delay (UZA only)

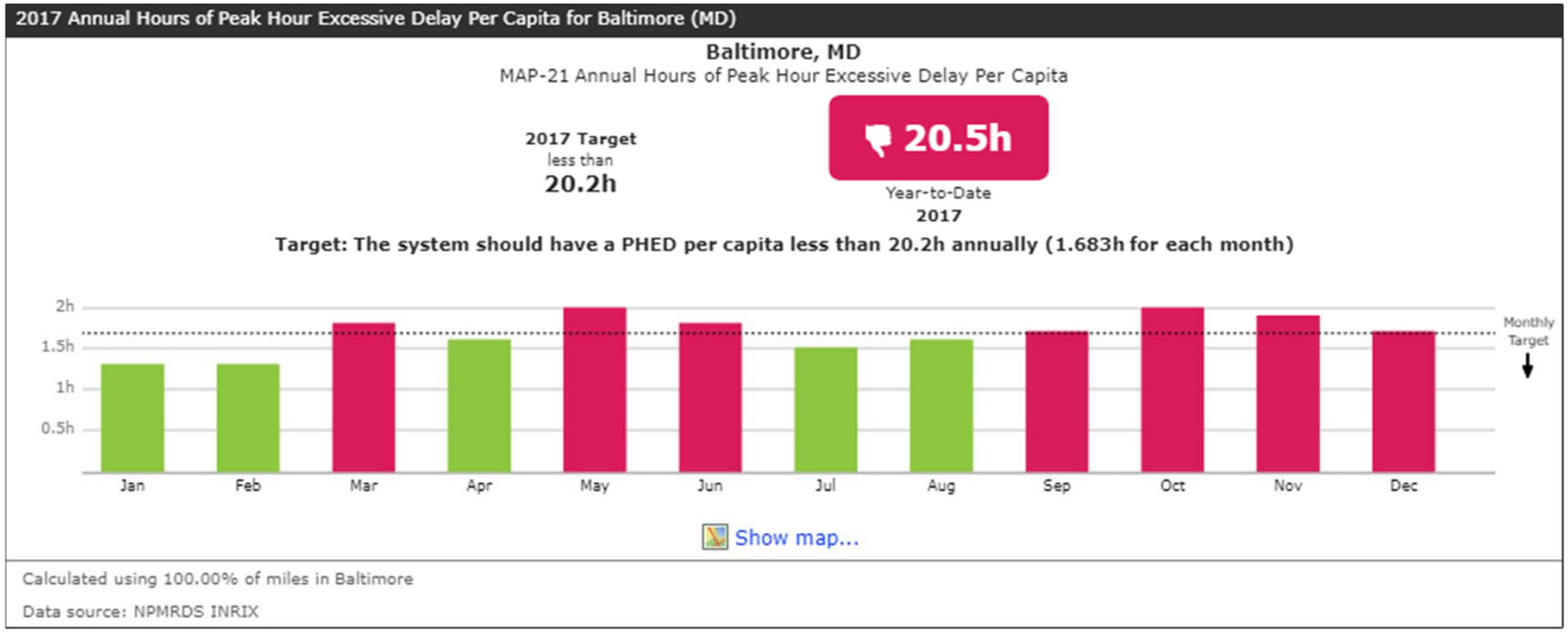
MAP-21 Truck Time Reliability- MPA



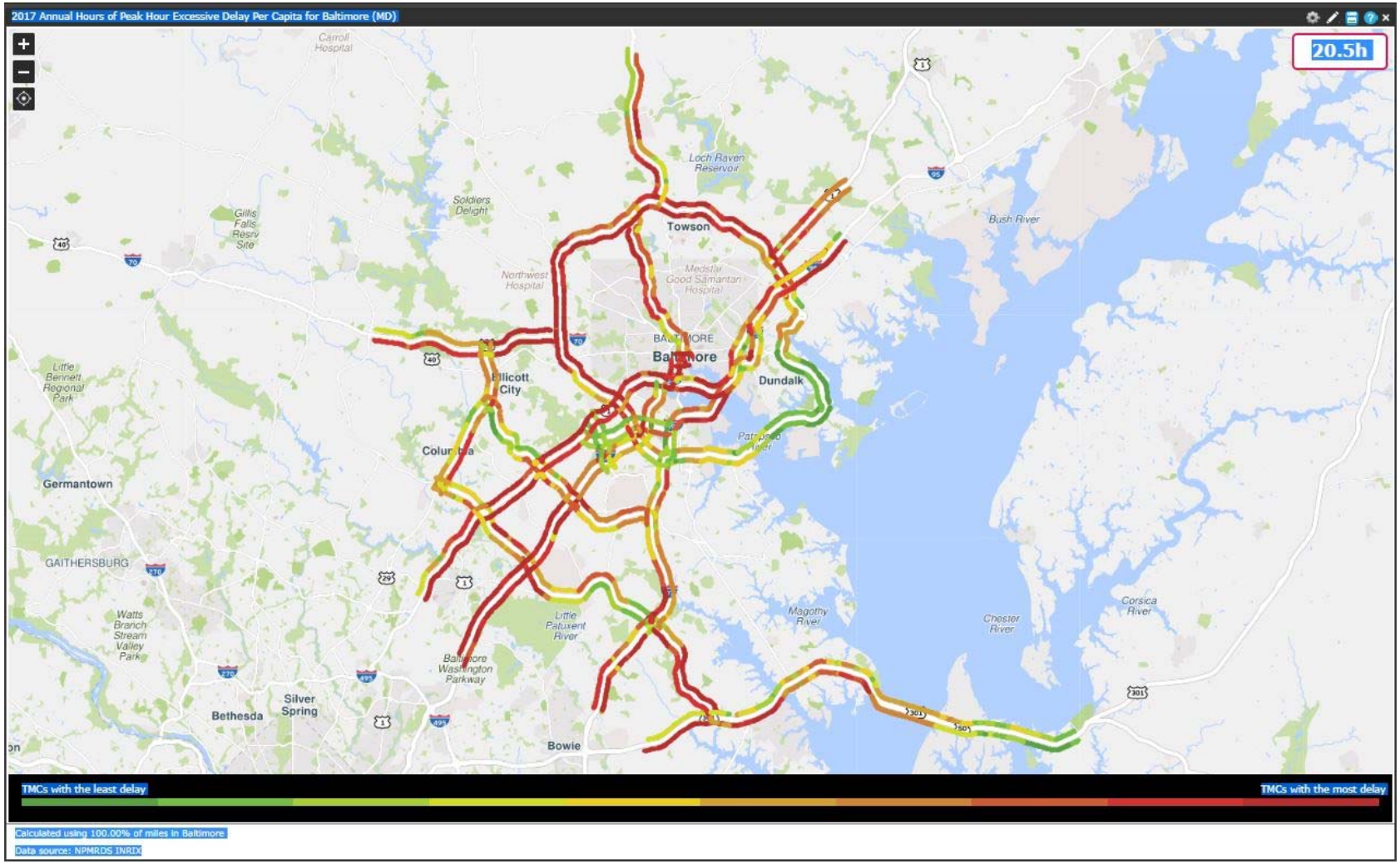
MAP-21 Truck Time Reliability- MPA



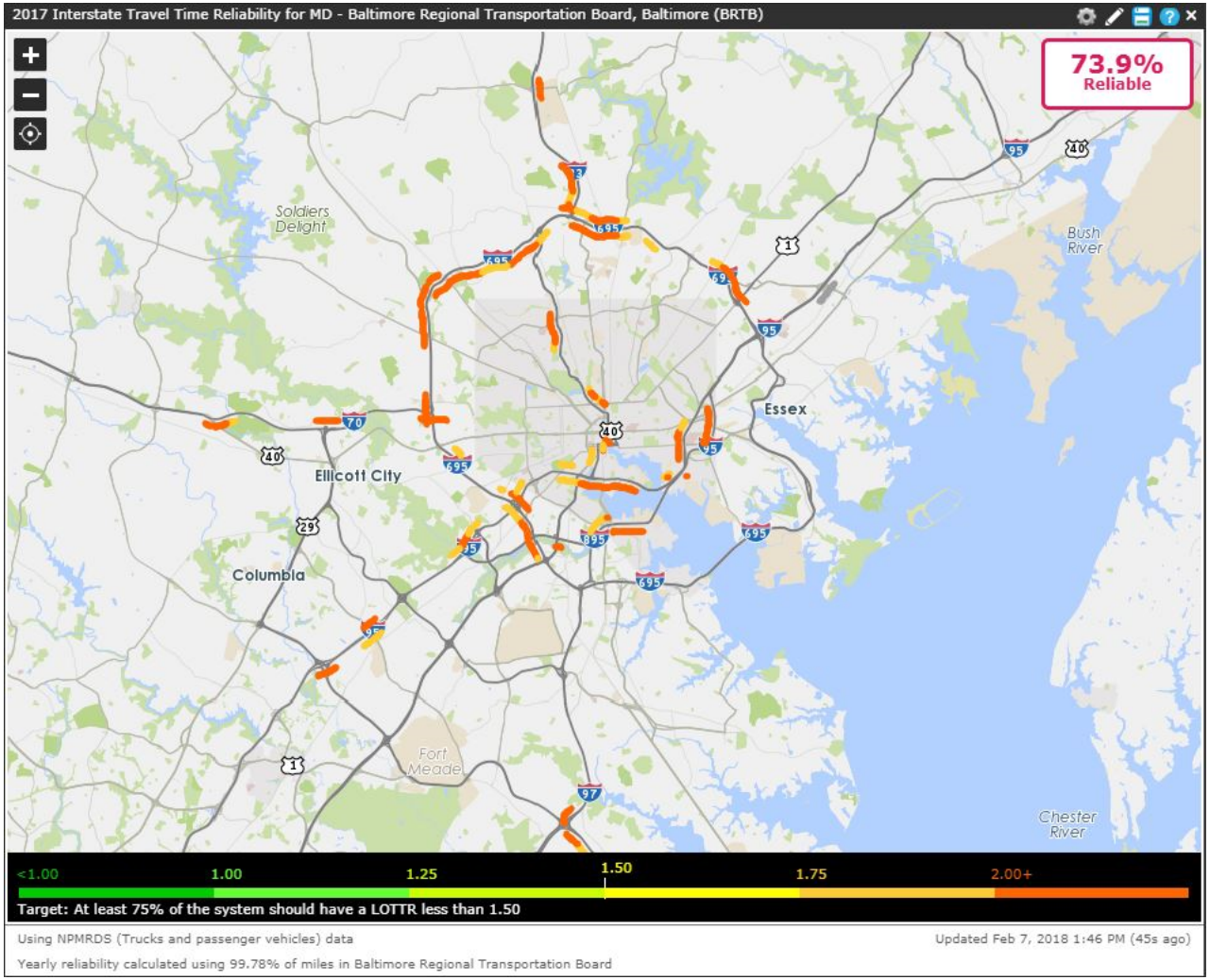
MAP-21 Peak Hour Excessive Delay- UZA



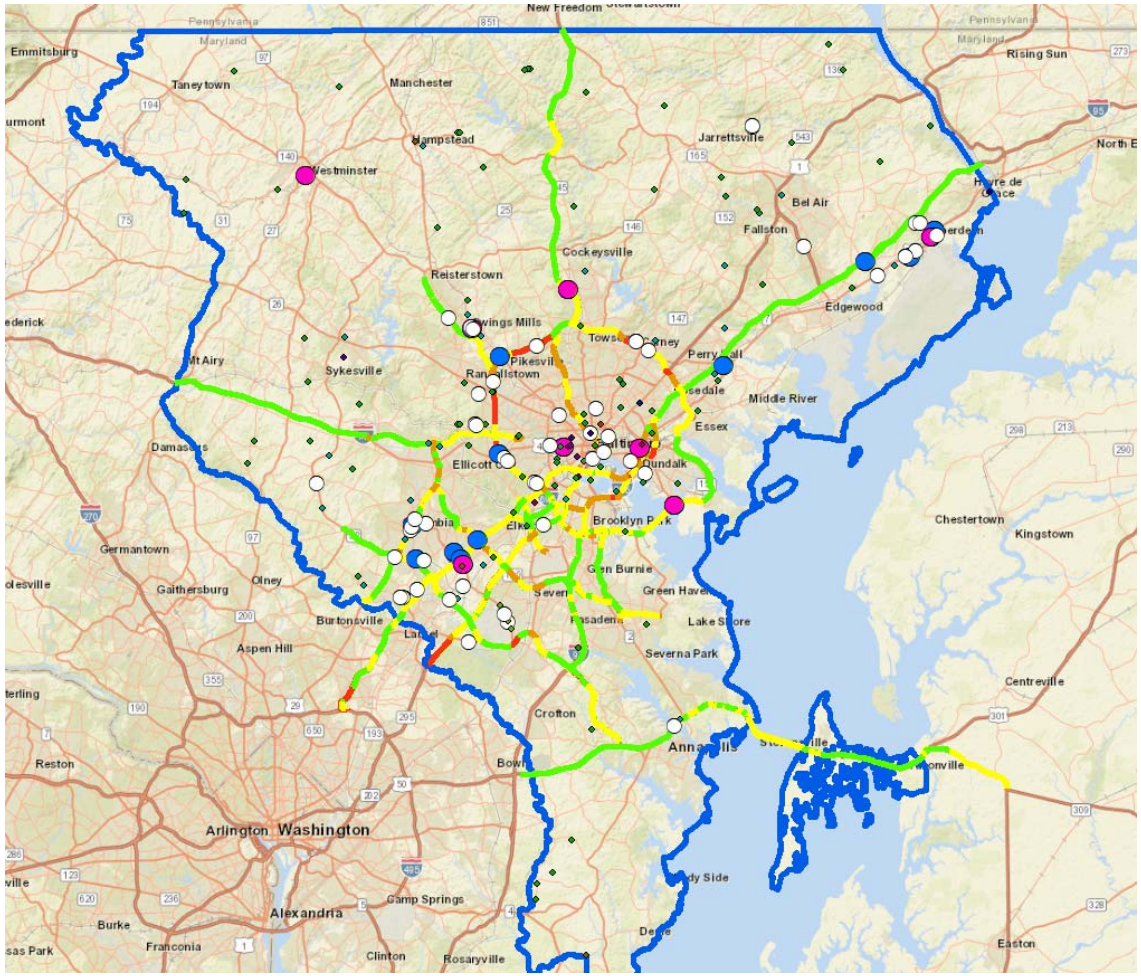
MAP-21 Peak Hour Excessive Delay- UZA



Most Unreliable Segments - MPA



Long Range Transportation Plan and TIP Projects overlayed with speed data (AM Peak)



For more information

Ed Stylc| Planner/Analyst

410-732-0500 x1031 | estylc@baltometro.org | www.baltometro.org

@BALTOMETROCOUNCIL

@BALTIMORE METROPOLITAN COUNCIL

@BALTIMORE METROPOLITAN COUNCIL