



Quarterly Congestion Analysis Report Top 10 Bottlenecks

3rd Quarter 2021

October 2021



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About the Region

About the Region

Located in the heart of the Mid-Atlantic on the east coast, the Baltimore region includes:



The Baltimore region is the nation's 19th largest market, with over 2.5 million people. The market also ranks among the top 20 in the country in the number of households, total effective buying income and retail sales.

Baltimore Metropolitan Region



Prepared by
 Transportation Planning Division
 Projected Coordinate System: NAD 1983 State Plane (ft)
 Data Source: BMC, © NAVTEQ 2016, TIGER/Line®, MTA
 Printed - April 2017



Bottleneck Analytics

How are bottleneck conditions tracked?

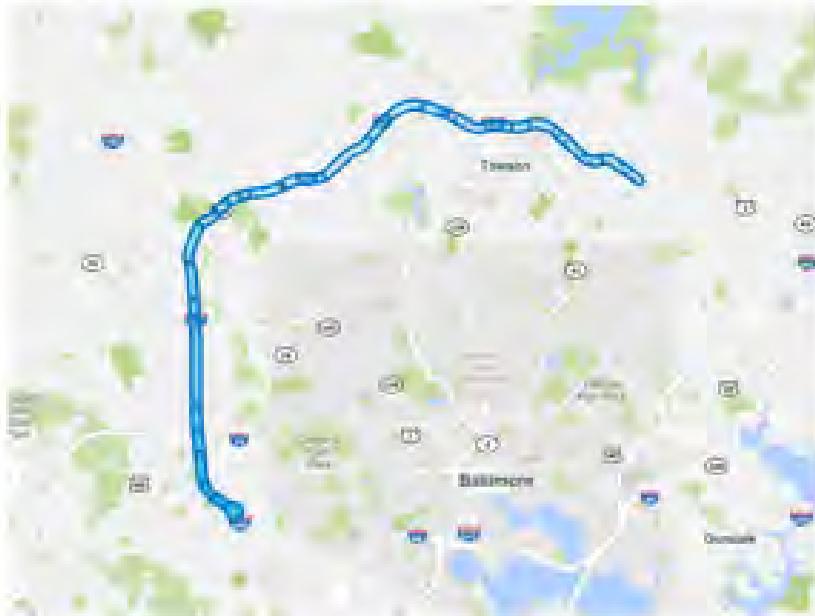
- **Rank** - The ranked position of the location according to the current table ordering by **Base Impact** – the aggregation of queue length over time for congestion at each location in mile minutes. It is then weighted by **Total Delay** – Raw speed drop weighted by VMT factor.
- **Average max length** - 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

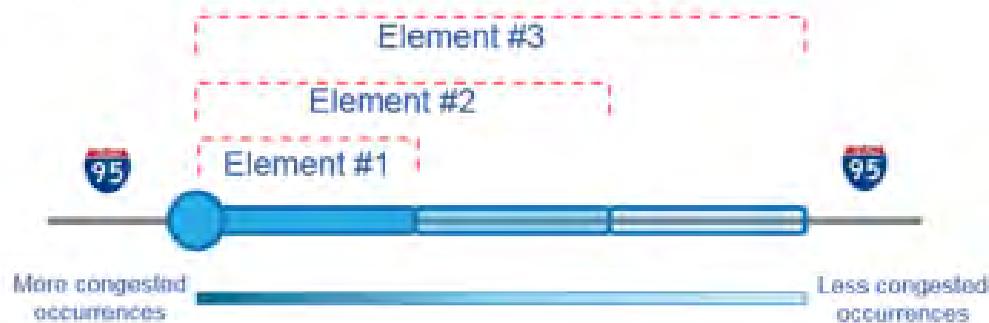
IL = Inner Loop

OL = Outer Loop

Maps



The Map view displays selected bottlenecks on a map. Each element occurring at the selected location is layered on the map, extending upstream from the head location to the maximum length of the specific *element*. As each element adds another layer on the map, road segments become more opaque. Segments closest to the head become the most opaque as they are more frequently affected by congestion at the selected location.



Top 10 Bottleneck Rankings in the Baltimore Region – 3rd Quarter 2021

Top 10 Bottlenecks – 3rd Quarter 2021

Ranked by Base Impact - the aggregation of queue length over time for congestion at each location in mile minutes. It is then weighted by **Total Delay** – Raw speed drop weighted by VMT factor.

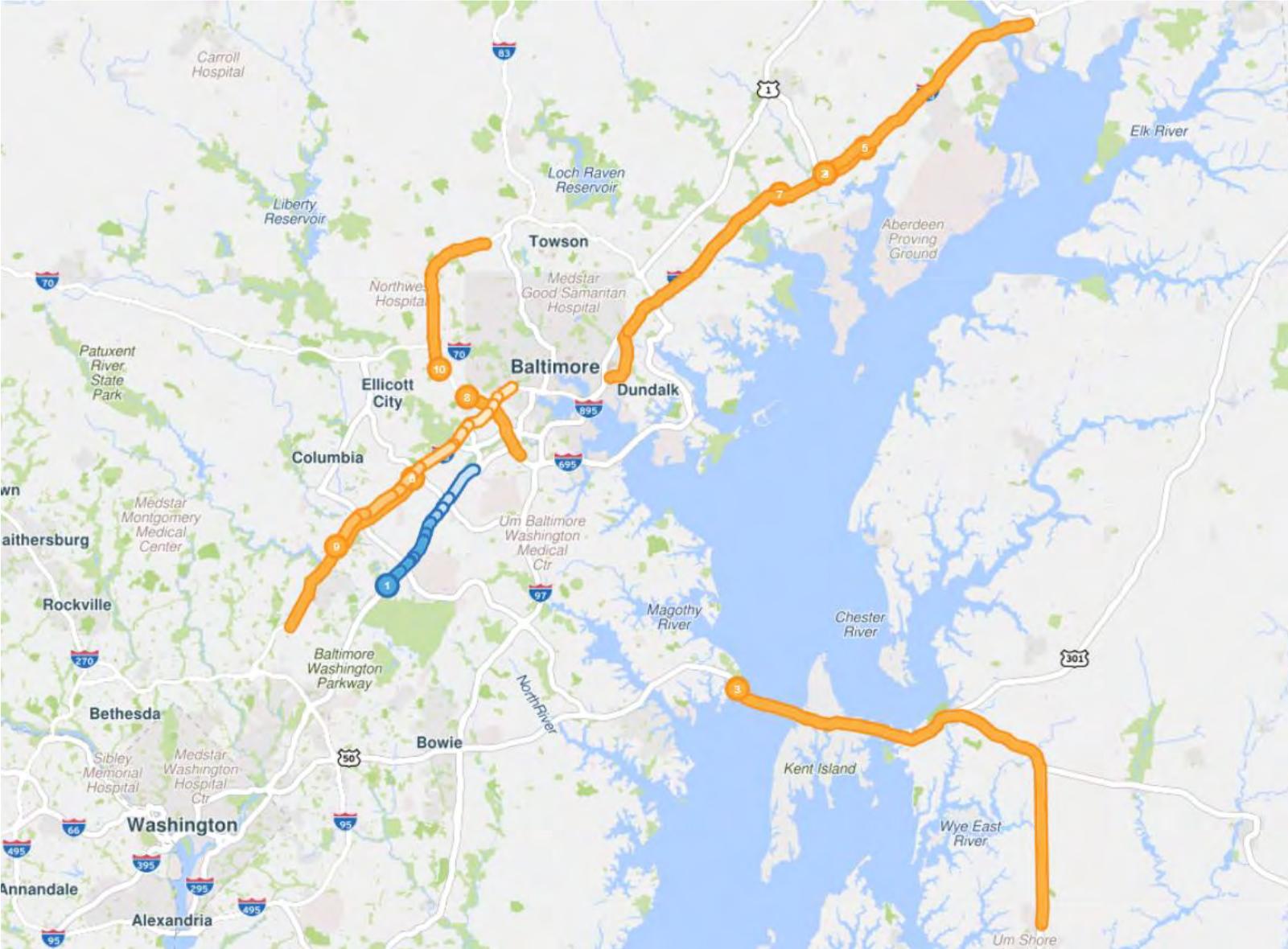
Rank	Location	Previous Quarter Ranking	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
1	MD-295 S @ MD-198	2	3.16	5 h 4 m	109	47,539
2	I-95 N @ MD-24/EXIT 77	4	4.45	2 h 9 m	572	74,741
3	US-50 W @ BAY BRIDGE	7	6.38	1 h 53 m	829	32,639
4	I-95 S @ MD-24/EXIT 77	5	5.99	2 h 14 m	222	50,128
5	I-95 N @ MD-543/EXIT 80		6.15	1 h 19 m	497	72,182
6	I-95 N @ MD-100/EXIT 43	3	3.83	2 h 12 m	352	103,466
7	I-95 N @ MD-152/EXIT 74		7.58	37 m	652	80,122
8	I-695 IL @ MD-372/WILKENS AVE/EXIT 12	8	1.99	1 h 39 m	199	98,651
9	I-95 S @ MD-216/EXIT 35	9	4.49	59 m	562	100,759
10	I-695 OL @ US-40/EXIT 15		3.13	42 m	289	103,905

IL = Inner Loop

OL = Outer Loop

Top 10 Bottlenecks – 3rd Quarter 2021

Site Map



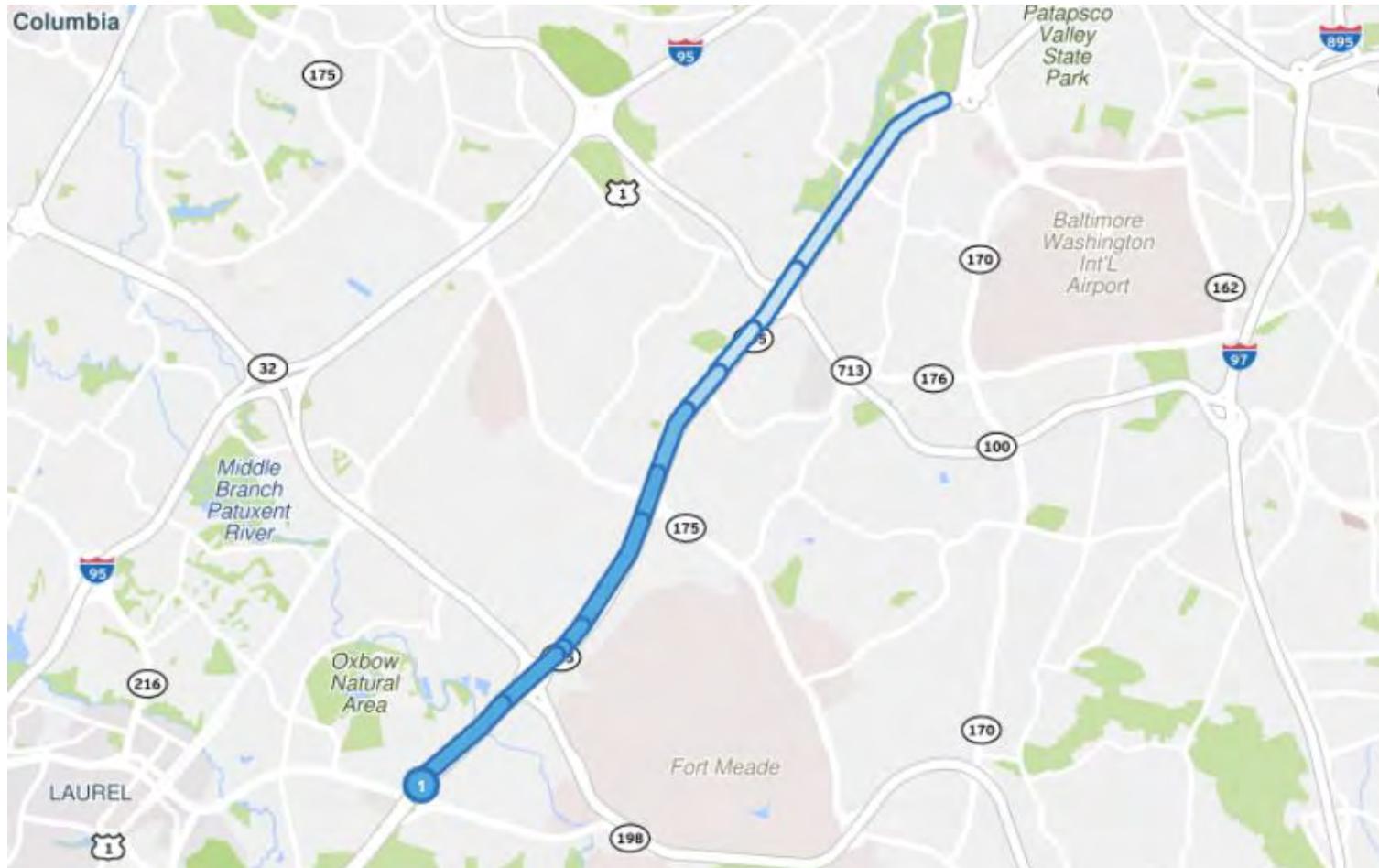
Top 10 Bottleneck Rankings in the Baltimore Region – 3rd Quarter 2021 by Location

Includes:

- Location Maps with notes on each bottleneck condition
- Speed Graphs
- Travel Time Graphs
- Congestion Scan Heat Diagrams

#1 Ranked Bottleneck – 3rd Quarter 2021 Location Map

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
MD-295 S @ MD-198	3.16	5 h 4 m	109	47,539

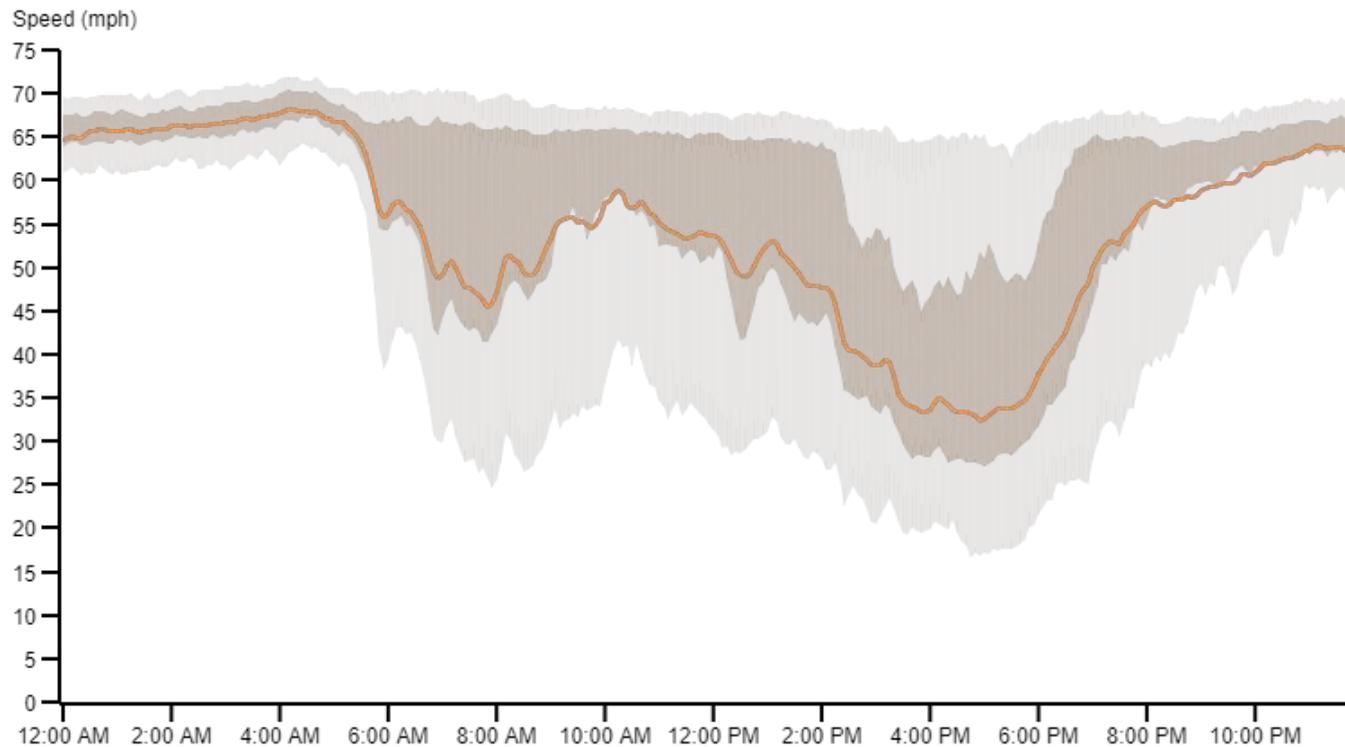


Notes: Southbound PM congestion from MD-198 extending into the southern portion of the Baltimore region near Fort Meade occurring during both the morning and afternoon peak periods. Volume related delays caused by factors such as Baltimore commuters to DC and Fort Meade and the MD-295 merge with the heavily congested Capital Beltway.

#1 Ranked Bottleneck – 3rd Quarter 2021 – Average Speeds Graph

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
MD-295 S @ MD-198	3.16	5 h 4 m	109	47,539

Speed for MD-295 S @ MD-198
 Averaged per five minutes for Jul 01, 2021 through Sep 30, 2021
 Southbound



- Jul 01, 2021 through Sep 30, 2021 - INRIX
- Jul 01, 2021 through Sep 30, 2021 25th and 75th percentile - INRIX
- Jul 01, 2021 through Sep 30, 2021 5th and 95th percentile - INRIX

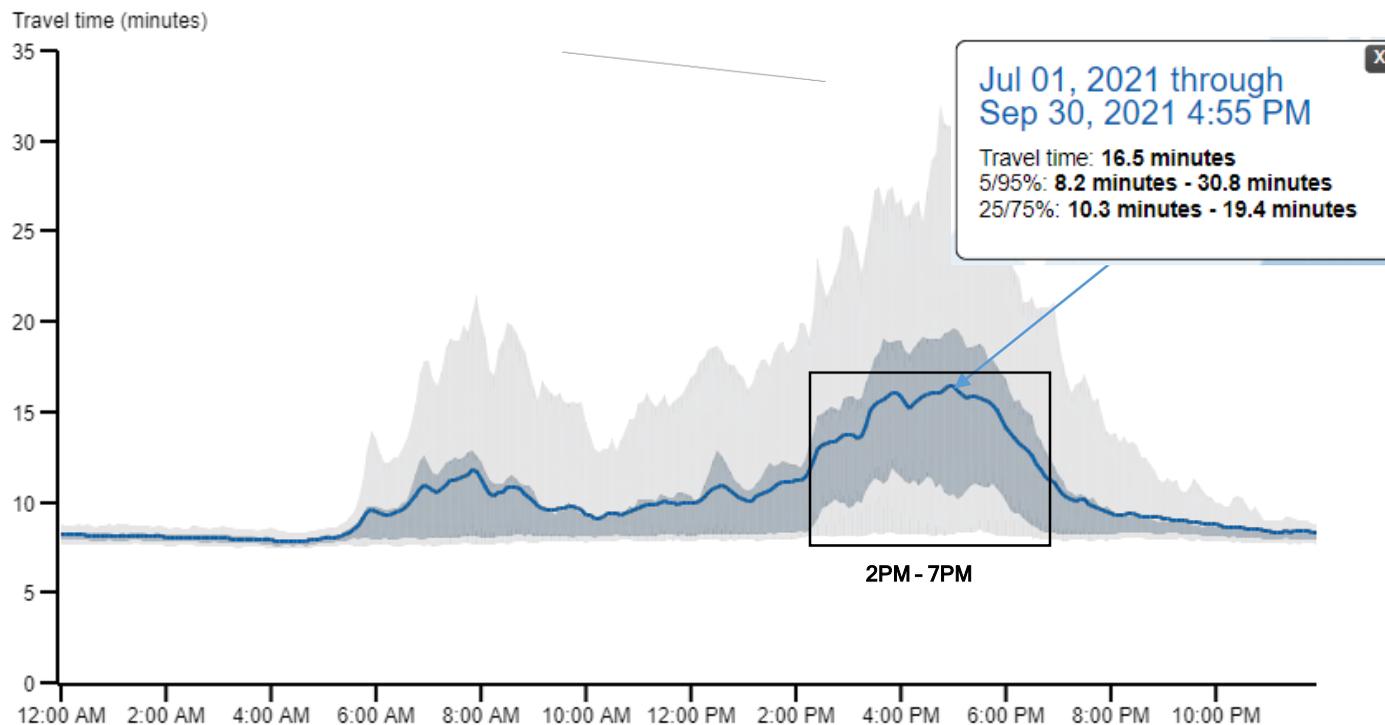
#1 Ranked Bottleneck – 3rd Quarter 2021 – Travel Times

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
MD-295 S @ MD-198	3.16	5 h 4 m	109	47,539

Southbound

Travel time for MD-295 S @ MD-198
Averaged per five minutes for Jul 01, 2021 through Sep 30, 2021

Southbound

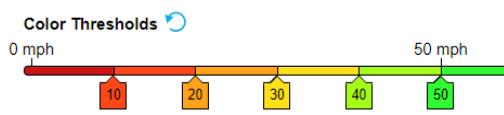
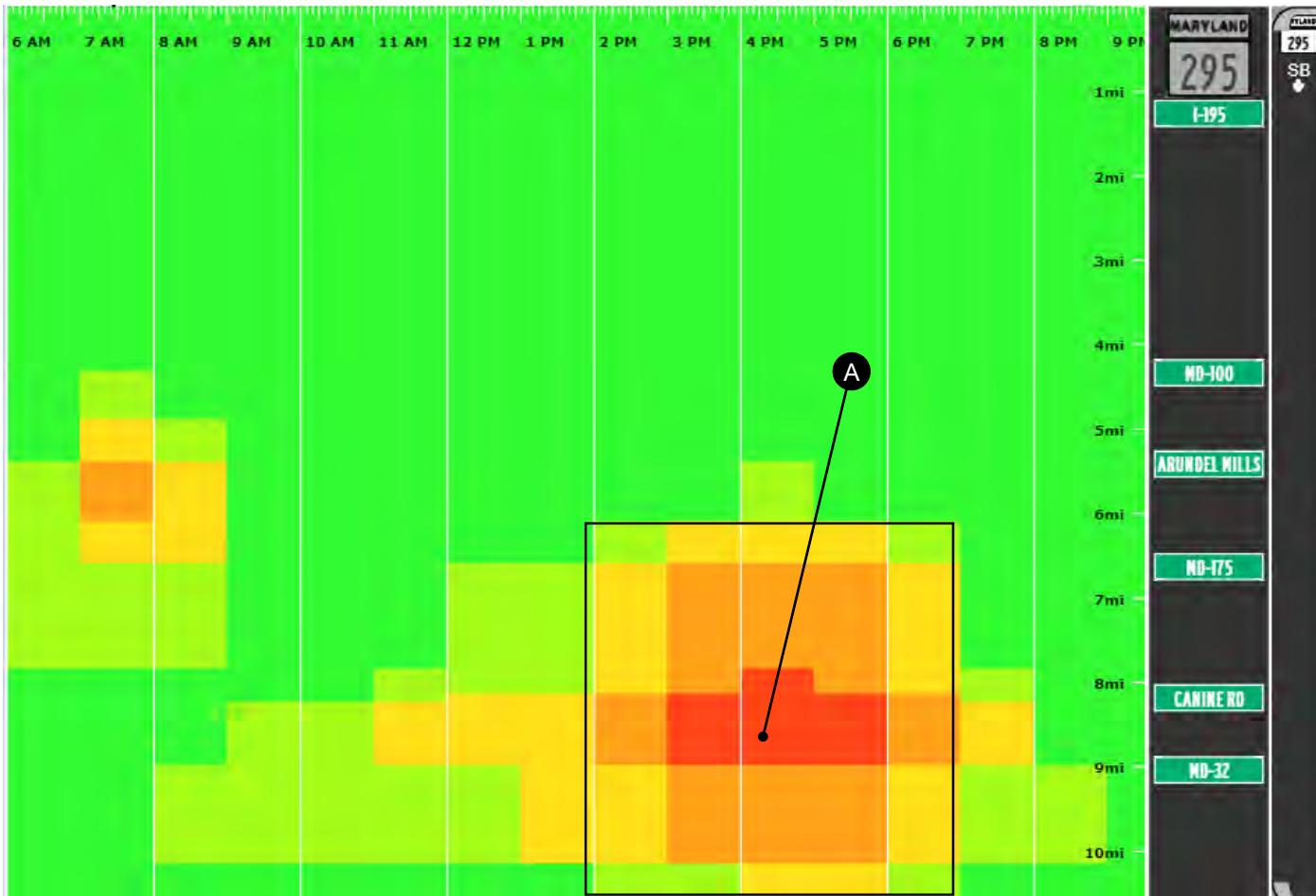


- Jul 01, 2021 through Sep 30, 2021 - INRIX
- Jul 01, 2021 through Sep 30, 2021 25th and 75th percentile - INRIX
- Jul 01, 2021 through Sep 30, 2021 5th and 95th percentile - INRIX

#1 Ranked Bottleneck – 3rd Quarter 2021 – Congestion Scan

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
MD-295 S @ MD-198	3.16	5 h 4 m	109	47,539

Southbound

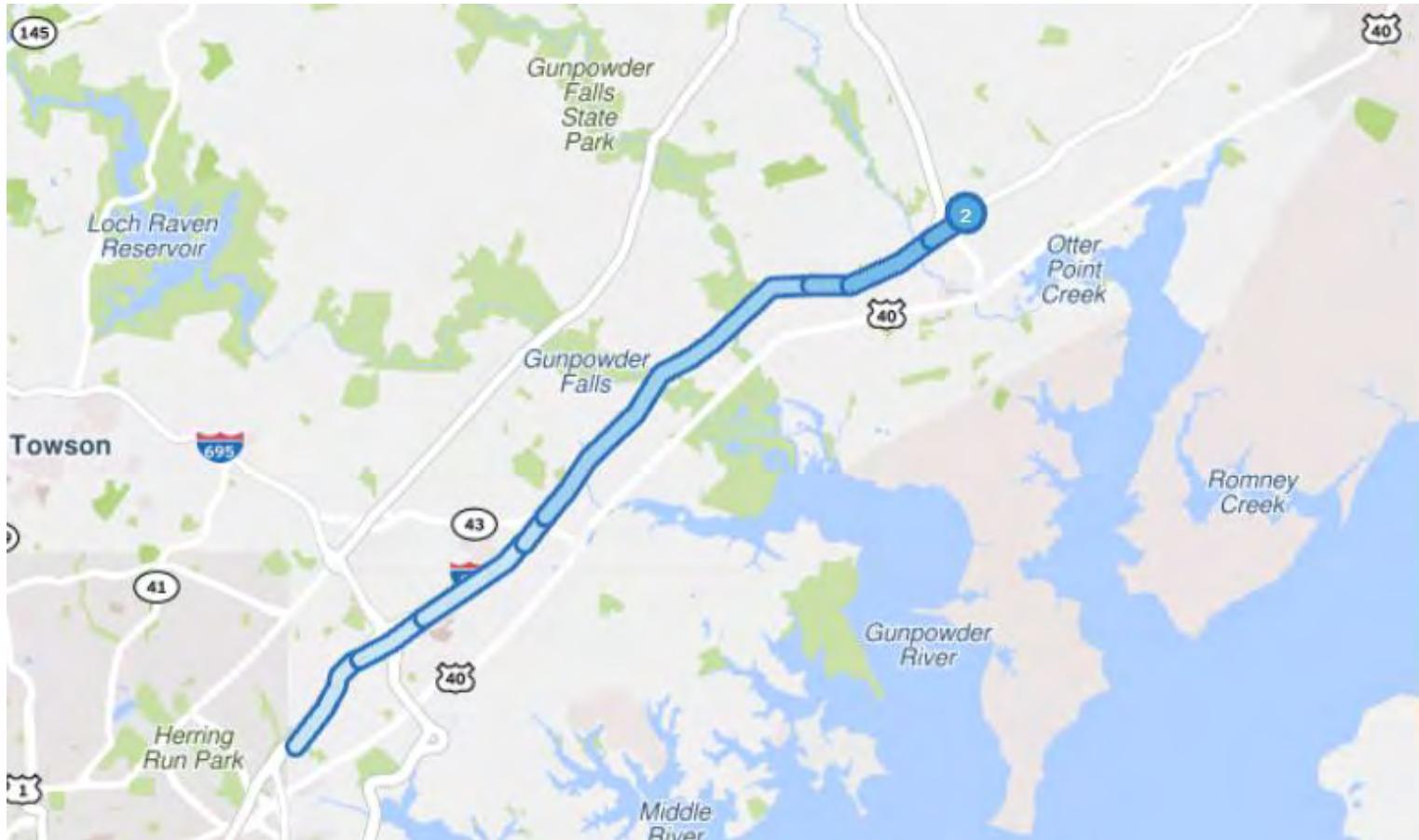


Locations of Congestion (SB)

A: 2PM -7PM: MD-175 to MD-198

#2 Ranked Bottleneck – 3rd Quarter 2021 – Location Map

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
I-95 N @ MD-24/EXIT 77	4.45	2 h 9 m	572	74,741



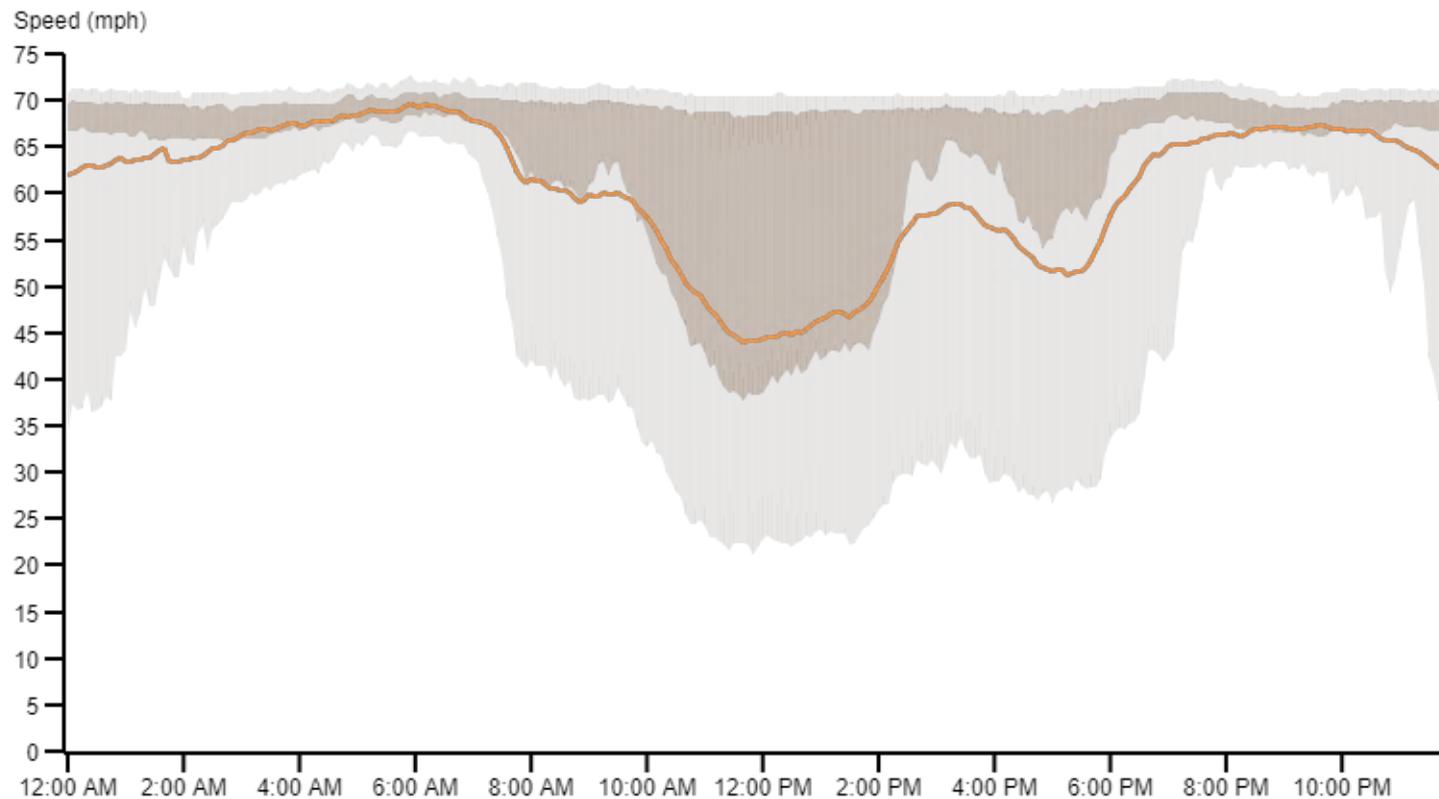
Notes: I-95 Express Toll Lanes Northbound Extension From MD 43 to MD 152 is responsible for off-peak shoulder and lane closures. The extension is expected to be open to traffic by the end of 2023 to MD 152, with the full extension to north of MD 24 open to traffic by the end of 2026. This includes the Old Joppa Road Overpass Replacement. Off-peak shoulder and lane closures.

#2 Ranked Bottleneck – 3rd Quarter 2021 – Average Speeds Graph

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
I-95 N @ MD-24/EXIT 77	4.45	2 h 9 m	572	74,741

Speed for I-95 N @ MD-24/EXIT 77
Averaged per five minutes for Jul 01, 2021 through Sep 30, 2021

Northbound



- Jul 01, 2021 through Sep 30, 2021 - INRIX
- Jul 01, 2021 through Sep 30, 2021 25th and 75th percentile - INRIX
- Jul 01, 2021 through Sep 30, 2021 5th and 95th percentile - INRIX

#2 Ranked Bottleneck –3rd Quarter 2021 – Travel Times

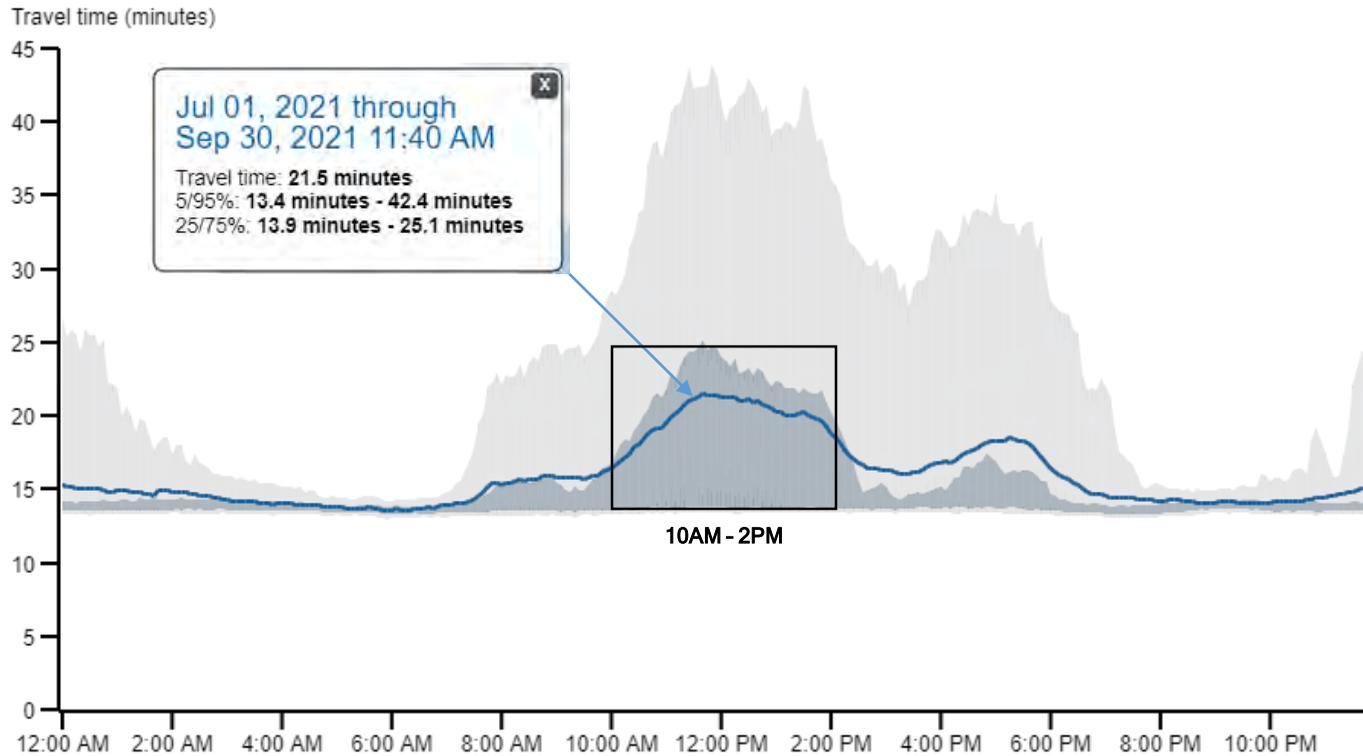
Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
I-95 N @ MD-24/EXIT 77	4.45	2 h 9 m	572	74,741

Northbound

Travel time for I-95 N @ MD-24/EXIT 77

Averaged per five minutes for Jul 01, 2021 through Sep 30, 2021

Northbound

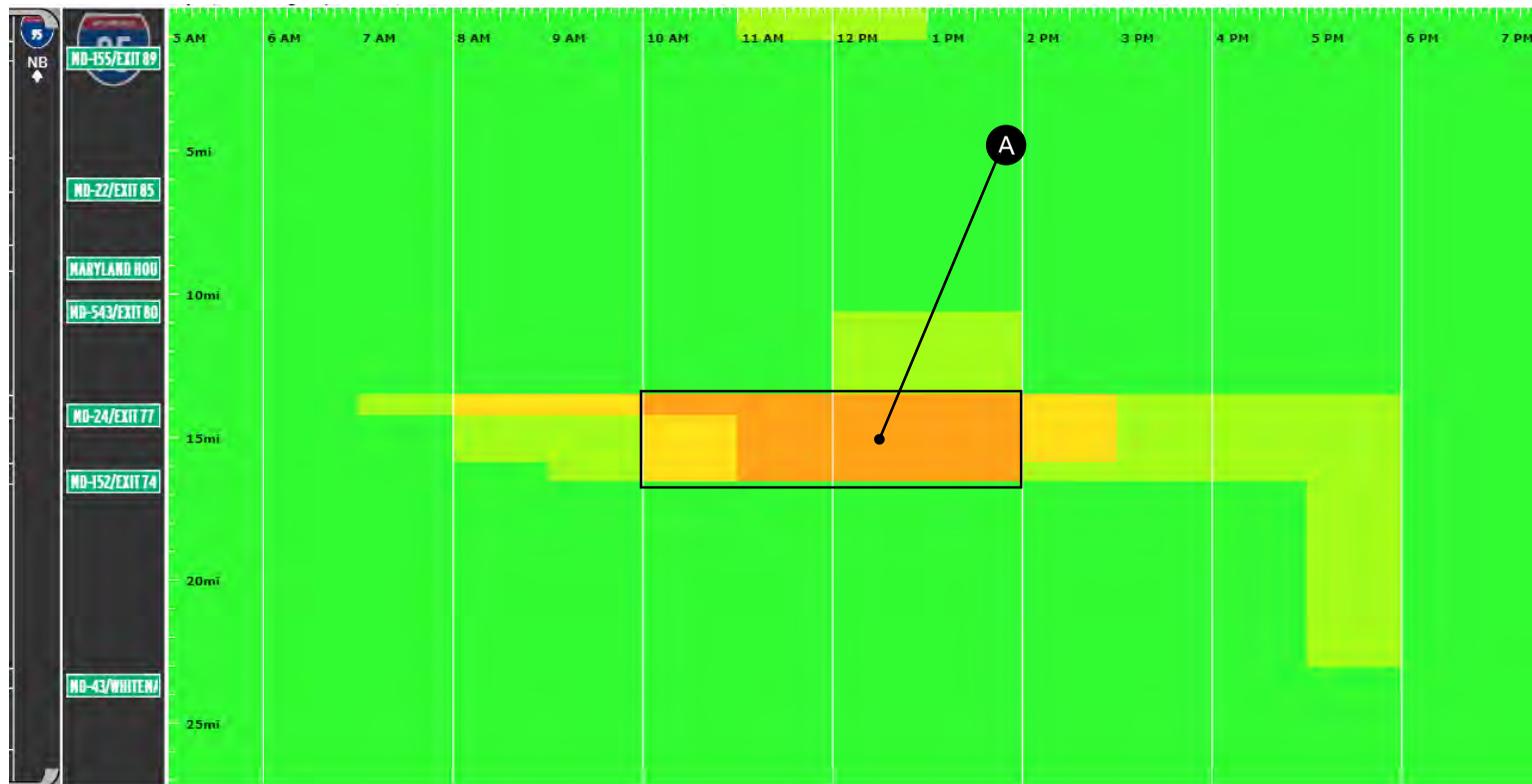


- Jul 01, 2021 through Sep 30, 2021 - INRIX
- Jul 01, 2021 through Sep 30, 2021 25th and 75th percentile - INRIX
- Jul 01, 2021 through Sep 30, 2021 5th and 95th percentile - INRIX

#2 Ranked Bottleneck –3rd Quarter 2021 – Congestion Scan

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
I-95 N @ MD-24/EXIT 77	4.45	2 h 9 m	572	74,741

Northbound

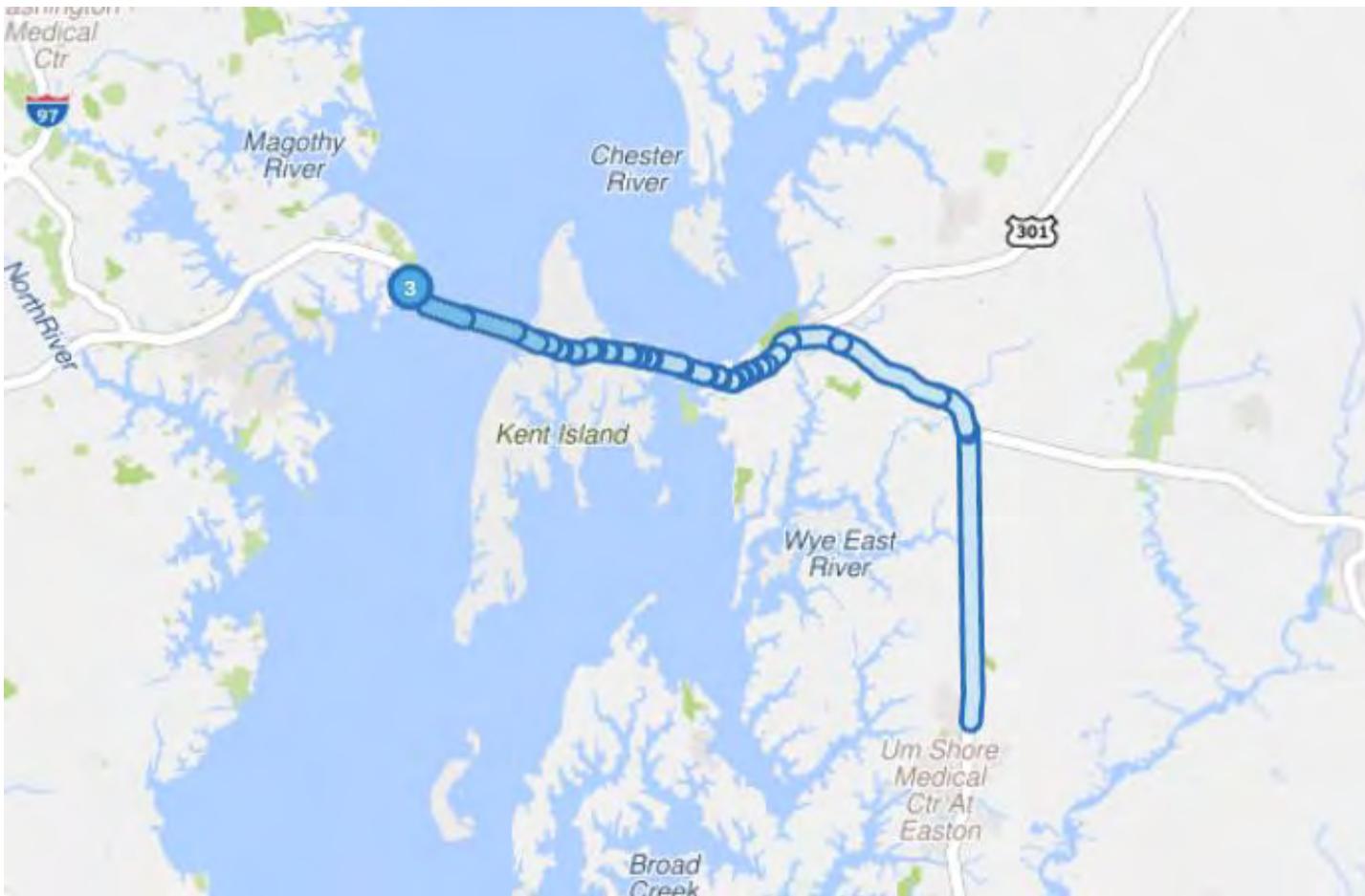


Locations of Congestion (NB)

A: 10AM - 2PM : MD-152/Mountain Rd to MD-24

#3 Ranked Bottleneck – 3rd Quarter 2021 – Location Map

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
US-50 W @ BAY BRIDGE	6.38	1 h 53 m	839	32,639



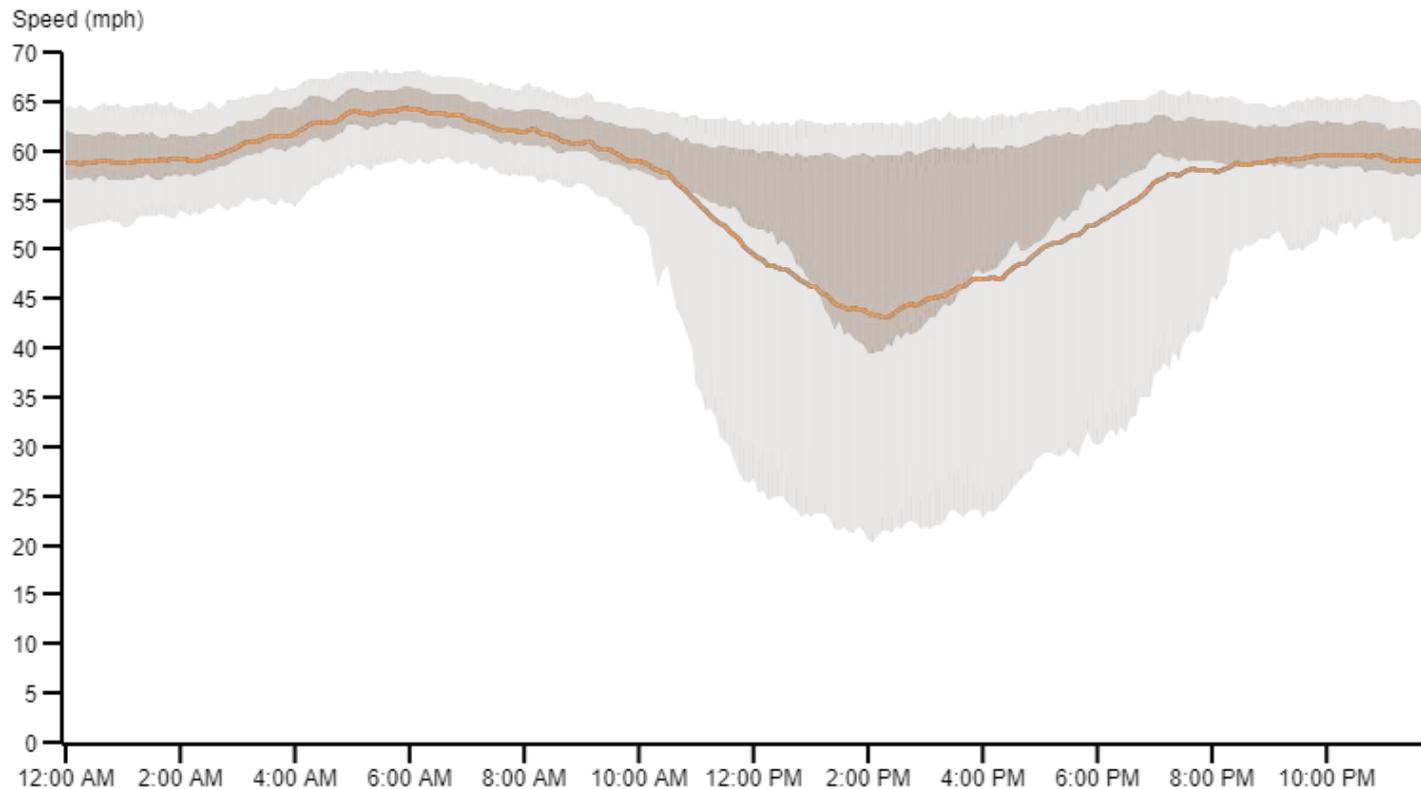
Notes: Preservation/maintenance work and deck rehabilitation on the westbound span. Two-way traffic will operate on the eastbound span during the full westbound span closures. High traffic volumes from return trips from Maryland beach resorts.

#3 Ranked Bottleneck – 3rd Quarter 2021 – Average Speeds Graph

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
US-50 W @ BAY BRIDGE	6.38	1 h 53 m	839	32,639

Speed for US-50 W @ Bay Bridge
 Averaged per five minutes for Jul 01, 2021 through Sep 30, 2021

Westbound



- Jul 01, 2021 through Sep 30, 2021 - INRIX
- Jul 01, 2021 through Sep 30, 2021 25th and 75th percentile - INRIX
- Jul 01, 2021 through Sep 30, 2021 5th and 95th percentile - INRIX

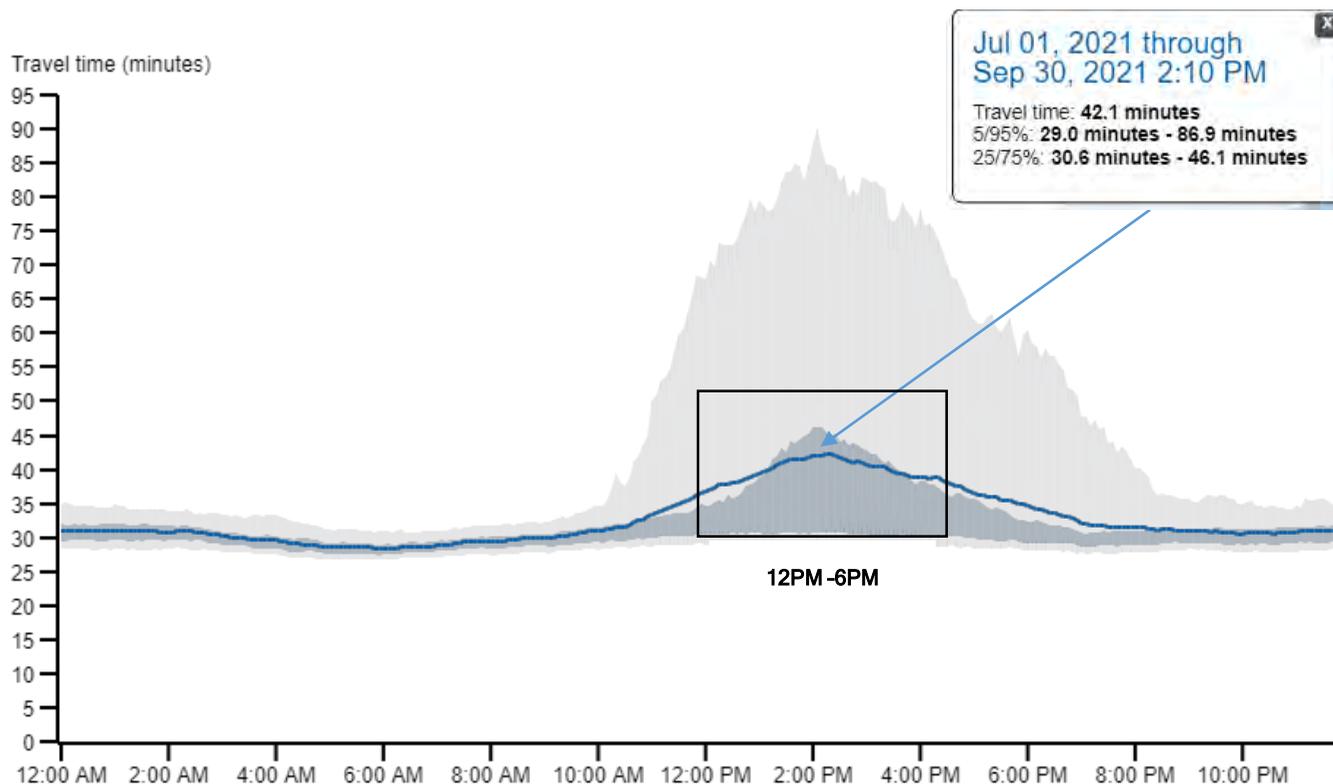
#3 Ranked Bottleneck –3rd Quarter 2021 – Travel Times

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
US-50 W @ BAY BRIDGE	6.38	1 h 53 m	839	32,639

Westbound

Travel time for US-50 W @ Bay Bridge
Averaged per five minutes for Jul 01, 2021 through Sep 30, 2021

Westbound

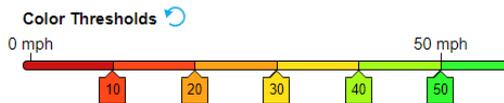


- Jul 01, 2021 through Sep 30, 2021 - INRIX
- Jul 01, 2021 through Sep 30, 2021 25th and 75th percentile - INRIX
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#3 Ranked Bottleneck –3rd Quarter 2021 – Congestion Scan

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US-50 W @ BAY BRIDGE	6.38	1 h 53 m	839	32,639

Westbound

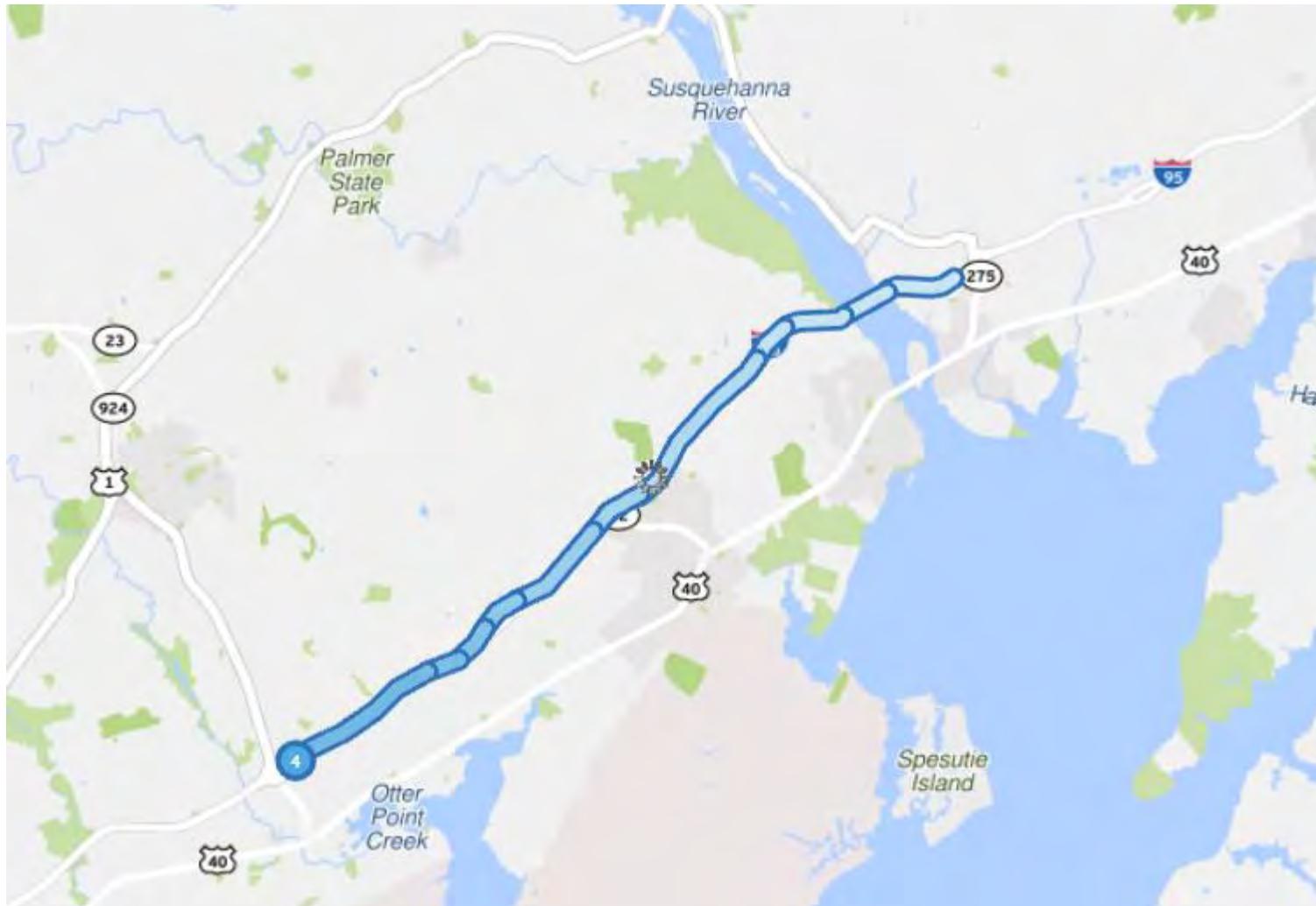


Locations of Congestion (WB)

A: 12PM - 6PM : Castle Marina Rd/Exit 39A to Bay Bridge Toll Plaza

#4 Ranked Bottleneck – 3rd Quarter 2021 – Location Map

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
I-95 S @ MD-24/EXIT 77	5.99	2 h 14 m	222	50,128



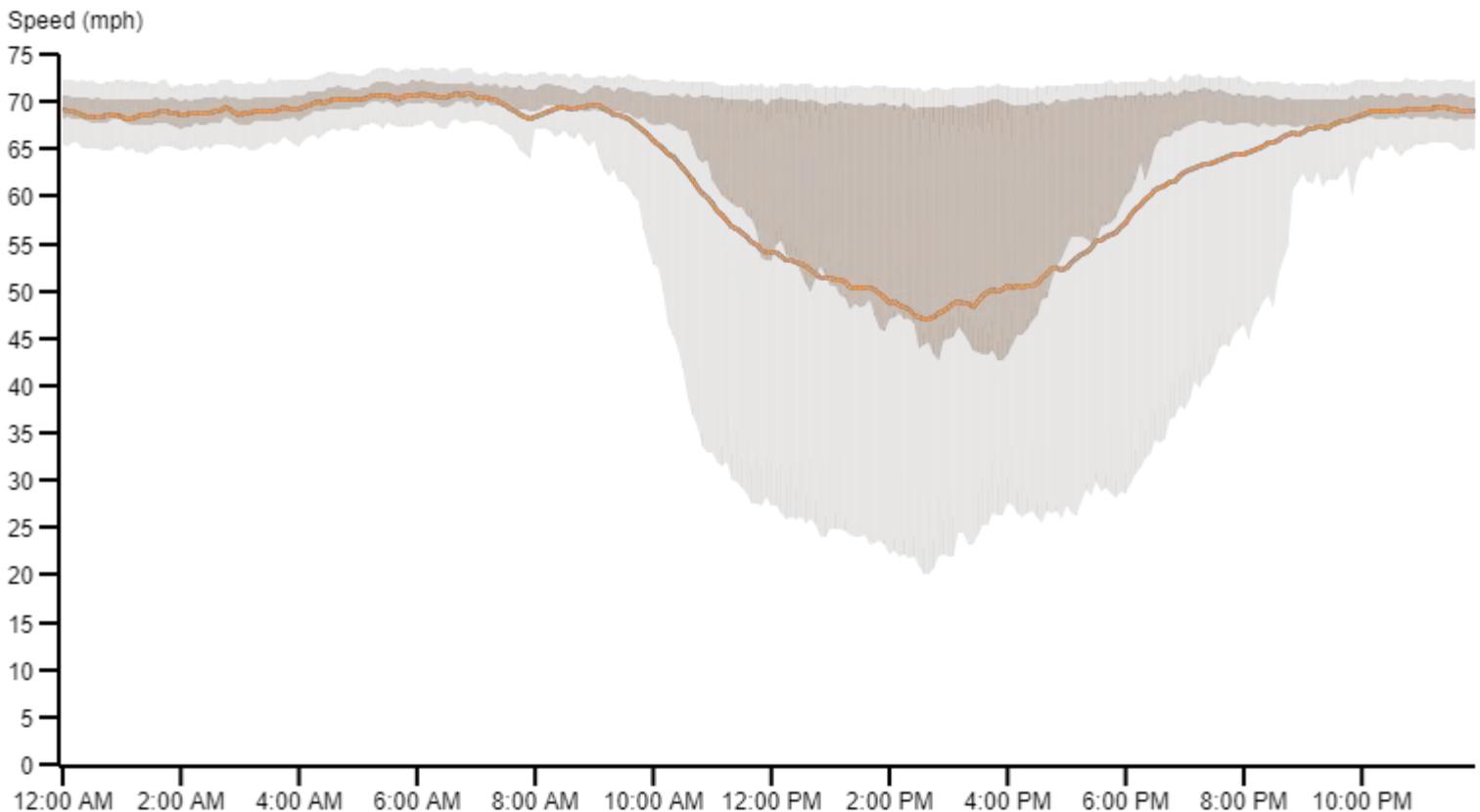
Notes: MD 152 to MD 24 Auxiliary Lane & MD 24 Ramp Improvement project. Off-peak shoulder and lane closures. The Clayton Road Bridge Overpass Reconstruction is also affecting traffic in this high volume area.

#4 Ranked Bottleneck – 3rd Quarter 2021 – Average Speeds Graph

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
I-95 S @ MD-24/EXIT 77	5.99	2 h 14 m	222	50,128

Speed for I-95 S @ MD-24/EXIT 77
 Averaged per five minutes for Jul 01, 2021 through Sep 30, 2021

Southbound

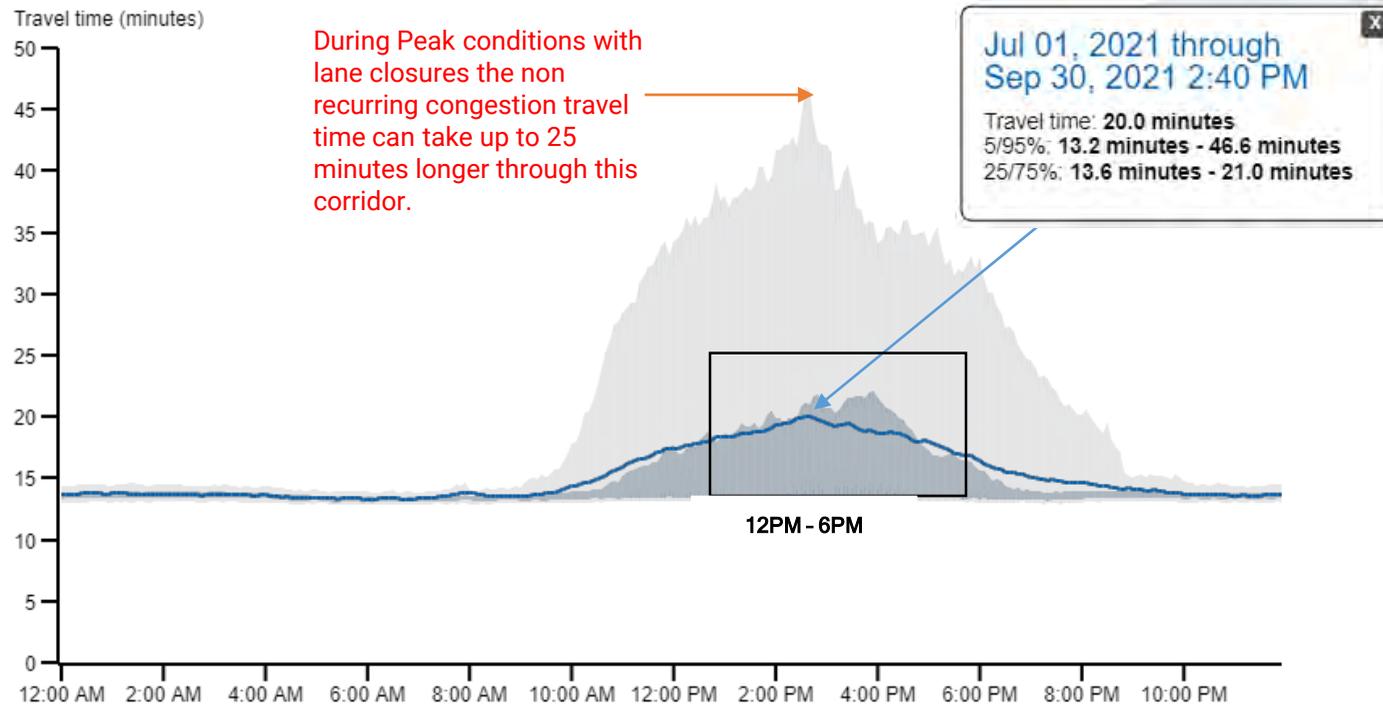


- Jul 01, 2021 through Sep 30, 2021 - INRIX
- Jul 01, 2021 through Sep 30, 2021 25th and 75th percentile - INRIX
- Jul 01, 2021 through Sep 30, 2021 5th and 95th percentile - INRIX

#4 Ranked Bottleneck –3rd Quarter 2021 – Travel Times

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
I-95 S @ MD-24/EXIT 77	5.99	2 h 14 m	222	50,128

Southbound
 Travel time for I-95 S @ MD-24/EXIT 77
 Averaged per five minutes for Jul 01, 2021 through Sep 30, 2021
 Southbound

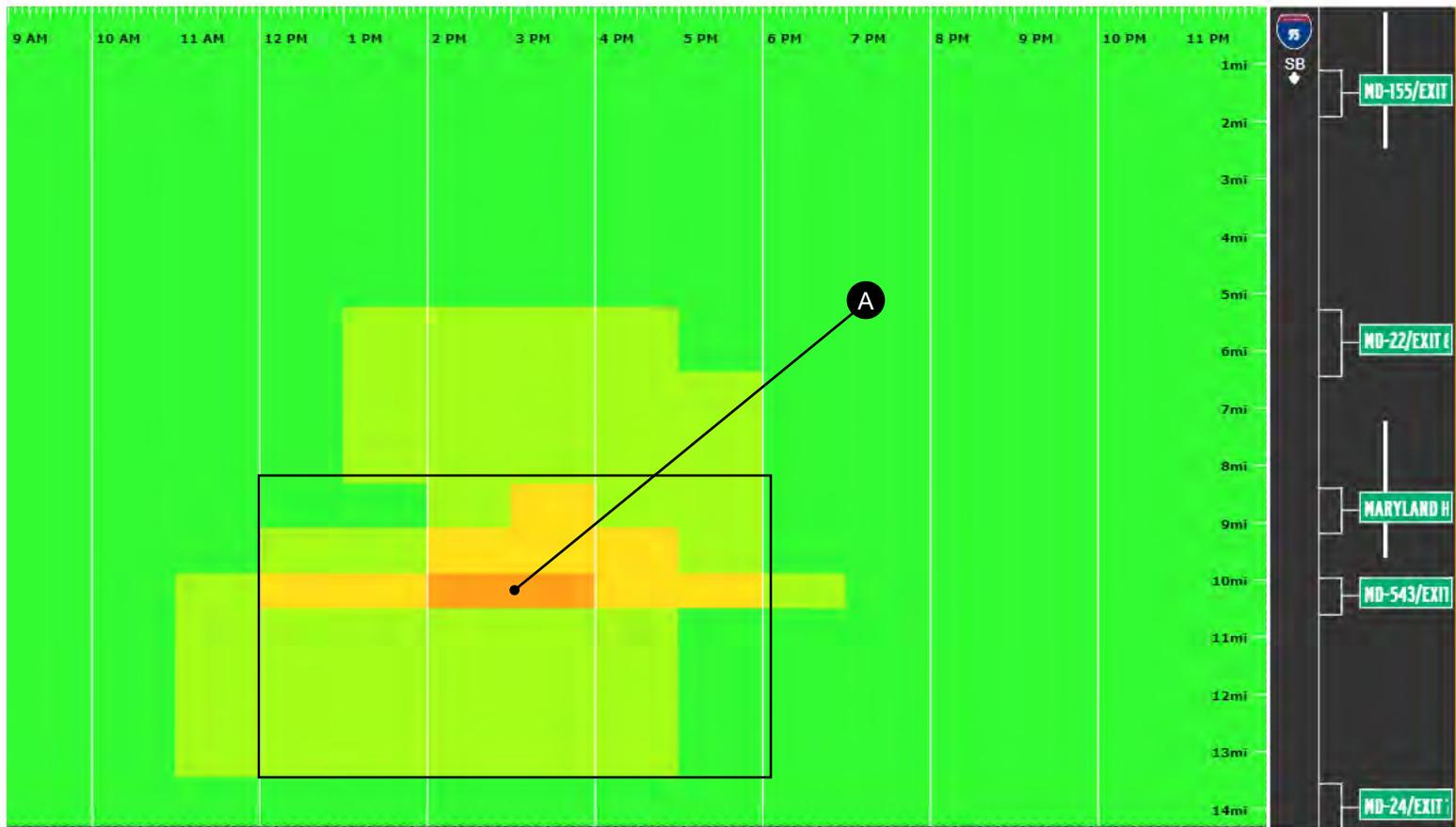


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#4 Ranked Bottleneck –3rd Quarter 2021 – Congestion Scan

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
I-95 S @ MD-24/EXIT 77	5.99	2 h 14 m	222	50,128

Southbound

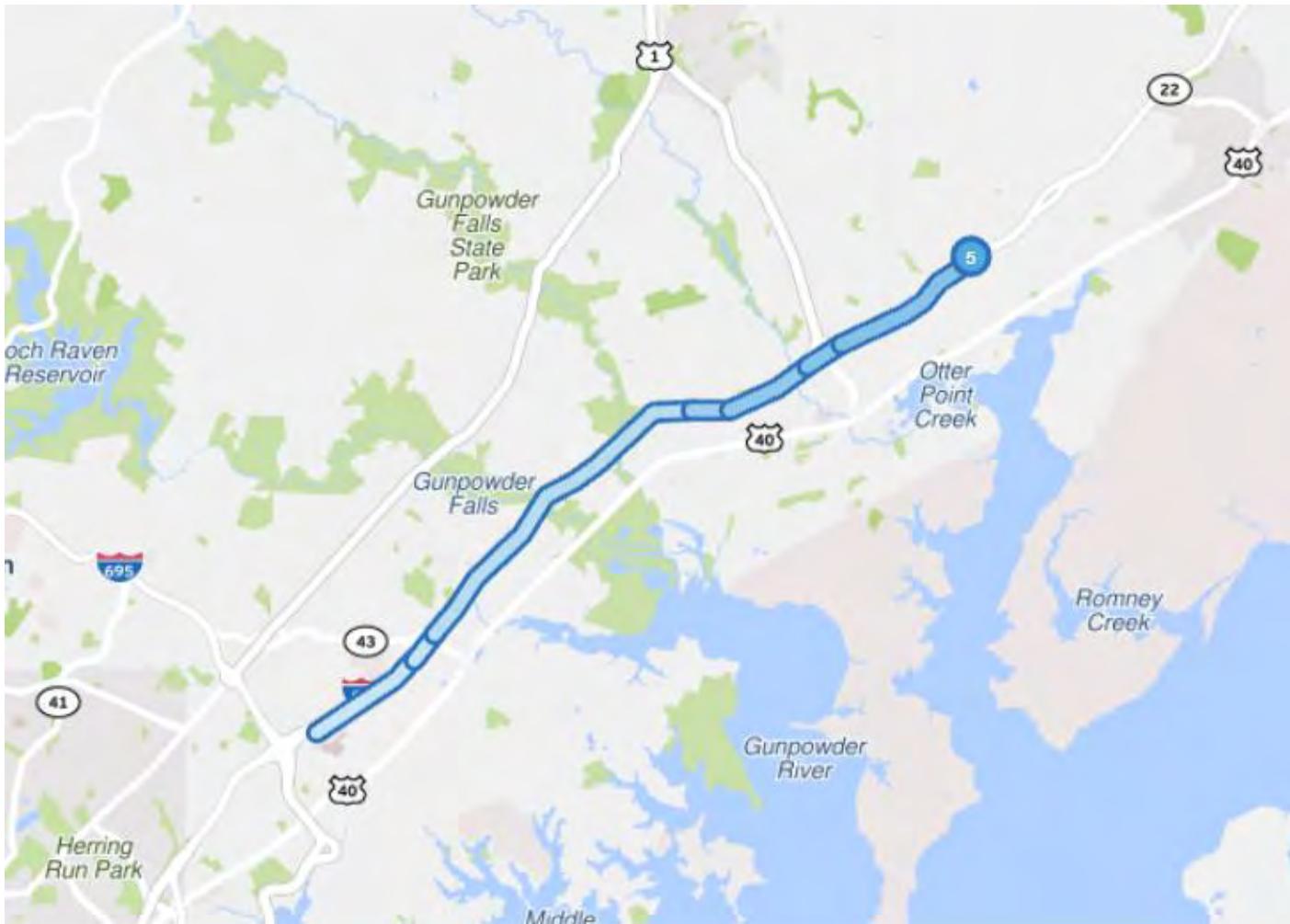


Locations of Congestion (SB)

A: 12PM - :6PM: Maryland House Rest Stop to MD-24

#5 Ranked Bottleneck – 3rd Quarter 2021 – Location Map

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
I-95 N @ MD-543/EXIT 80	6.15	1 h 19 m	497	72,182

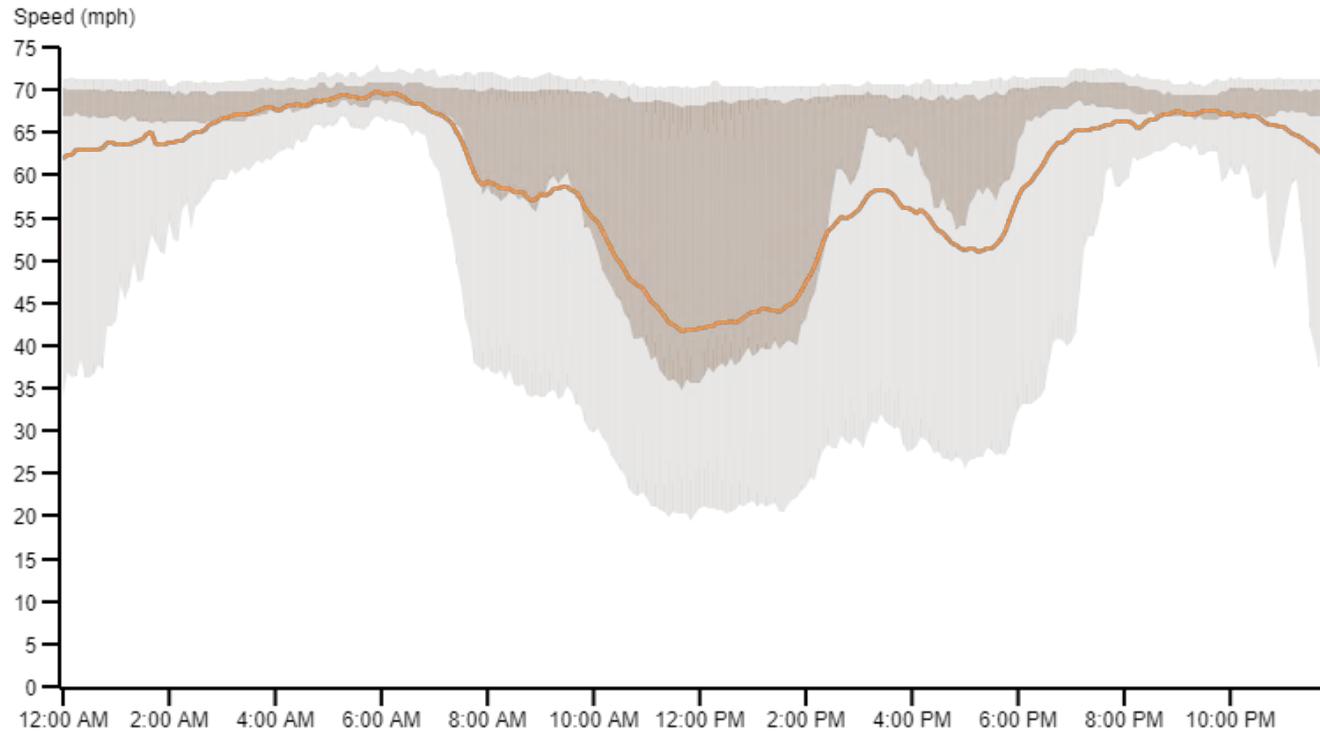


Notes: I-95 Express Toll Lanes Northbound Extension From MD 43 to MD 152 is responsible for off-peak shoulder and lane closures. The extension is expected to be open to traffic by the end of 2023 to MD 152, with the full extension to north of MD 24 open to traffic by the end of 2026. Another factor is the Old Joppa Road Overpass Replacement. Off peak shoulder and lane closures.

#5 Ranked Bottleneck – 3rd Quarter 2021 – Average Speeds Graph

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
I-95 N @ MD-543/EXIT 80	6.15	1 h 19 m	497	72,182

Speed for I-95 N @ MD-543/EXIT 80
 Averaged per five minutes for Jul 01, 2021 through Sep 30, 2021
 Northbound

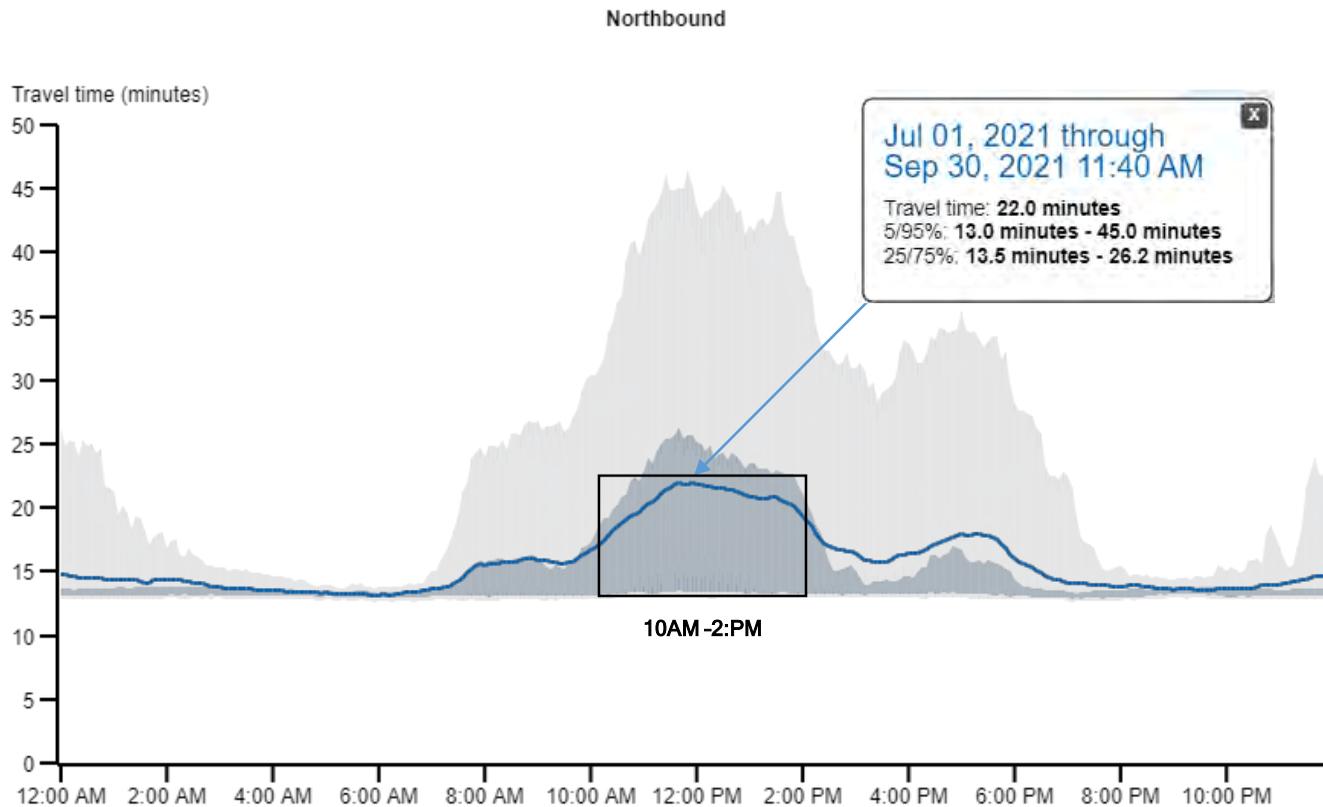


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- Jul 01, 2021 through Sep 30, 2021 25th and 75th percentile - INRIX
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Northbound
 Travel time for I-95 N @ MD-543/EXIT 80
 Averaged per five minutes for Jul 01, 2021 through Sep 30, 2021

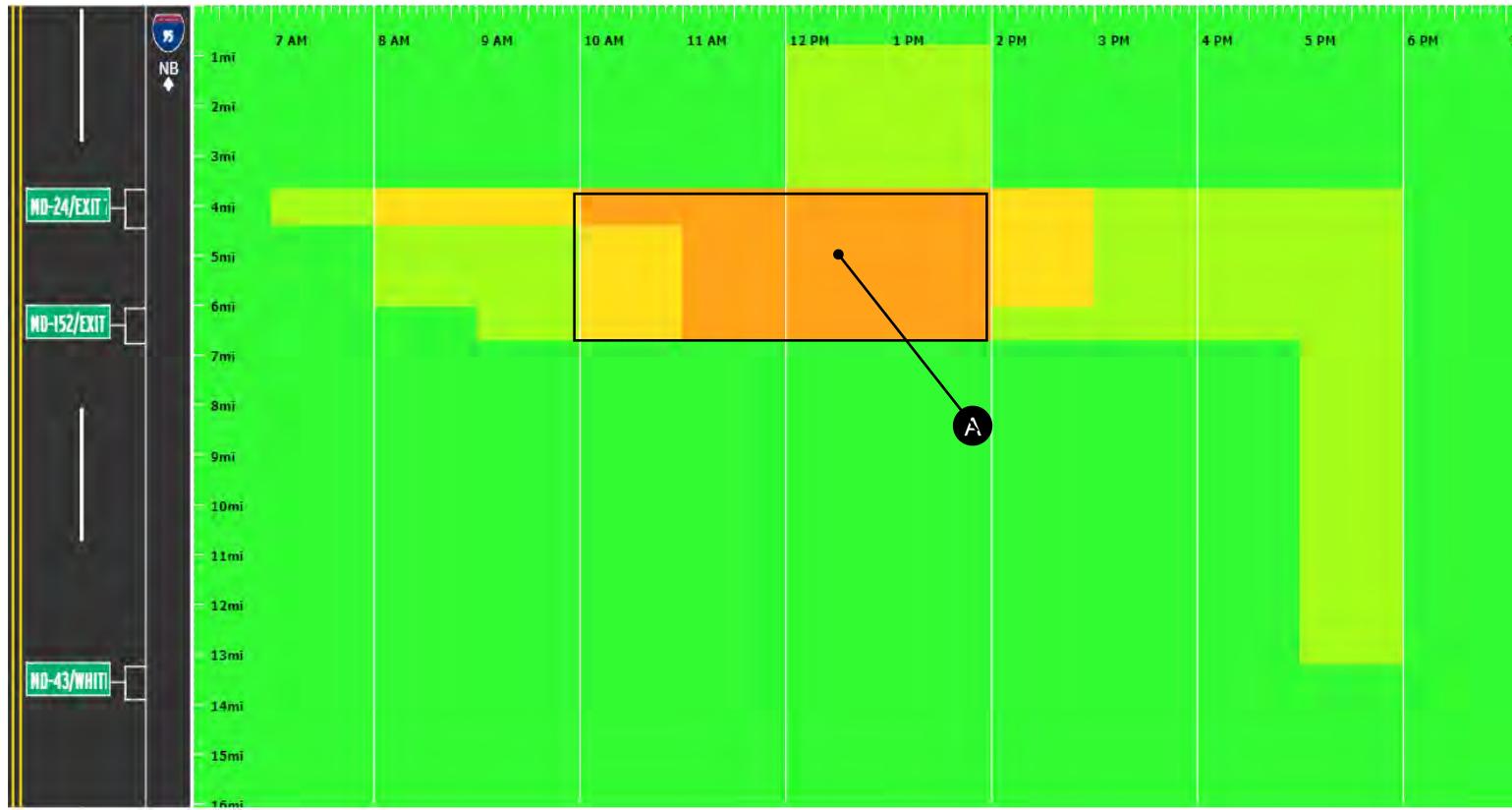


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#5 Ranked Bottleneck –3rd Quarter 2021 – Congestion Scan

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Northbound

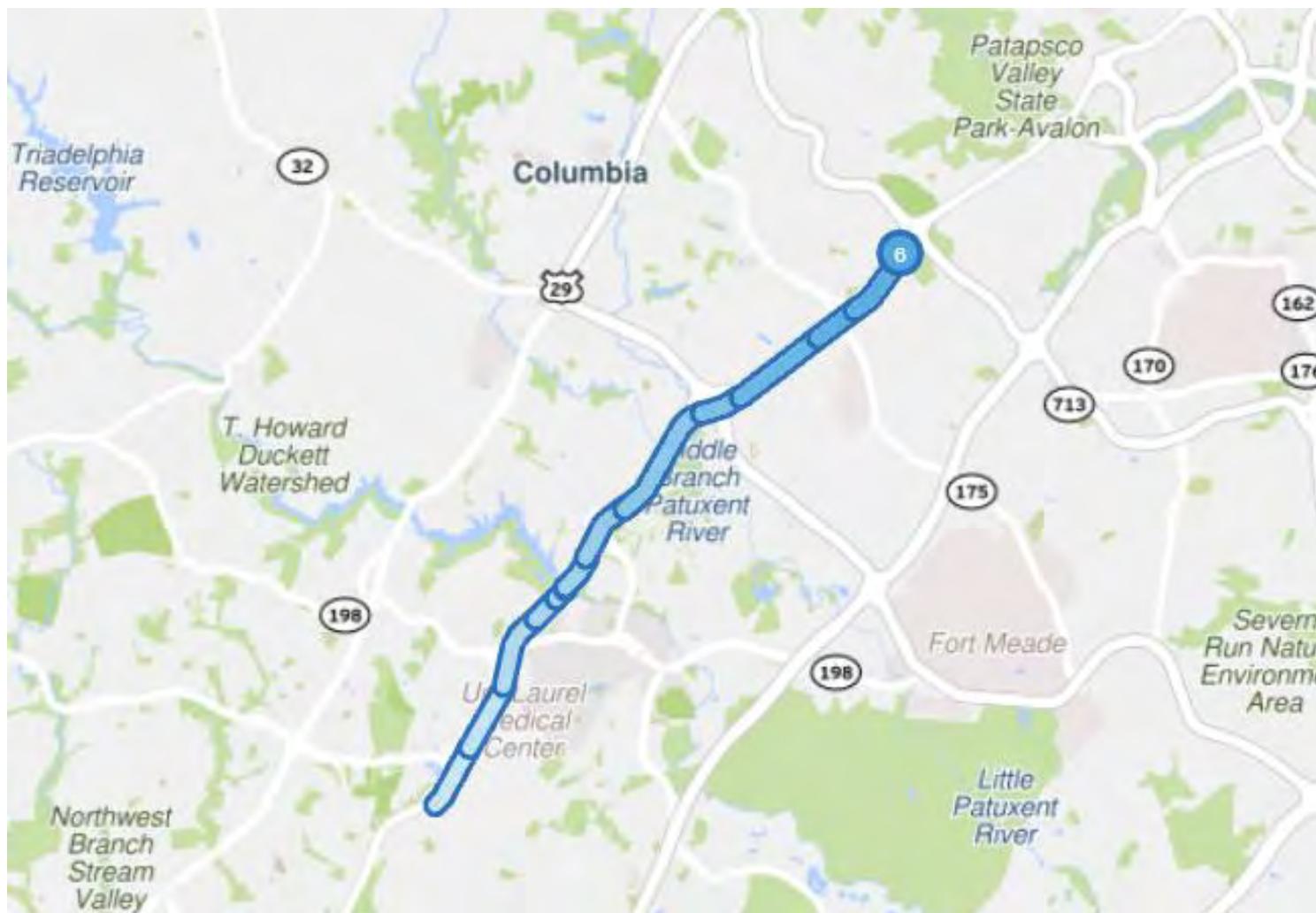


Locations of Congestion (NB)

A: 10AM - 2PM: MD-152 to MD-543

#6 Ranked Bottleneck – 3rd Quarter 2021 – Location Map

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
I-95 N @ MD-100/EXIT 43	3.83	2 h 12 m	352	103,466

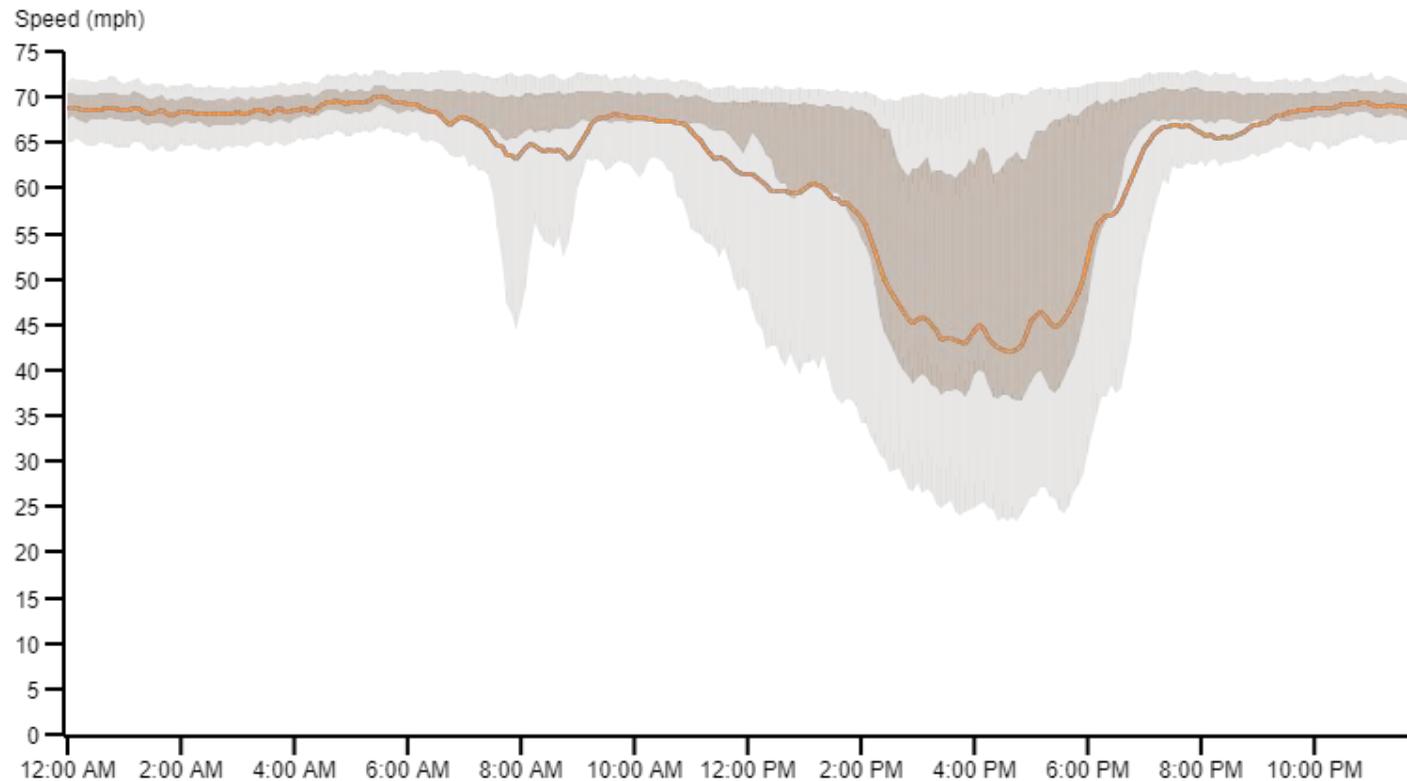


Notes: Congestion in the afternoon rush hour. Contributing factors include traffic entering at MD-175, weaving to exit at MD-100, and the half-mile uphill grade midway between MD-175 and MD-100.

#6 Ranked Bottleneck – 3rd Quarter 2021 – Average Speeds Graph

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I-95 N @ MD-100/EXIT 43	3.83	2 h 12 m	352	103,466

Speed for I-95 N @ MD-100/EXIT 43
 Averaged per five minutes for Jul 01, 2021 through Sep 30, 2021
 Northbound

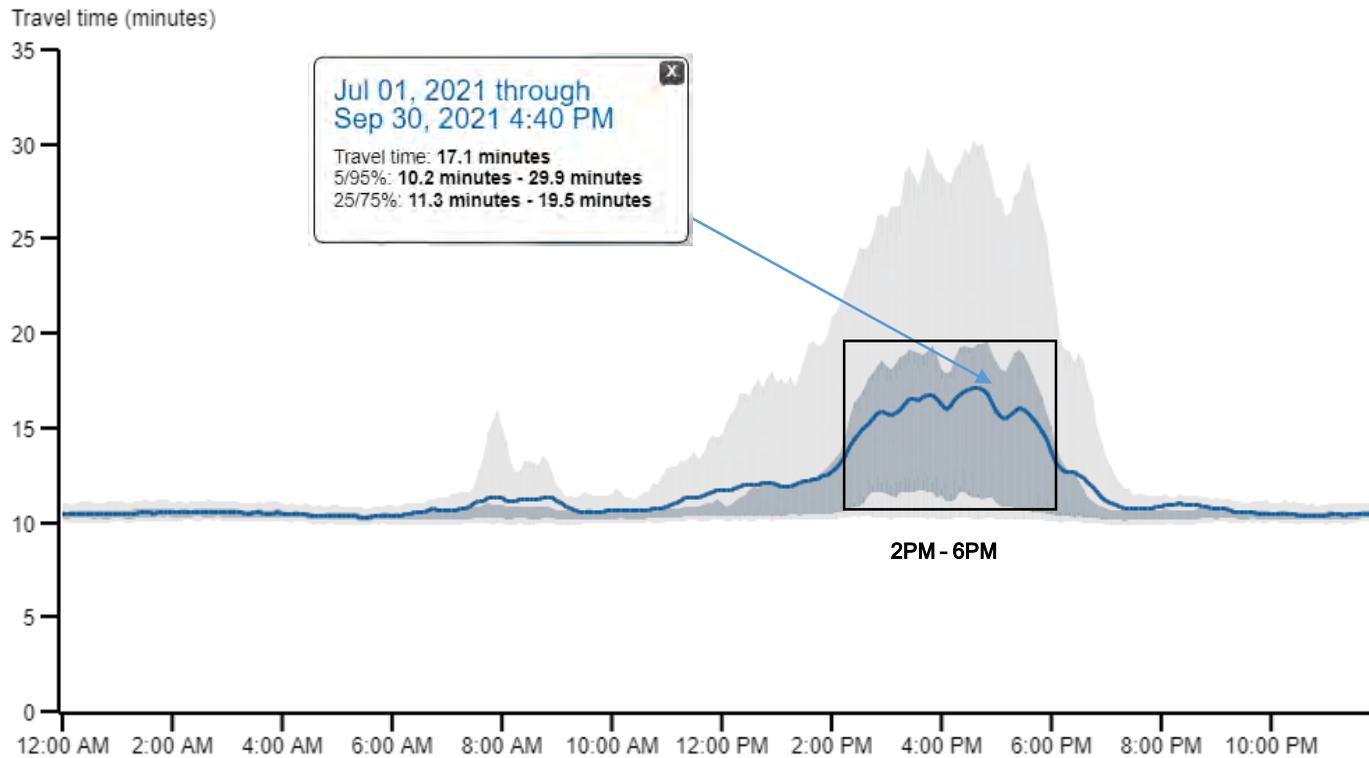


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- Jul 01, 2021 through Sep 30, 2021 25th and 75th percentile - INRIX
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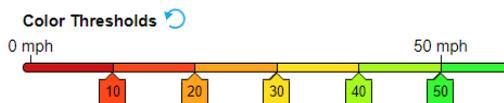
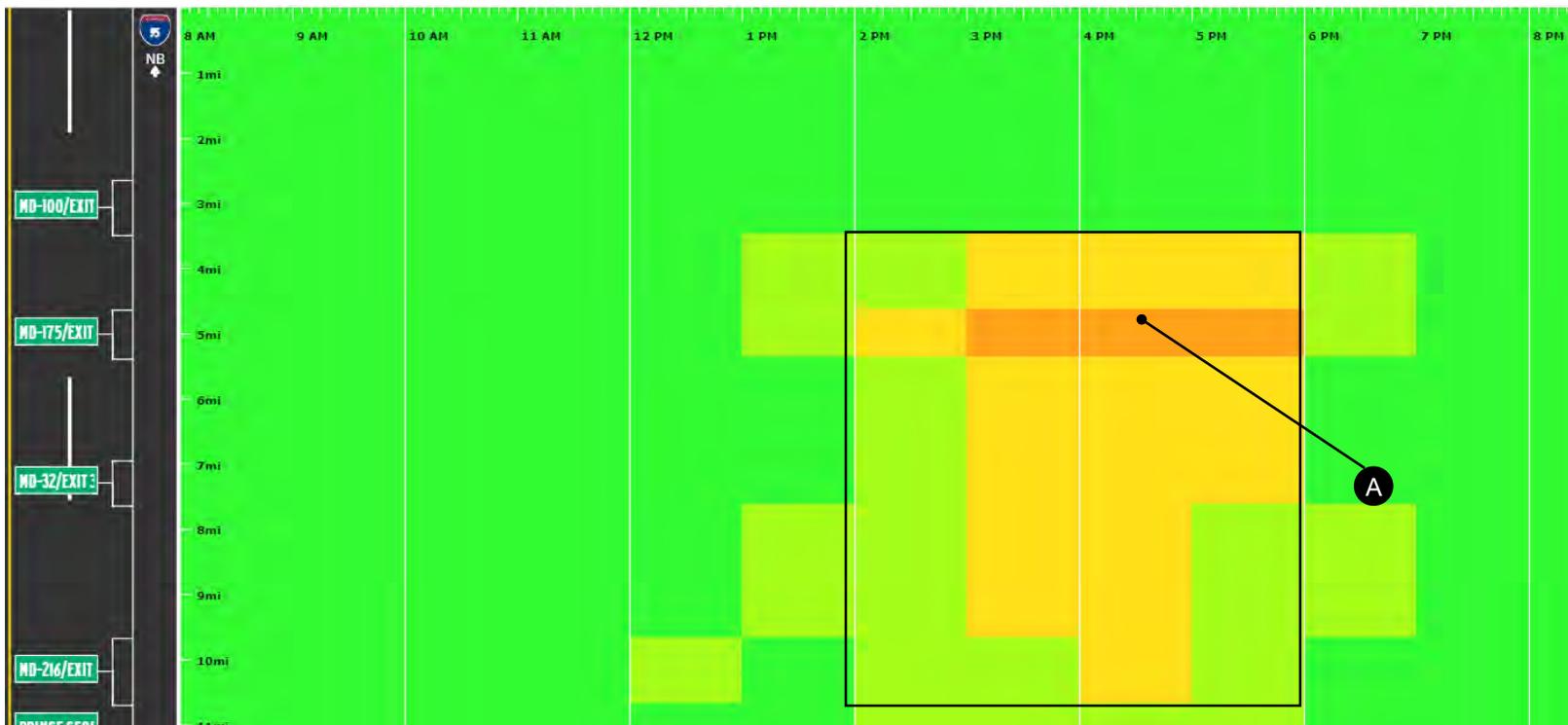


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#6 Ranked Bottleneck – 3rd Quarter 2021 – Congestion Scan

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
I-95 N @ MD-100/EXIT 43	3.83	2 h 12 m	352	103,466

Northbound

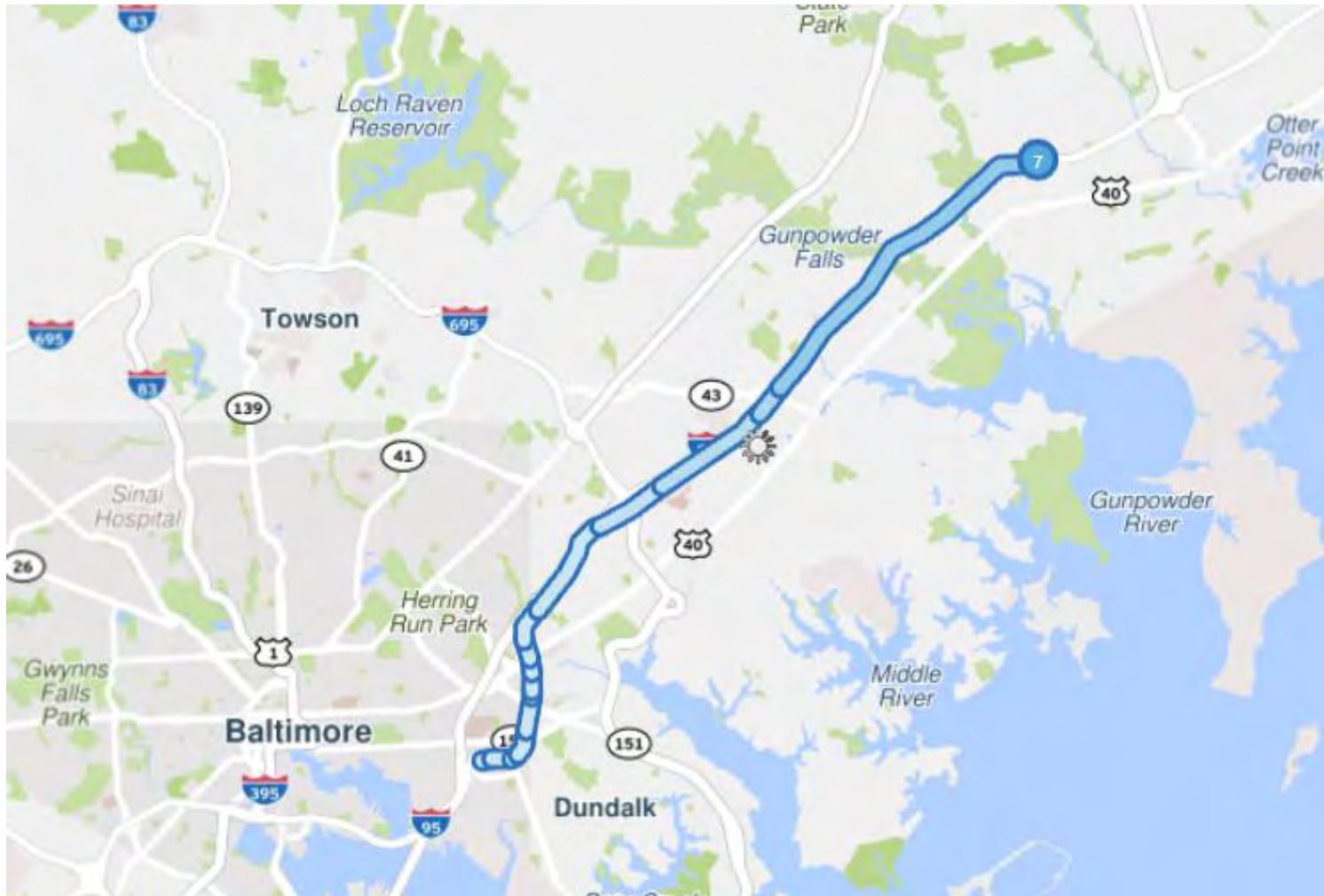


Locations of Congestion (NB)

A: 2PM - 6PM: MD-216 to MD-100

#7 Ranked Bottleneck – 3rd Quarter 2021 – Location Map

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
I-95 N @ MD-152/EXIT 74	7.58	37 m	652	80,122

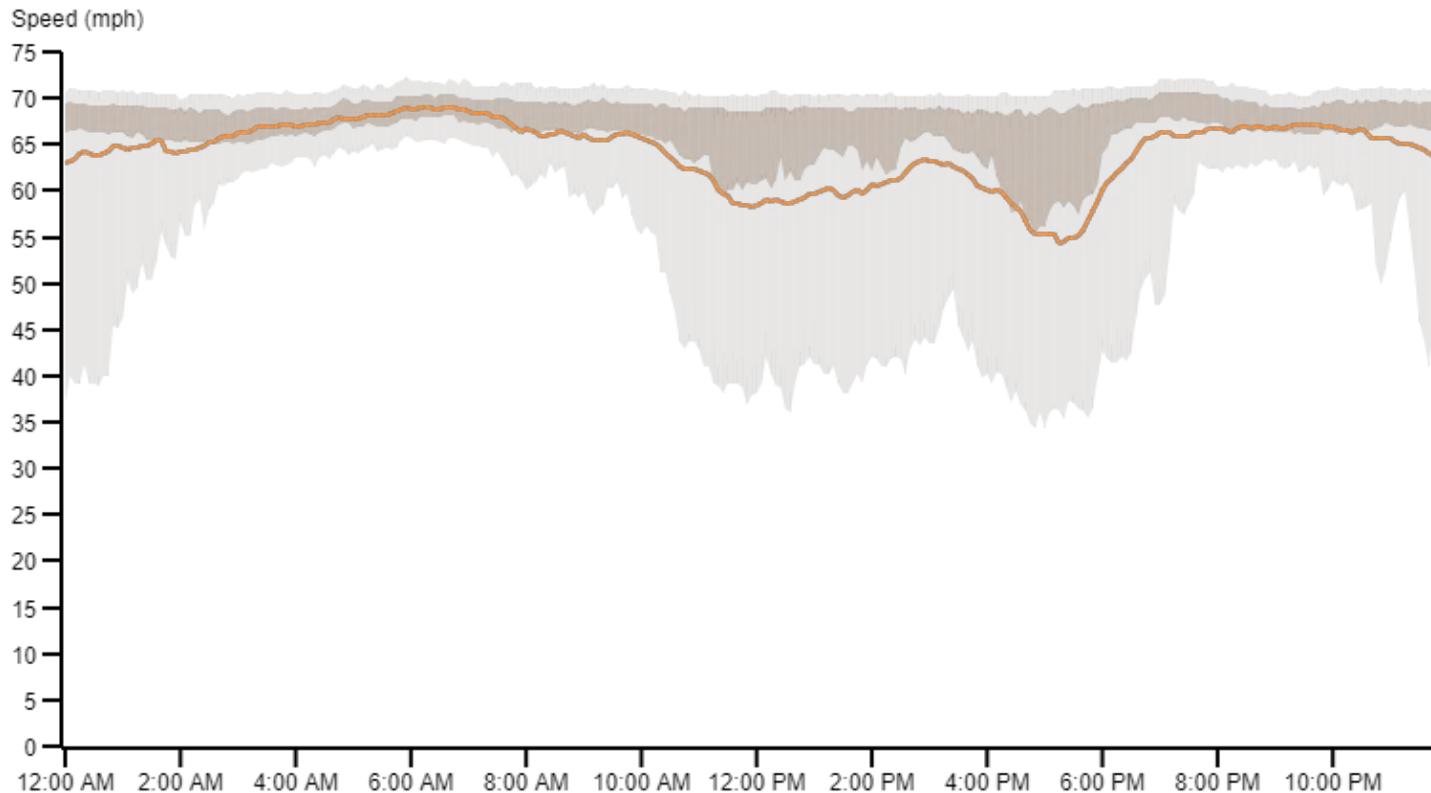


Notes: I-95 Express Toll Lanes Northbound Extension From MD 43 to MD 152 is responsible for off peak shoulder and lane closures. The extension is expected to be open to traffic by the end of 2023 to MD 152, with the full extension to north of MD 24 open to traffic by the end of 2026. This includes the Old Joppa Road Overpass Replacement. Off-peak shoulder and lane closures.

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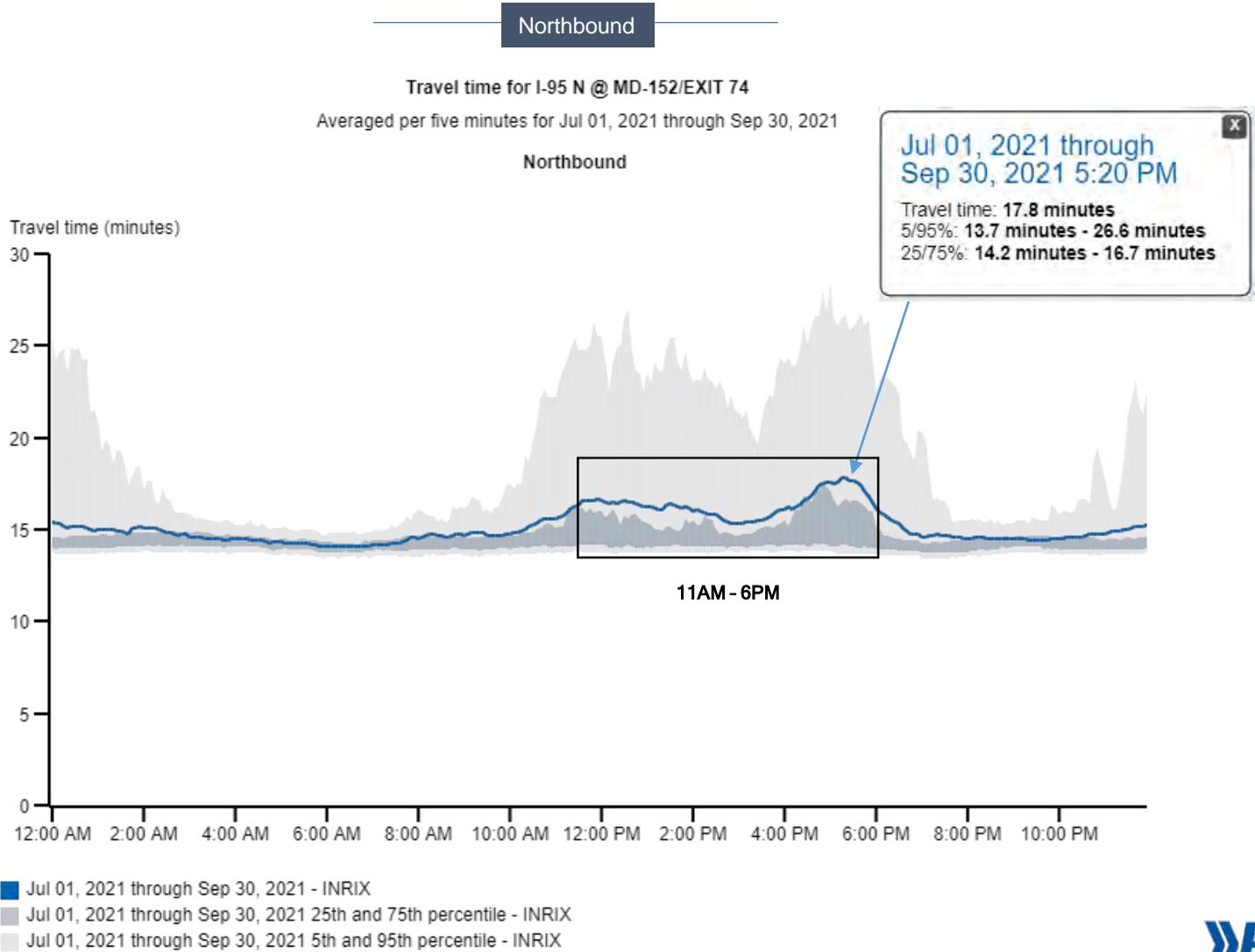
Speed for I-95 N @ MD-152/EXIT 74
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- Jul 01, 2021 through Sep 30, 2021 25th and 75th percentile - INRIX
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#7 Ranked Bottleneck – 3rd Quarter 2021 – Travel Times

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
I-95 N @ MD-152/EXIT 74	7.58	37 m	652	80,122

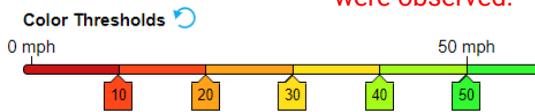


#7 Ranked Bottleneck – 3rd Quarter 2021 – Congestion Scan

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
I-95 N @ MD-152/EXIT 74	7.58	37 m	652	80,122



* This visualization shows a slightly different timeframe of congested conditions compared to where increased travel times were observed.

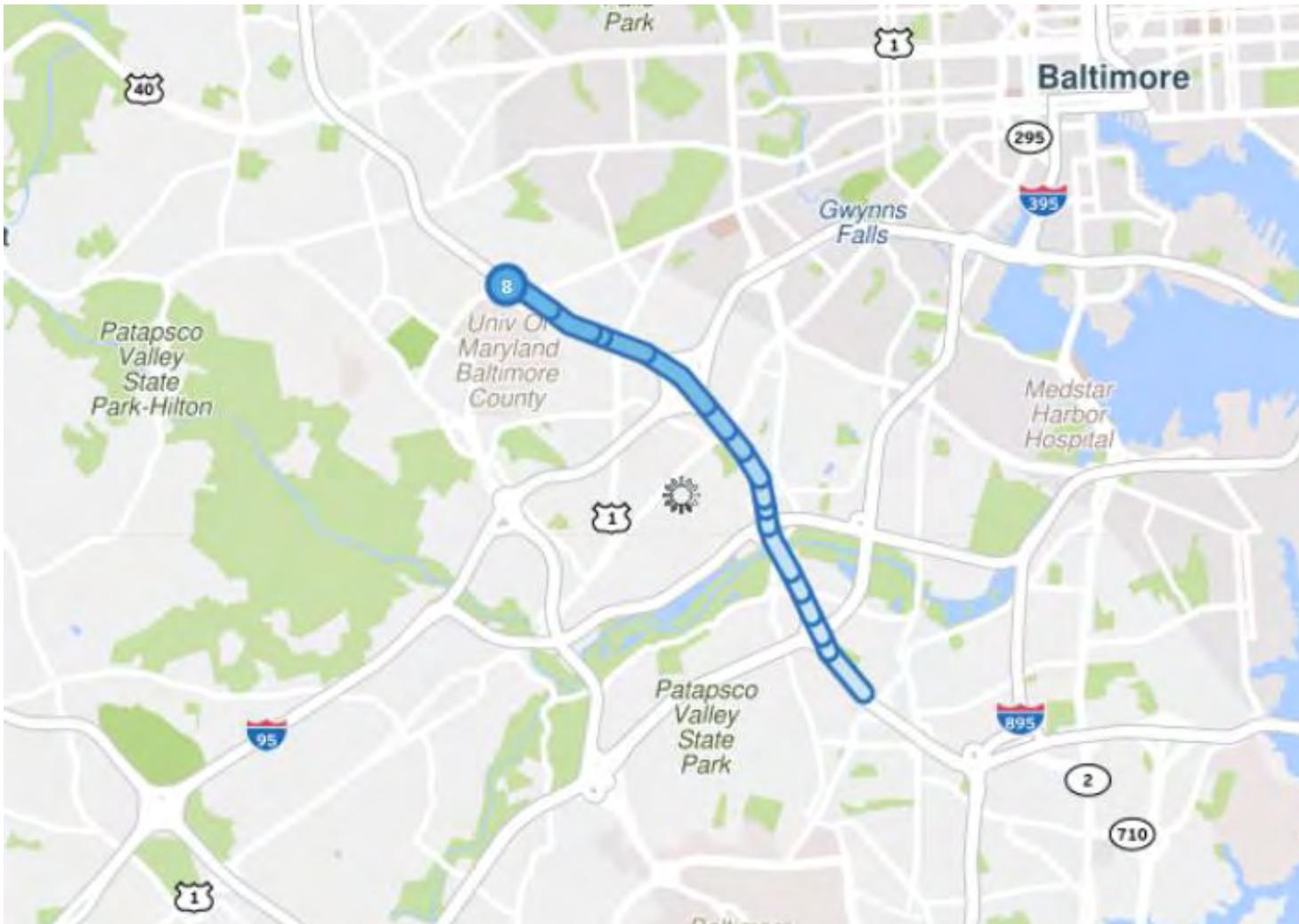


Locations of Congestion (NB)

A: 10AM - 3PM: MD-152/Mountain Rd to MD-24

#8 Ranked Bottleneck – 3rd Quarter 2021 – Location Map

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
I-695 IL @ MD-372/WILKENS AVE/EXIT 12	1.99	1 h 39 m	199	98,651

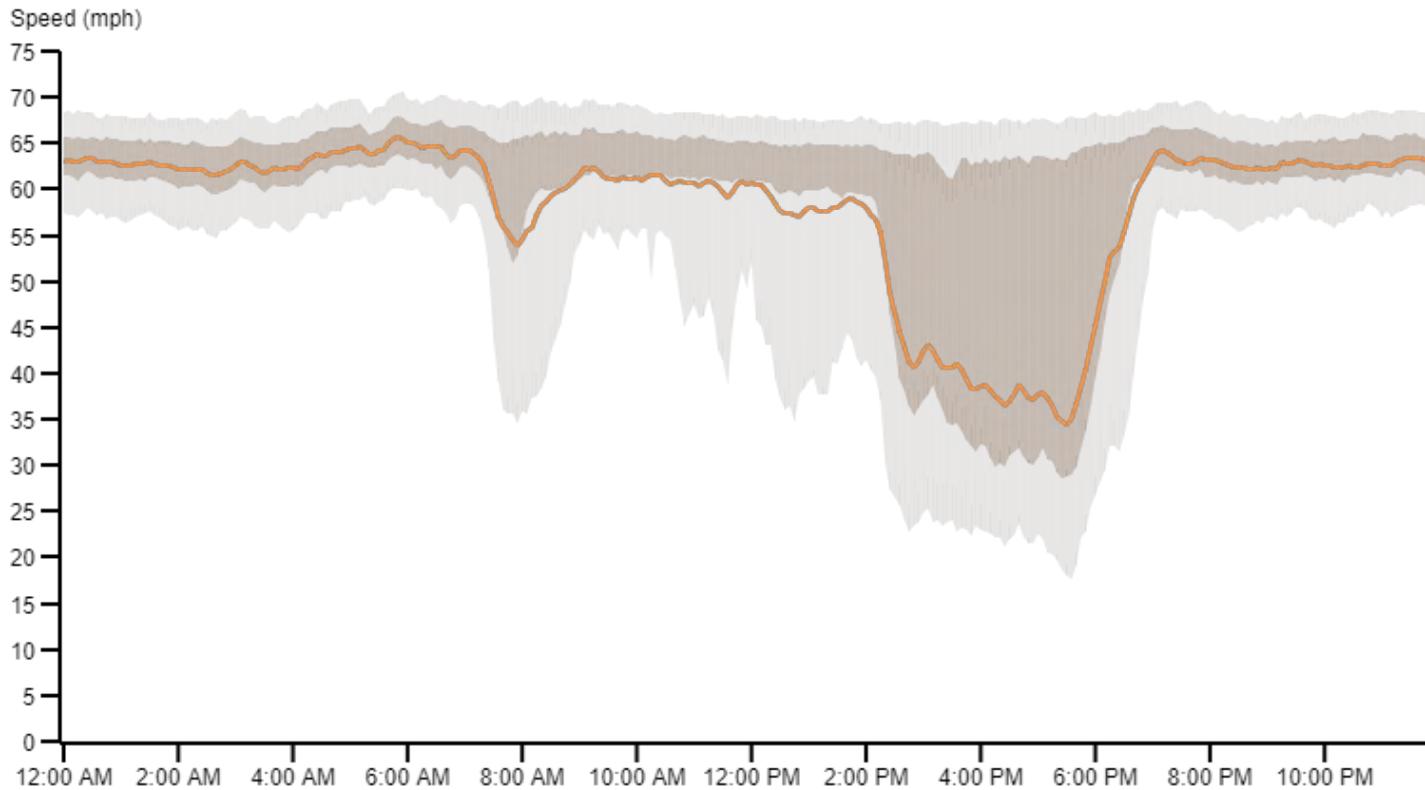


Notes: Afternoon congestion on the inner loop of the beltway with the greatest delays between MD 144 and the lane drop at I-70. High-volume ramps from Security Blvd, I-70 and US 40 contributed to the congestion.

#8 Ranked Bottleneck – 3rd Quarter 2021 – Average Speeds Graph

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
I-695 IL @ MD-372/WILKENS AVE/EXIT 12	1.99	1 h 39 m	199	98,651

Speed for I-695 CW @ MD-372/WILKENS AVE/EXIT 12
 Averaged per five minutes for Jul 01, 2021 through Sep 30, 2021
 Inner Loop



- Jul 01, 2021 through Sep 30, 2021 - INRIX
- Jul 01, 2021 through Sep 30, 2021 25th and 75th percentile - INRIX
- Jul 01, 2021 through Sep 30, 2021 5th and 95th percentile - INRIX

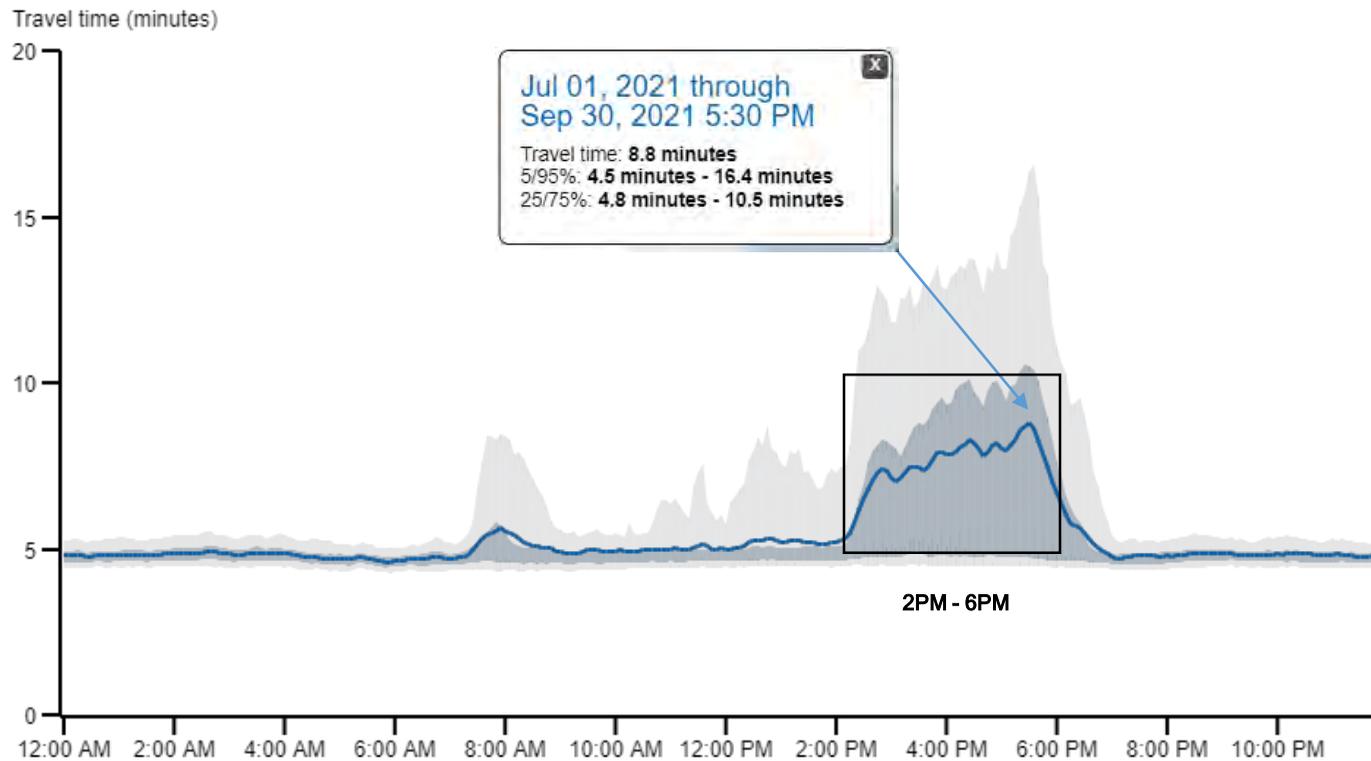
#8 Ranked Bottleneck –3rd Quarter 2021 – Travel Times

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
I-695 IL @ MD-372/WILKENS AVE/EXIT 12	1.99	1 h 39 m	199	98,651

Inner Loop

Travel time for I-695 CW @ MD-372/WILKENS AVE/EXIT 12
 Averaged per five minutes for Jul 01, 2021 through Sep 30, 2021

Inner Loop

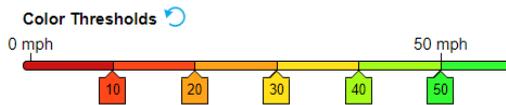
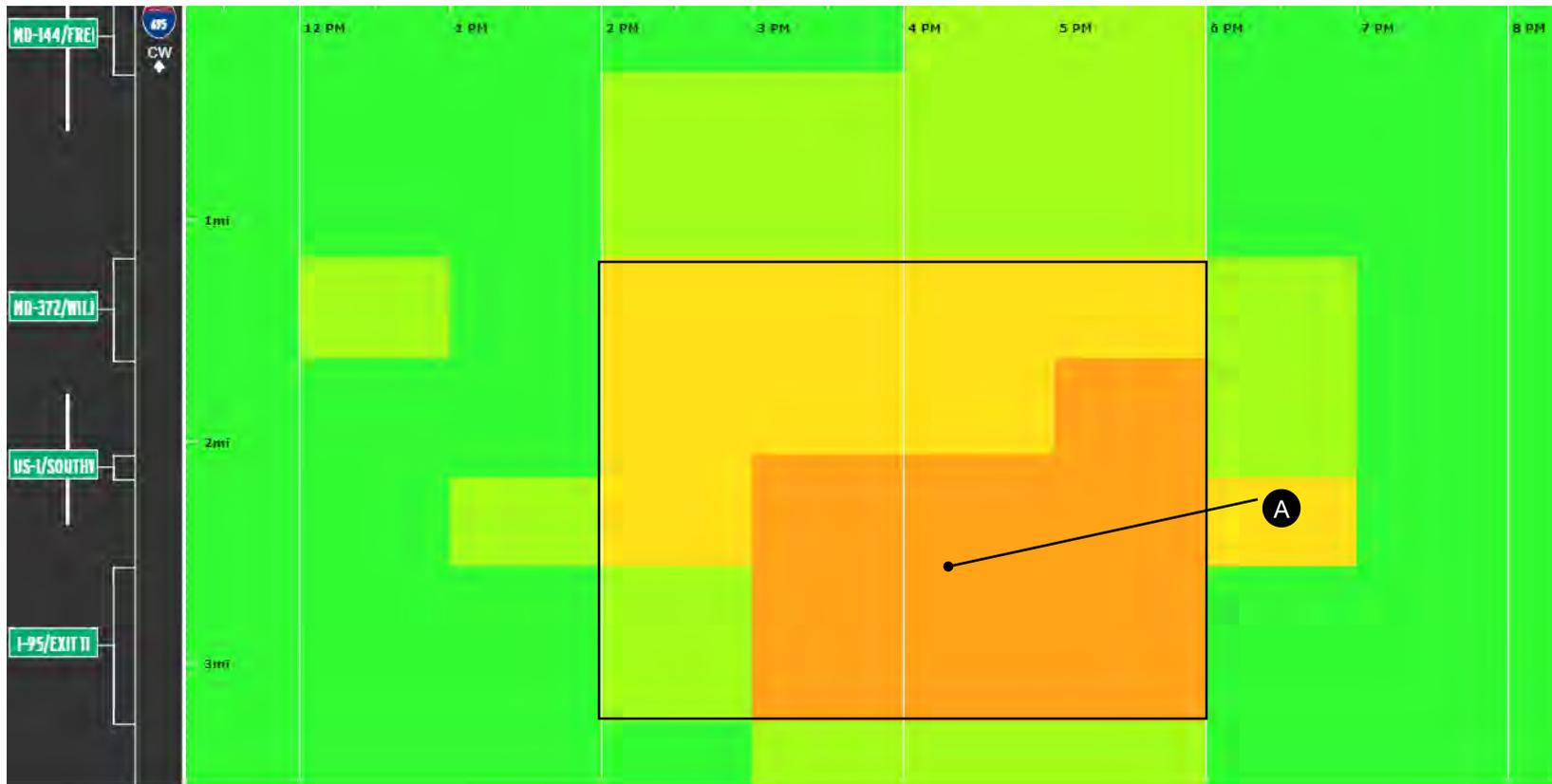


- Jul 01, 2021 through Sep 30, 2021 - INRIX
- Jul 01, 2021 through Sep 30, 2021 25th and 75th percentile - INRIX
- Jul 01, 2021 through Sep 30, 2021 5th and 95th percentile - INRIX

#8 Ranked Bottleneck –3rd Quarter 2021 – Congestion Scan

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
I-695 IL @ MD-372/WILKENS AVE/EXIT 12	1.99	1 h 39 m	199	98,651

Inner Loop

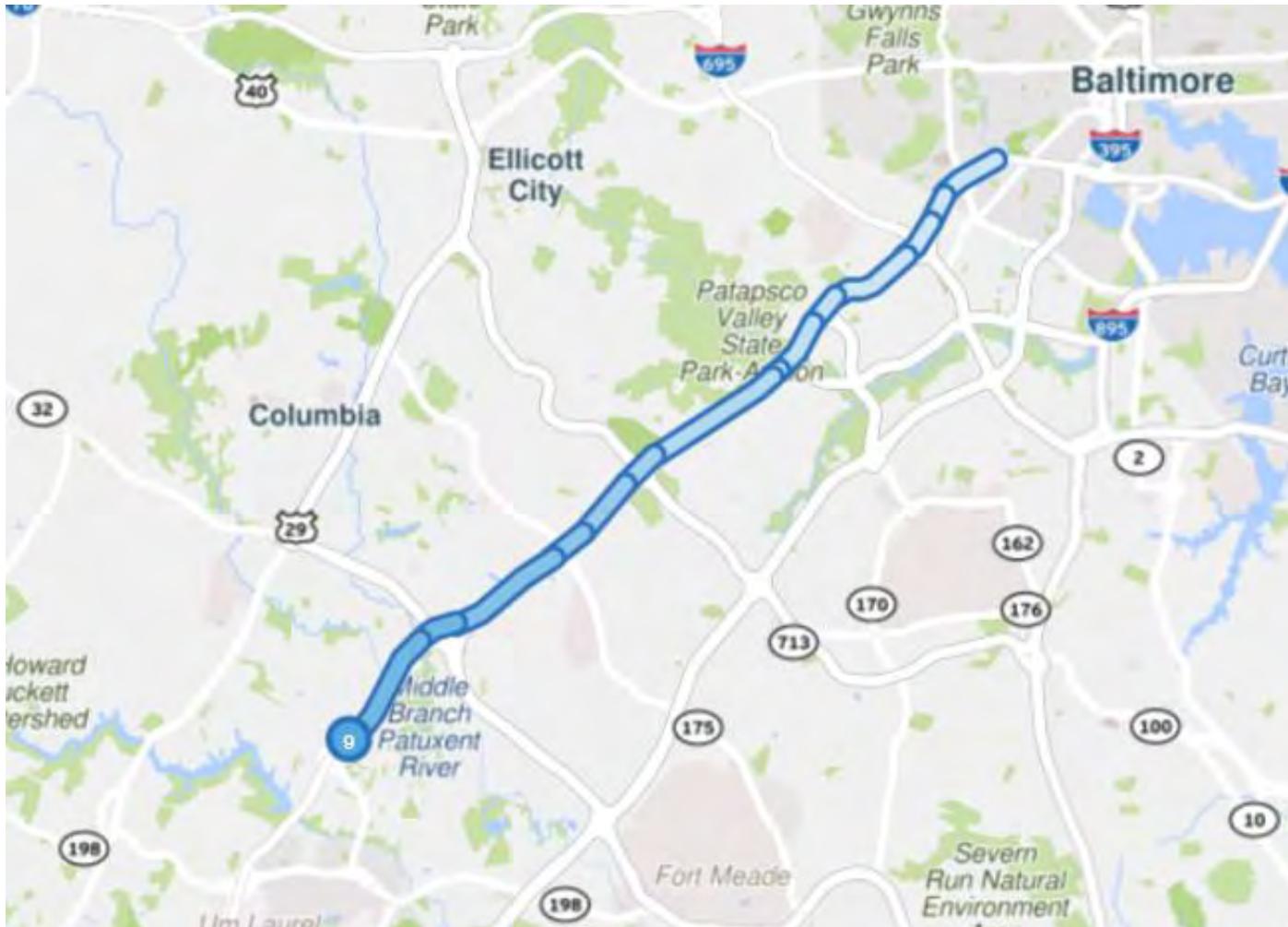


Locations of Congestion (IL)

A: 2PM - 6PM : I-95 to MD-372/Wilkins Ave

#9 Ranked Bottleneck – 3rd Quarter 2021 – Location Map

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
I-95 S @ MD-216/EXIT 35	4.49	59 m	562	100,759

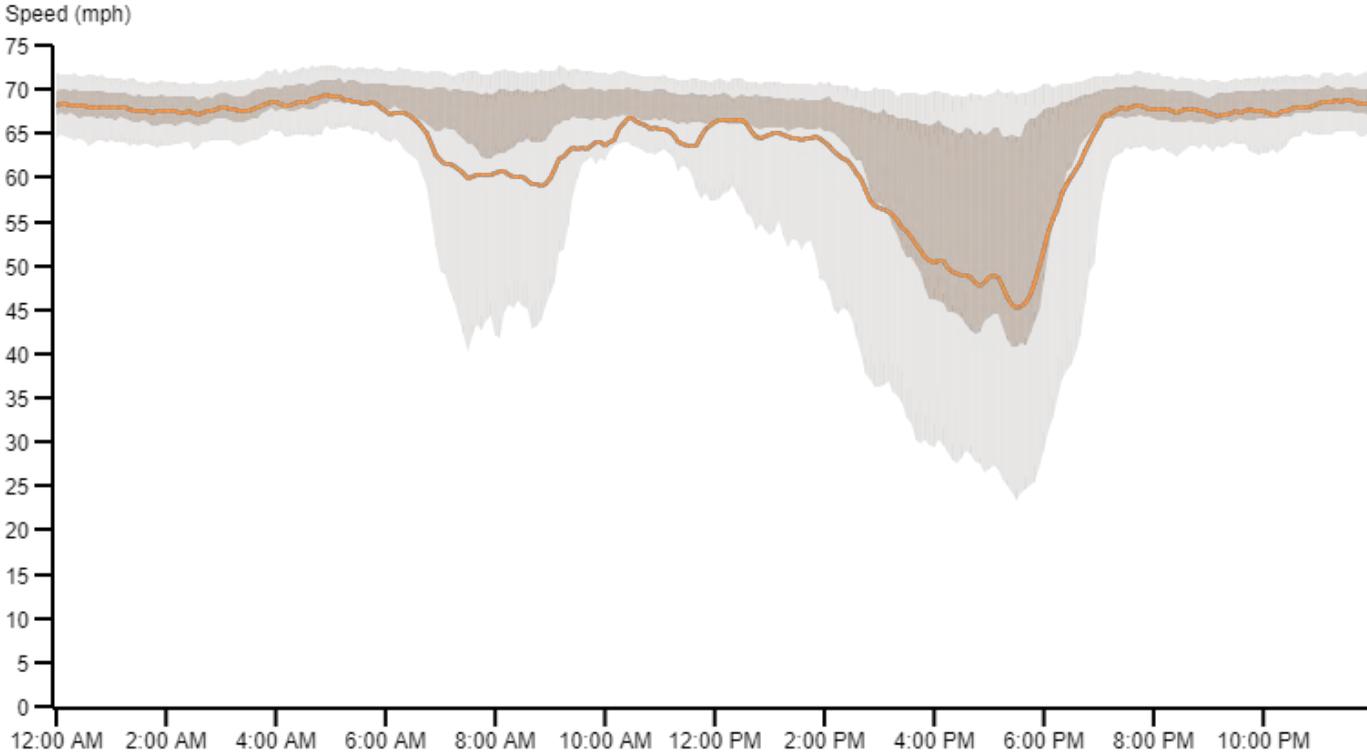


Notes: High traffic volume corridor primarily in the afternoon. Traffic in this corridor has 3 major merge areas at MD-216, MD-32 and MD-175 near Columbia, MD.

#9 Ranked Bottleneck – 3rd Quarter 2021 – Average Speeds Graph

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
I-95 S @ MD-216/EXIT 35	4.49	59 m	562	100,759

Speed for I-95 S @ MD-216/EXIT 35
 Averaged per five minutes for Jul 01, 2021 through Sep 30, 2021
 Southbound



- Jul 01, 2021 through Sep 30, 2021 - INRIX
- Jul 01, 2021 through Sep 30, 2021 25th and 75th percentile - INRIX
- Jul 01, 2021 through Sep 30, 2021 5th and 95th percentile - INRIX

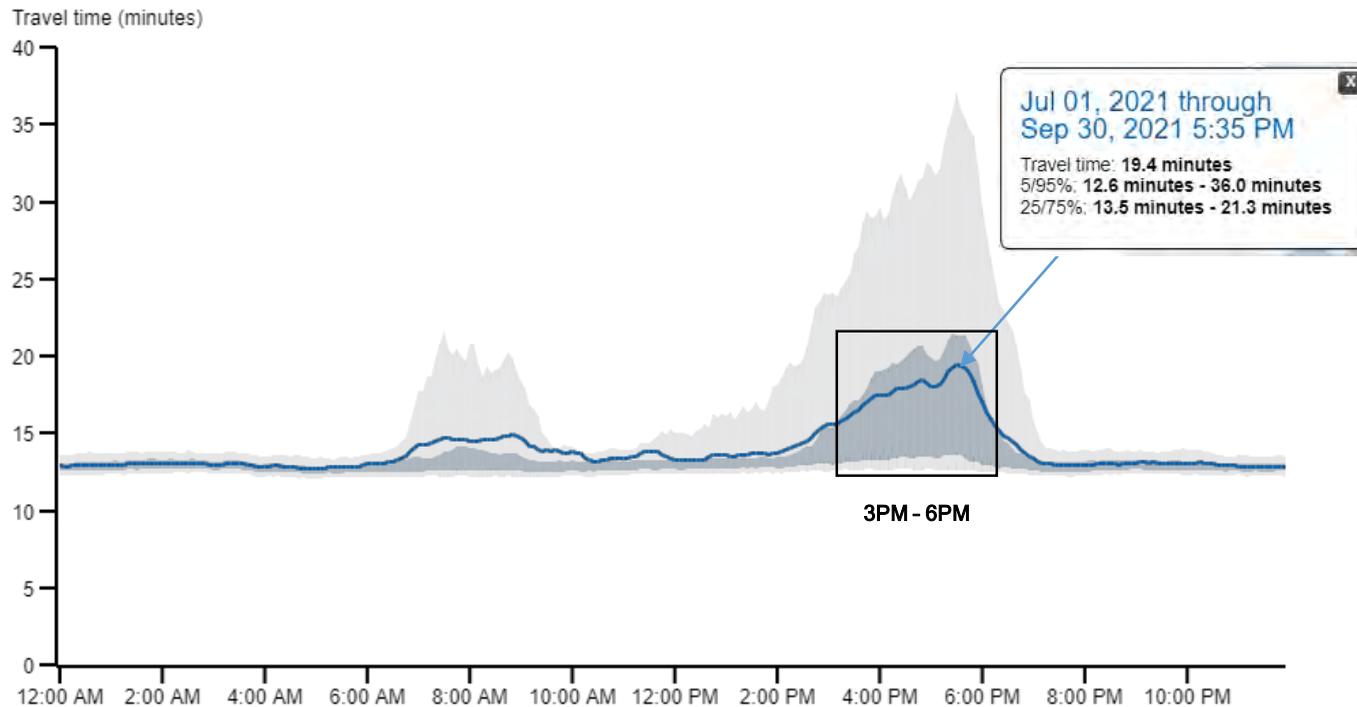
#9 Ranked Bottleneck – 3rd Quarter 2021 – Travel Times

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
I-95 S @ MD-216/EXIT 35	4.49	59 m	562	100,759

Southbound

Travel time for I-95 S @ MD-216/EXIT 35
Averaged per five minutes for Jul 01, 2021 through Sep 30, 2021

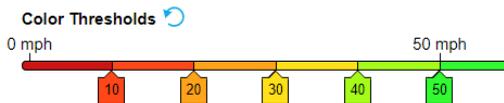
Southbound



- Jul 01, 2021 through Sep 30, 2021 - INRIX
- Jul 01, 2021 through Sep 30, 2021 25th and 75th percentile - INRIX
- Jul 01, 2021 through Sep 30, 2021 5th and 95th percentile - INRIX

#9 Ranked Bottleneck – 3rd Quarter 2021 – Congestion Scan

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
I-95 S @ MD-216/EXIT 35	4.49	59 m	562	100,759

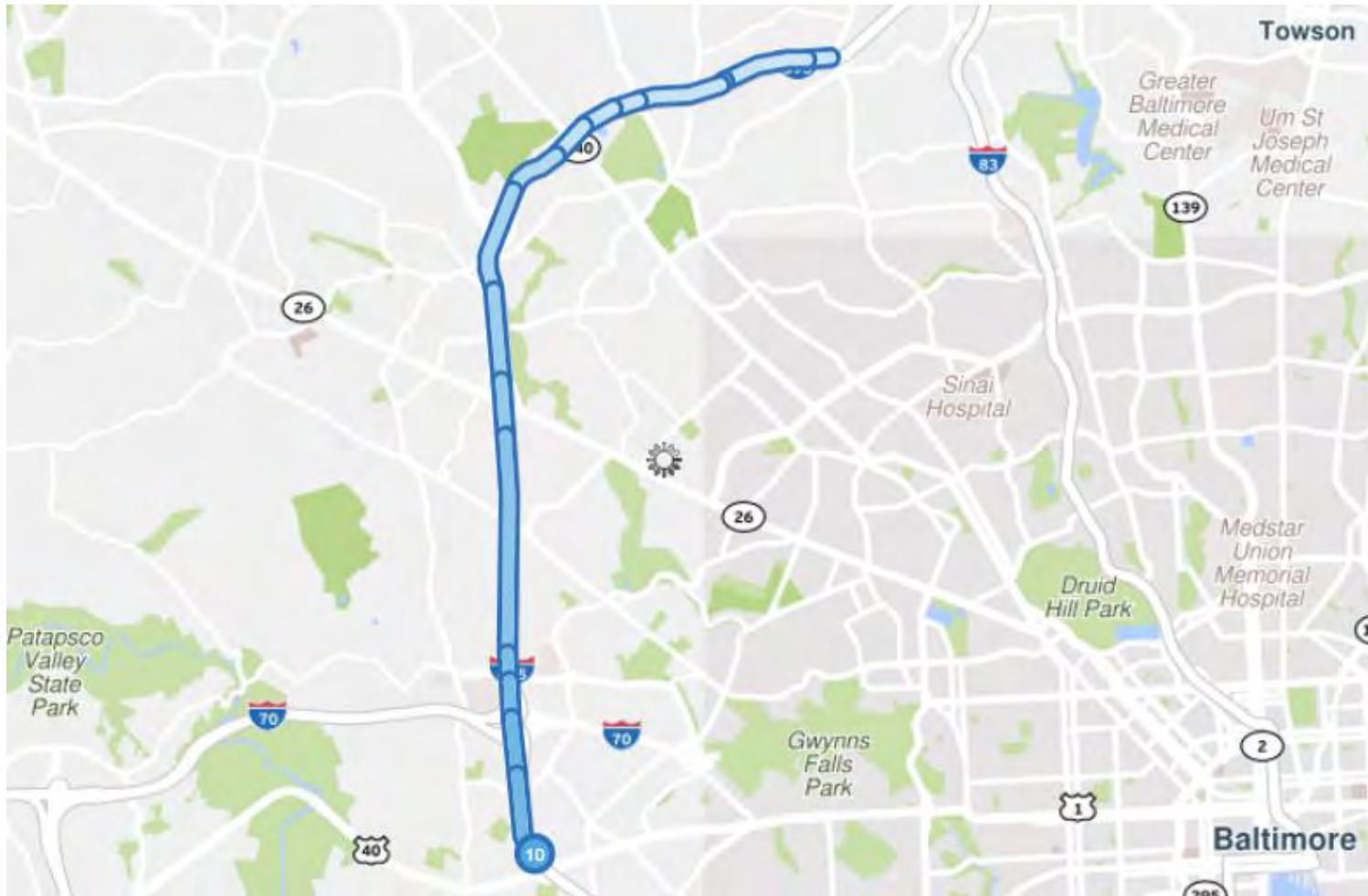


Locations of Congestion (SB)

A: 3PM - 6PM: MD-175 to MD-216

#10 Ranked Bottleneck –3rd Quarter 2021 – Location Map

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
I-695 OL @ US-40/EXIT 15	3.13	42 m	289	103,905



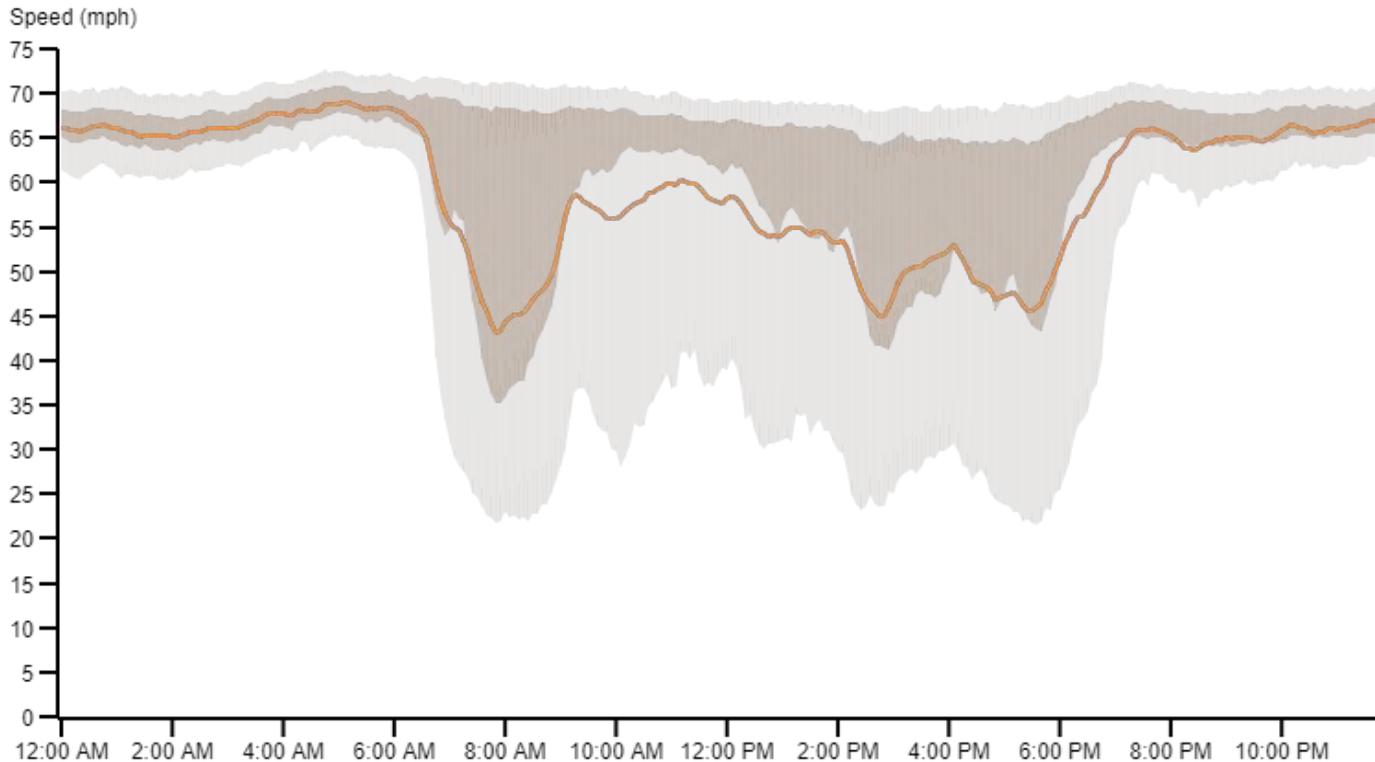
Notes: The core congestion extends from just south of US 40/Baltimore National Pike to MD 140/Reisterstown Rd in both the morning and afternoon rush hour with the AM rush being more severe. A beltway Transportation Systems Management and Operations project is underway in the area.

#10 Ranked Bottleneck – 3rd Quarter 2021 – Average Speeds Graph

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
I-695 OL @ US-40/EXIT 15	3.13	42 m	289	103,905

Speed for I-695 OL @ US-40/EXIT 15
 Averaged per five minutes for Jul 01, 2021 through Sep 30, 2021

Outer Loop



- Jul 01, 2021 through Sep 30, 2021 - INRIX
- Jul 01, 2021 through Sep 30, 2021 25th and 75th percentile - INRIX
- Jul 01, 2021 through Sep 30, 2021 5th and 95th percentile - INRIX

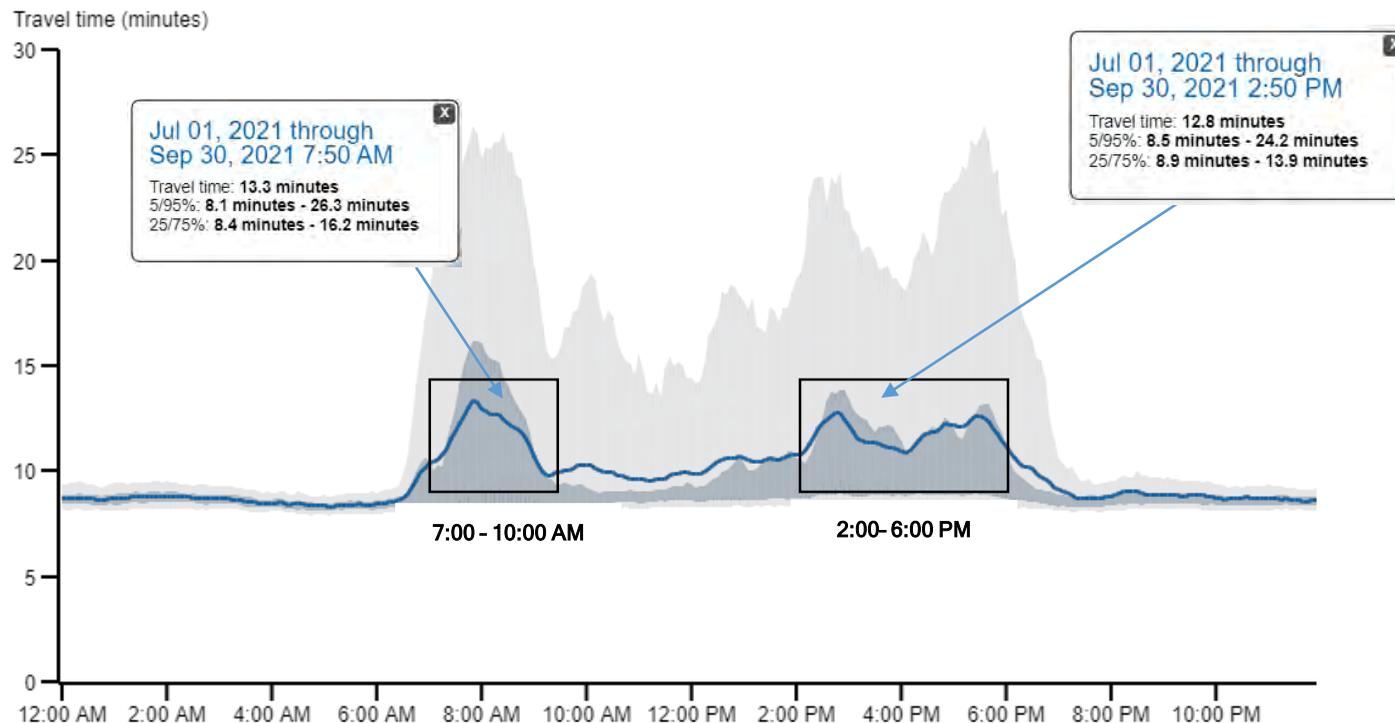
#10 Ranked Bottleneck –3rd Quarter 2021 – Travel Times

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
I-695 OL @ US-40/EXIT 15	3.13	42 m	289	103,905

Outer Loop

Travel time for I-695 OL @ US-40/EXIT 15
Averaged per five minutes for Jul 01, 2021 through Sep 30, 2021

Outer Loop

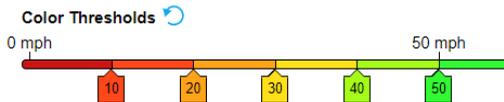
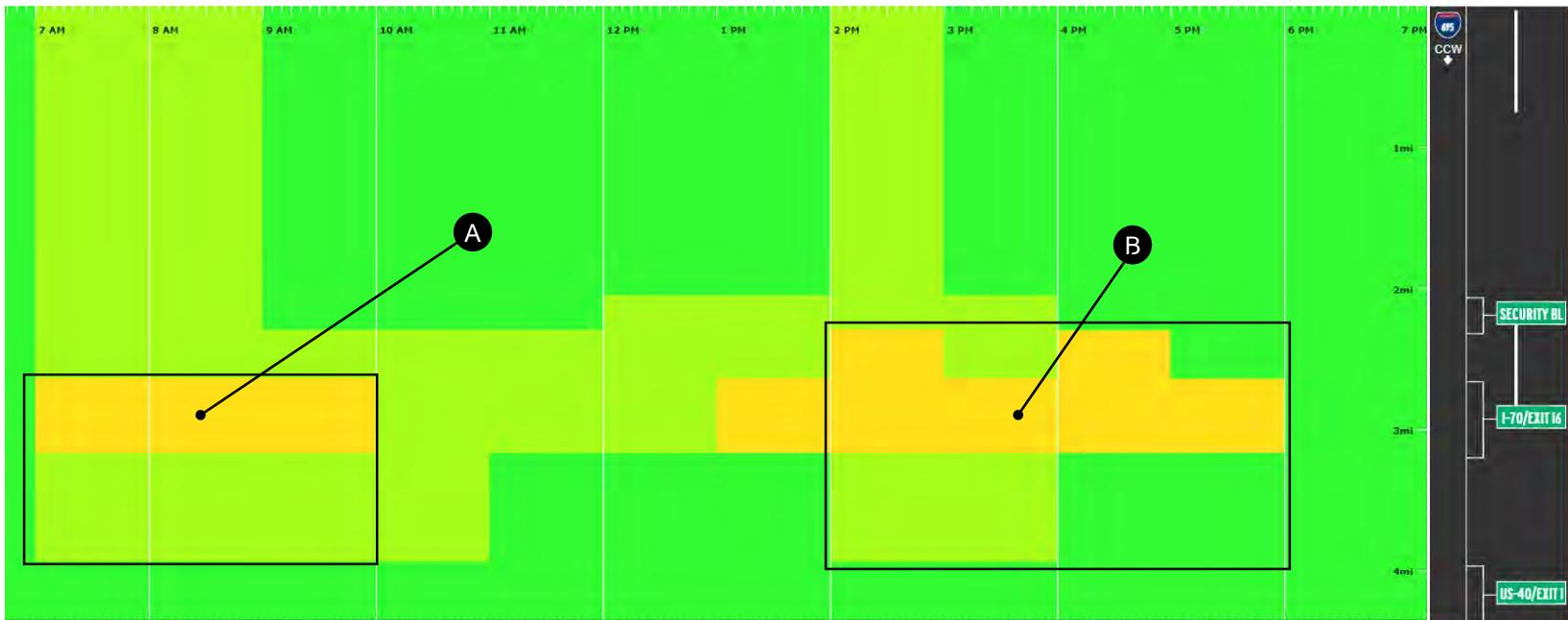


- Jul 01, 2021 through Sep 30, 2021 - INRIX
- Jul 01, 2021 through Sep 30, 2021 25th and 75th percentile - INRIX
- Jul 01, 2021 through Sep 30, 2021 5th and 95th percentile - INRIX

#10 Ranked Bottleneck –3rd Quarter 2021 – Congestion Scan

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
I-695 OL @ US-40/EXIT 15	3.13	42 m	289	103,905

Outer Loop



Locations of Congestion (IL)

- A: 7:00 - 10:00AM: I-70/Exit 16 to US-40
- B: 2:00 - 6:00PM: Security Blvd/Exit 16 to US-40

Top 10 Bottlenecks on Non-Limited Access Roads

Top 10 Bottlenecks in the Baltimore Region – Non Limited Access Roads – 3rd Quarter 2021

Ranked by Base Impact - the aggregation of queue length over time for congestion at each location in mile minutes. It is then weighted by **Total Delay** – Raw speed drop weighted by VMT factor.

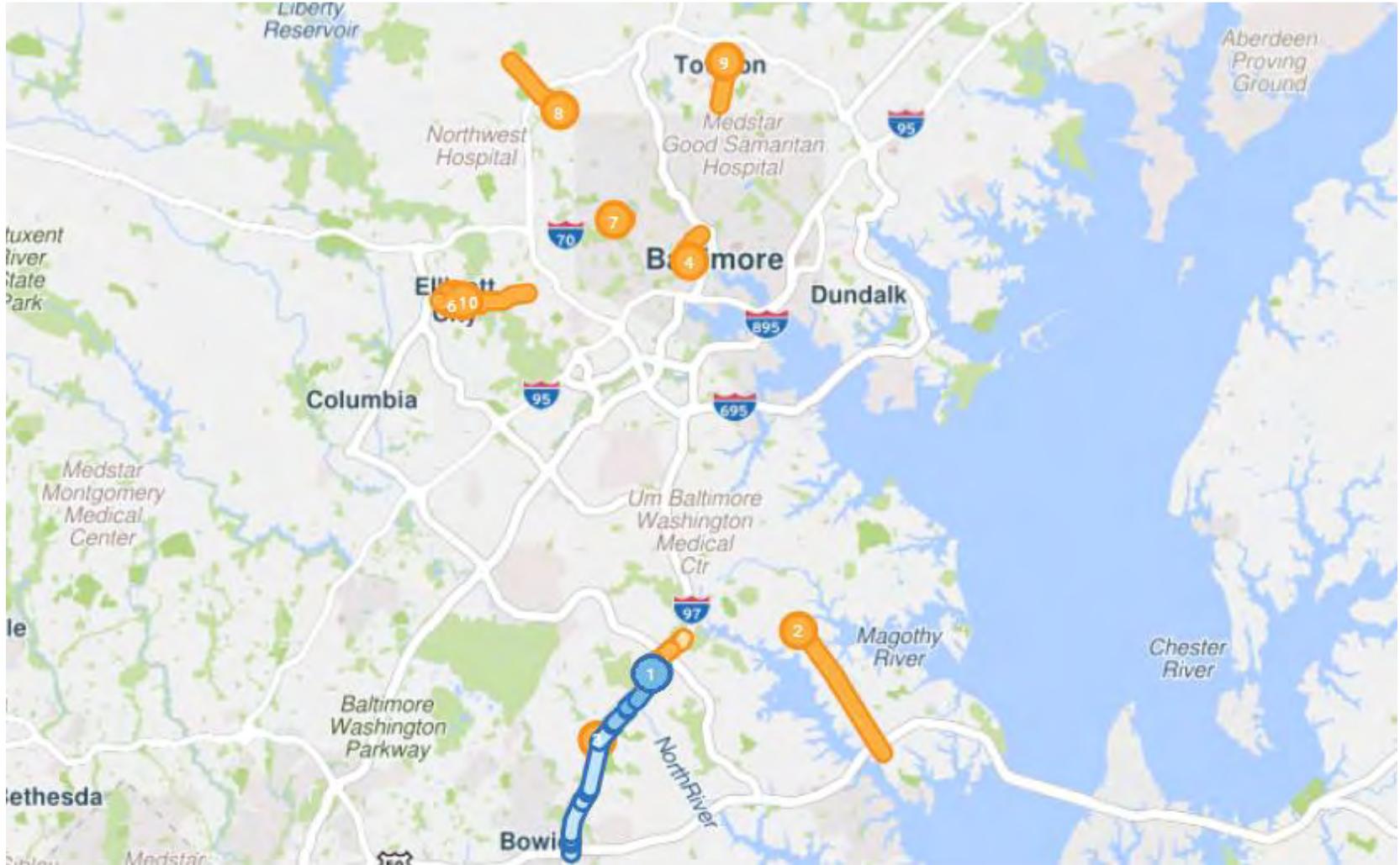
Rank	Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
1	MD-3 N @ MD-175/ANNAPOLIS RD/MILLERSVILLE RD	2.01	1 h 40 m	22	34,065
2	MD-2 N @ ROBINSON RD	3.66	1 h 9 m	18	28,660
3	MD-3 N @ MD-424/DAVIDSONVILLE RD/CONWAY RD	2.15	1 h 20 m	10	35,024
4	MARTIN L KING JR BLVD S @ BALTIMORE ST	0.34	5 h 9 m	0	27,278
5	MD-3 S @ MD-175/ANNAPOLIS RD/MILLERSVILLE RD	0.54	3 h 37 m	5	28,441
6	MD-144 W @ ELLICOTT MILLS DR	0.48	8 h 52 m	40	9,703
7	WINDSOR MILL RD W @ GWYNNS FALLS PKWY	0.38	11 h 5 m	0	9,636
8	MD-140 E @ SUDBROOK LN	0.53	5 h 52 m	38	15,252
9	MD-45 N @ MD-146/DULANEY VALLEY/E JOPPA RD	0.33	9 h 48 m	0	10,639
10	MD-144 E @ WESTCHESTER AVE	0.5	9 h 22 m	0	6,672

IL = Inner Loop

OL = Outer Loop

Top 10 Bottlenecks – Non Limited Access Roads – 3rd Quarter 2021

Overview Map



Ranked Bottleneck Lists by Jurisdiction

Top 25 Bottlenecks in Local Jurisdictions- 3rd Quarter 2021

Ranked by Base Impact - the aggregation of queue length over time for congestion at each location in mile minutes. It is then weighted by **Total Delay** – Raw speed drop weighted by VMT factor.

Anne Arundel County

Rank	Location
1	US-50 E @ BAY BRIDGE
2	MD-295 S @ MD-198
3	US-50 W @ BAY BRIDGE
4	MD-295 N @ CANINE RD
5	MD-295 N @ MD-175
6	MD-295 S @ PRINCE GEORGE'S/ARUNDEL CO LINE
7	MD-3 N @ MD-175/ANNAPOLIS RD/MILLERSVILLE RD
8	MD-295 N @ I-195
9	MD-295 S @ CANINE RD
10	I-695 OL @ MD-170/CAMP MEADE RD/EXIT 6
11	I-695 OL @ MD-295/WASH-BALT PKY/EXIT 7
12	MD-2 N @ ROBINSON RD
13	I-97 S @ US-50/US-301
14	MD-3 N @ MD-424/DAVIDSONVILLE RD/CONWAY RD
15	MD-295 N @ MD-32
16	MD-295 N @ PRINCE GEORGE'S/ARUNDEL CO LINE
17	MD-3 S @ MD-175/ANNAPOLIS RD/MILLERSVILLE RD
18	US-50 E @ WILLIAM P LANE BRG TOLL PLAZA
19	I-97 S @ MD-178/EXIT 5
20	MD-295 S @ MD-175
21	MD-295 N @ MD-100
22	US-50 E @ BAY DALE DR/FERGUSON RD/EXIT 28
23	US-50 E @ MD-648/BALTIMORE ANNAPOLIS BLVD
24	MD-295 N @ MD-198
25	MD-2 S @ COLLEGE PKY

Baltimore City

Rank	Location
1	I-895 N @ HARBOR TUNNEL THWY (NORTH)
2	MARTIN L KING JR BLVD S @ BALTIMORE ST
3	I-895 S @ HARBOR TUNNEL THWY (SOUTH)
4	I-83 N @ COLD SPRING LN/EXIT 9
5	WINDSOR MILL RD W @ GWYNNNS FALLS PKWY
6	I-83 S @ MD-25/FALLS RD/EXIT 8
7	HOWARD ST S @ W CONWAY ST
8	I-95 N @ FORT MCHENRY TUNNEL
9	S MARTIN L KING JR BLVD N @ BALTIMORE ST
10	I-95 S @ FORT MCHENRY TUNNEL
11	HOWARD ST S @ W PRATT ST
12	MT ROYAL AVE W @ US-1/W NORTH AVE/MONTREAL ST
13	I-95 N @ KEITH AVE/EXIT 56
14	I-83 N @ NORTHERN PKY/EXIT 10
15	US-40 W @ MD-295/PACA ST
16	FOREST PARK AVE N @ WINDSOR MILL RD
17	MD-295 N @ BAYARD ST
18	I-895 N @ HOLABIRD AVE/EXIT 10
19	W NORTHERN PKY W @ I-83
20	I-95 N @ MD-295/BALT-WASH PKY/EXIT 52
21	E LOMBARD ST W @ CHARLES ST
22	US-40 W @ ATHOL AVE
23	BOSTON ST W @ S CHESTER ST/FLEET ST
24	US-40 E @ MD-2/ST PAUL PL
25	MARTIN L KING JR BLVD N @ MULBERRY ST

Top 25 Bottlenecks in Local Jurisdictions- 3rd Quarter 2021

Ranked by Base Impact - the aggregation of queue length over time for congestion at each location in mile minutes. It is then weighted by **Total Delay** – Raw speed drop weighted by VMT factor.

Baltimore County

Rank	Location
1	I-95 N @ MD-152/EXIT 74
2	I-695 IL @ MD-372/WILKENS AVE/EXIT 12
3	I-695 OL @ US-40/EXIT 15
4	I-95 S @ MD-43/WHITE MARSH BLVD/EXIT 67
5	I-695 OL @ I-70/EXIT 16
6	I-695 OL @ MD-26/EXIT 18
7	I-695 OL @ GREENSPRING AVE/EXIT 22
8	I-695 IL @ PROVIDENCE RD/EXIT 28
9	I-695 IL @ MD-122/SECURITY BLVD/EXIT 17
10	I-695 IL @ MD-542/LOCK RAVEN BLVD/EXIT 29
11	I-695 OL @ MD-122/SECURITY BLVD/EXIT 17
12	I-695 OL @ MD-567/CROMWELL BR RD/EXIT 29
13	I-83 S @ I-695
14	I-695 IL @ I-83/MD-25/EXIT 23
15	I-70 E @ I-695/EXIT 91
16	I-95 S @ I-195/MD-166/EXIT 47
17	I-695 OL @ PROVIDENCE RD/EXIT 28
18	I-695 IL @ MD-144/FREDERICK RD/EXIT 13
19	I-695 IL @ I-70/EXIT 16
20	I-695 IL @ MD-41/PERRING PKY/EXIT 30
21	I-695 IL @ MD-147/HARFORD RD/EXIT 31
22	I-695 OL @ MD-41/PERRING PKY/EXIT 30
23	I-695 IL @ GREENSPRING AVE/EXIT 22
24	I-70 W @ US-29/EXIT 87
25	I-95 N @ I-695/EXIT 49

Carroll County

Rank	Location
1	MD-30 N @ MD-27/MANCHESTER RD
2	MD-30 S @ MD-27/MANCHESTER RD
3	MD-144 E @ MD-27/RIDGE RD
4	MD-27 N @ MD-30/MAIN ST
5	MD-32 W @ MD-26/LIBERTY RD
6	MD-97 N @ MD-496/BACHMANS VALLEY RD
7	MD-26 E @ GEORGETOWN BLVD
8	MD-482 W @ MD-27/MANCHESTER RD
9	MD-26 E @ MD-32/SYKESVILLE RD
10	MD-91 N @ MD-140/BALTIMORE BLVD
11	MD-140 W @ MD-194/YORK ST/FREDERICK ST
12	MD-97 S @ MD-496/BACHMANS VALLEY RD
13	MD-27 N @ MD-482/HAMPSTEAD MEXICO RD
14	MD-97 N @ MAGNA WAY/AIRPORT DR
15	MD-26 W @ MD-32/SYKESVILLE RD
16	MD-31 W @ MD-32/W MAIN ST
17	MD-144 E @ I-70/US-40/BALTIMORE NATIONAL PIKE
18	MD-27 S @ MD-30/MAIN ST
19	MD-91 S @ MD-32/SYKESVILLE RD
20	MD-140 W @ MD-27/MANCHESTER RD
21	MD-97 S @ MD-32/SYKESVILLE RD
22	MD-407 N @ MD-31/NEW WINDSOR RD
23	MD-91 S @ MD-140/BALTIMORE BLVD
24	MD-32 E @ MD-26/LIBERTY RD
25	MD-26 E @ RIDGE RD/OKLAHOMA RD

Top 25 Bottlenecks in Local Jurisdictions- 3rd Quarter 2021

Ranked by Base Impact - the aggregation of queue length over time for congestion at each location in mile minutes. It is then weighted by **Total Delay** – Raw speed drop weighted by VMT factor.

Harford County

Rank	Location
1	I-95 N @ MD-24/EXIT 77
2	I-95 S @ MD-24/EXIT 77
3	I-95 N @ MD-543/EXIT 80
4	I-95 S @ MARYLAND HOUSE
5	I-95 N @ MD-155/EXIT 89
6	I-95 S @ MD-543/EXIT 80
7	I-95 N @ MD-22/MD-132/EXIT 85
8	I-95 S @ MD-152/EXIT 74
9	MD-152 N @ OLD JOPPA RD
10	MD-543 S @ US-1/HICKORY BYP
11	US-1-BR S @ MD-24/VIETNAM VETS MEMORIAL HWY
12	I-95 N @ MD-152/EXIT 74
13	I-95 N @ MILLARD E TYDINGS MEMORIAL BRG
14	MD-24 N @ I-95/JOHN F KENNEDY MEMORIAL HWY
15	MD-924 S @ MD-24/VIETNAM VETS MEMORIAL HWY
16	US-1 N @ MD-222/SUSQUEHANNA RIVER RD
17	MD-543 N @ US-1/HICKORY BYP
18	I-95 N @ MARYLAND HOUSE
19	MD-155 E @ US-40/OTSEGO ST
20	MD-152 S @ MD-7/PHILADELPHIA RD
21	MD-152 N @ SINGER RD
22	US-1 S @ MD-147/US-1-BR/BELAIR RD
23	US-1-BR N @ MD-24/VIETNAM VETS MEMORIAL HWY
24	MD-22 E @ MD-136/PRIESTFORD RD/CALVARY RD
25	US-1 S @ MD-152/MOUNTAIN RD

Howard County

Rank	Location
1	I-95 N @ MD-100/EXIT 43
2	I-95 S @ MD-216/EXIT 35
3	I-95 S @ MD-175/EXIT 41
4	I-95 N @ MD-32/EXIT 38
5	I-70 W @ US-29/EXIT 87
6	MD-32 W @ I-95
7	I-95 S @ MD-100/EXIT 43
8	I-95 N @ MD-216/EXIT 35
9	I-95 S @ I-895/EXIT 46
10	MD-144 W @ ELLICOTT MILLS DR
11	I-70 E @ US-29/EXIT 87
12	I-95 S @ MD-32/EXIT 38
13	MD-144 E @ WESTCHESTER AVE
14	US-40 W @ ST JOHNS LN
15	I-95 N @ PRINCE GEORGE'S/HOWARD CO LINE
16	I-95 N @ MD-175/EXIT 41
17	I-95 N @ I-895/EXIT 46
18	MD-100 E @ EXIT 7
19	I-70 W @ MARRIOTTSVILLE RD/EXIT 83
20	MD-32 E @ I-95
21	MD-32 W @ I-70/US-40
22	MD-32 W @ US-1
23	MD-100 W @ EXIT 7
24	US-40 E @ CENTENNIAL LN/BETHANY LN
25	MD-32 E @ TEN OAKS RD

Top 25 Bottlenecks in Local Jurisdictions- 3rd Quarter 2021

Ranked by Base Impact - the aggregation of queue length over time for congestion at each location in mile minutes. It is then weighted by **Total Delay** – Raw speed drop weighted by VMT factor.

Queen Anne's County

Rank	Head Location
1	US-50 W @ BAY BRIDGE
2	US-50 W @ MD-213/CENTREVILLE RD
3	US-50 E @ MD-213/CENTREVILLE RD
4	US-50 E @ BAY BRIDGE
5	US-50 E @ PINEY RD/PINEY CRK RD/EXIT 40A
6	US-50 W @ US-301/BLUE STAR MEML HWY
7	US-301 S @ US-50
8	US-50 W @ MD-456/DEL RHODES AVE
9	US-50 W @ MD-8/EXIT 37
10	US-50 W @ MD-404/QUEEN ANNE HWY
11	US-50 E @ US-301/BLUE STAR MEML HWY
12	US-50 E @ MD-522/DOMINION ROAD/EXIT 39B
13	MD-213 N @ MD-289/N CROSS ST
14	US-50 E @ MD-456/DEL RHODES AVE
15	US-50 E @ DUNDEE AVE/EXIT 40B
16	US-50 W @ NESBIT RD/EXIT 45B
17	US-50 E @ NESBIT RD/EXIT 45B
18	MD-313 S @ MD-544/MCGINNES RD
19	US-50 E @ MD-404/QUEEN ANNE HWY
20	US-50 E @ MD-18/MAIN ST/EXIT 41
21	MD-300 E @ MD-213/CHURCH HILL RD
22	US-50 E @ BEGIN FREEWAY
23	US-50 W @ MD-18/MAIN ST/EXIT 43A
24	US-50 E @ HESS RD/HISSEY RD/EXIT 45A
25	US-50 W @ BEGIN FREEWAY

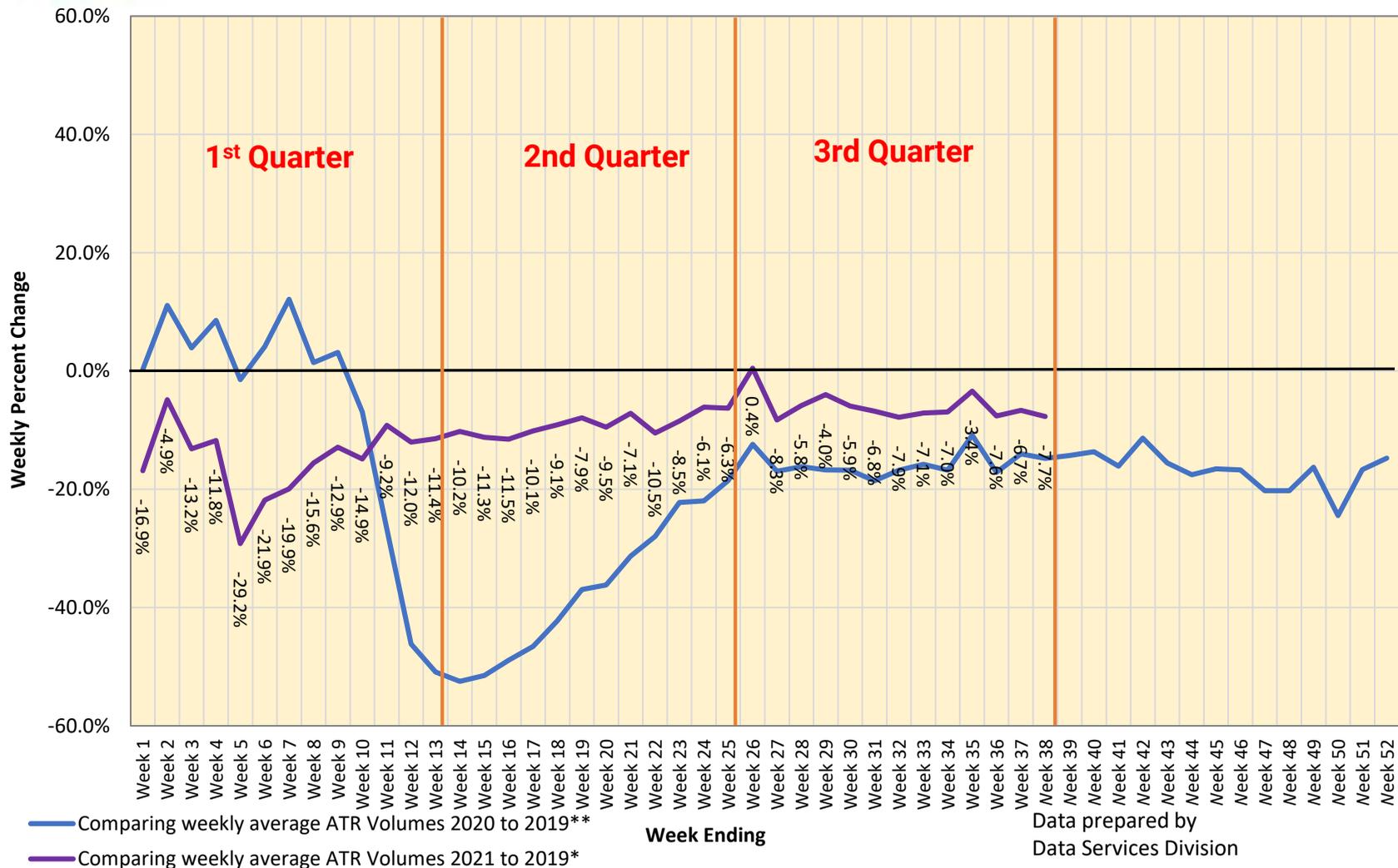
Traffic Volume Trend Graphs

From MDOT/SHA Automated Traffic Recorders
(ATR's)

Traffic Volumes



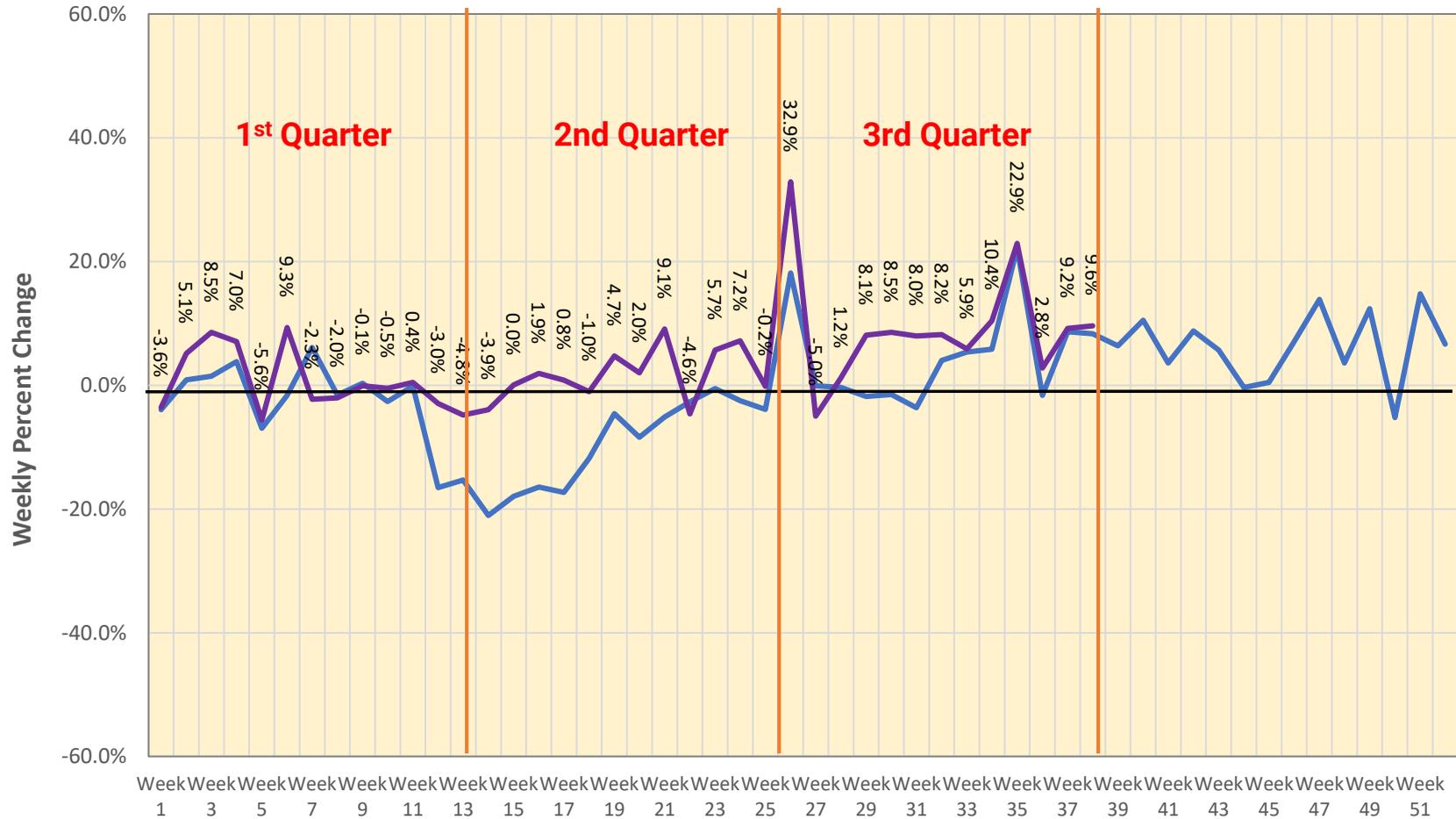
Weekly Changes at Permanent Counters (ATR) from 2021 to 2019 and 2020 to 2019



Truck Volumes



Weekly Changes in Truck Volumes at Permanent Counters (ATR)
from 2021 to 2019 and 2020 to 2019



— Comparing weekly average Truck ATR Volume 2020 to 2019**
— Comparing weekly average Truck ATR Volume 2021 to 2019*
 Trucks are FHWA Class 5-13

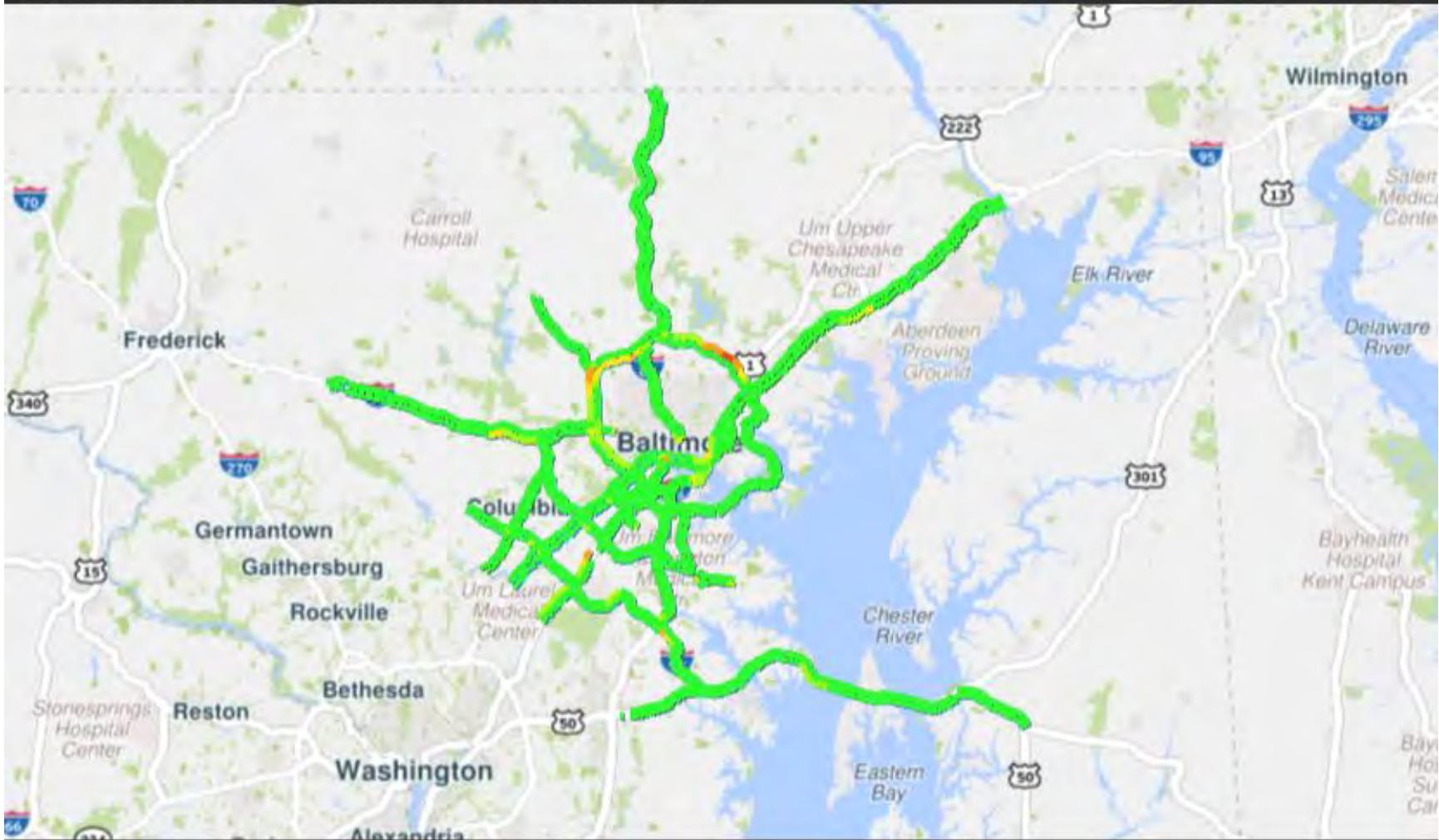
Week Ending

Data prepared by
 Data Services Division
 Office of Planning and Preliminary Engineering

Regional Speed Maps

AM Peak Period Rush Hour: July 1 – September 30th

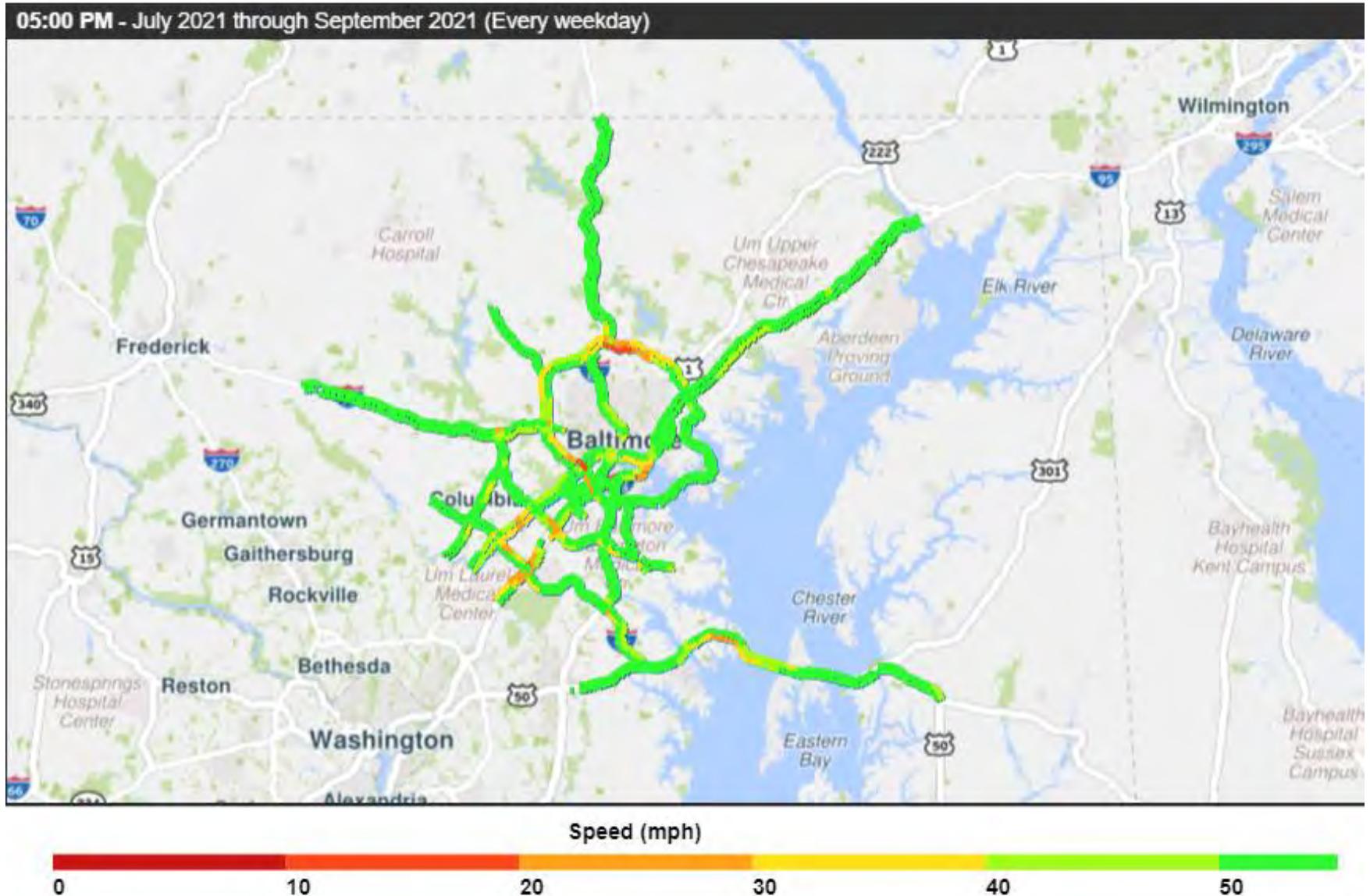
08:00 AM - July 2021 through September 2021 (Every weekday)



Speed (mph)



PM Peak Period Rush Hour: July 1 – September 30th



System Reliability Performance Measures

Percent of reliable person-miles traveled on the Interstate

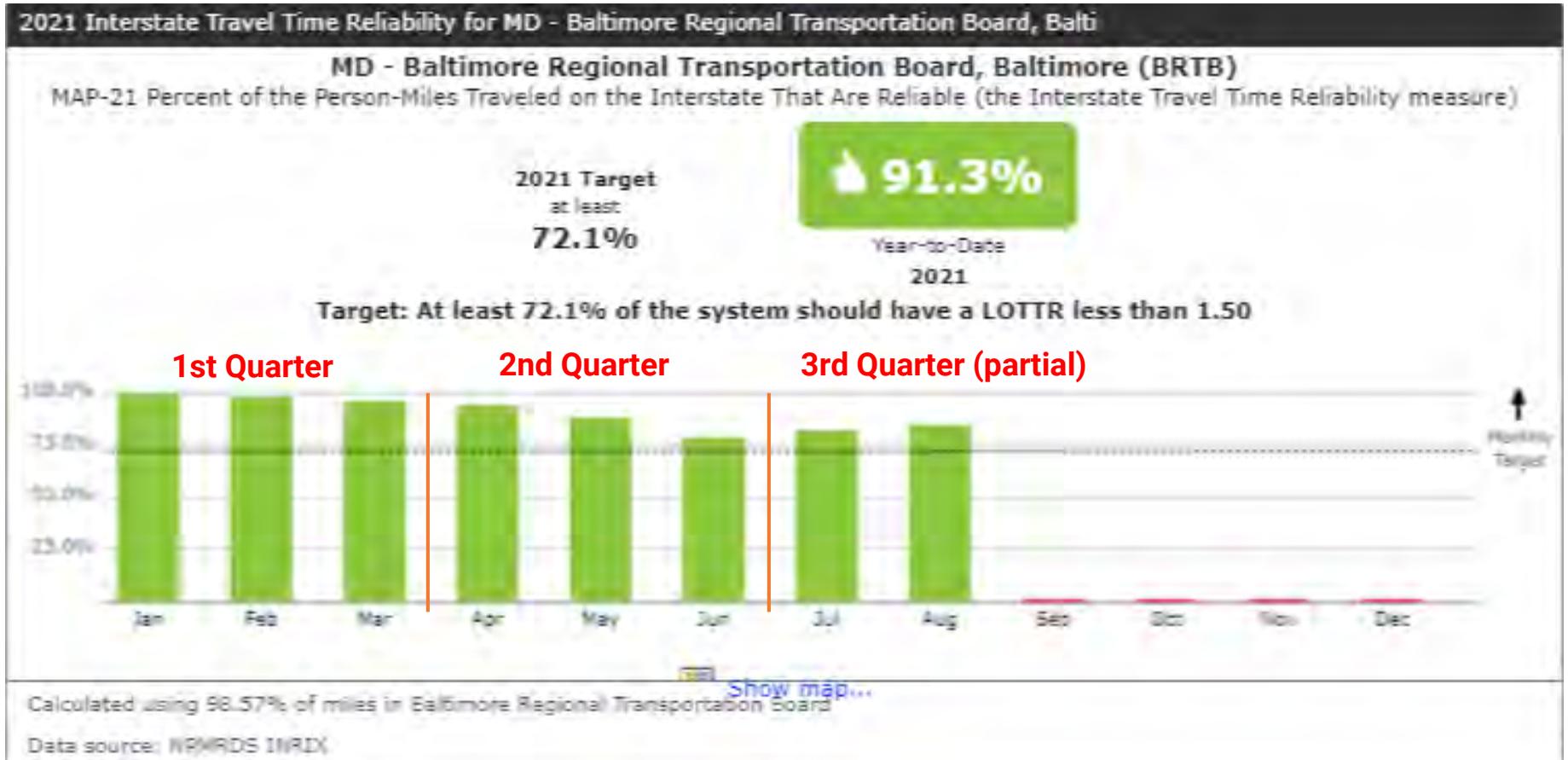
Percent of reliable person-miles traveled on the Non-Interstate NHS

Percentage of Interstate system mileage providing for reliable truck travel time (Truck Travel Time Reliability Index)

* Each state must establish statewide targets and report finding to the Federal Highway Administration. Metropolitan Planning Organizations (MPOs) must either support the established state targets or develop regional targets of their own.

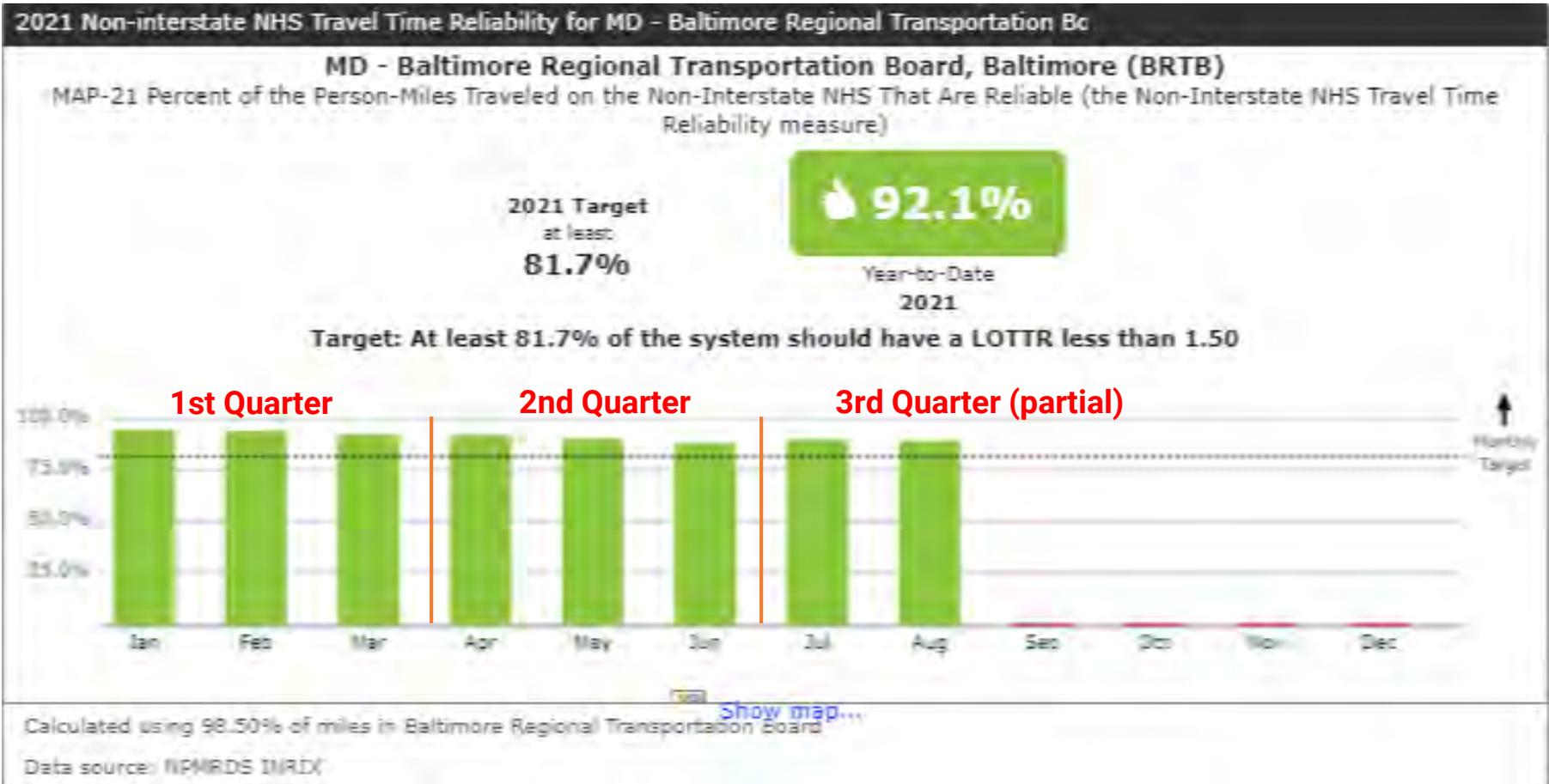
Level of Travel Time Reliability: Interstates

Travel time reliability is the consistency or dependability in travel times, as measured from day-to-day and/or across different times of the day.



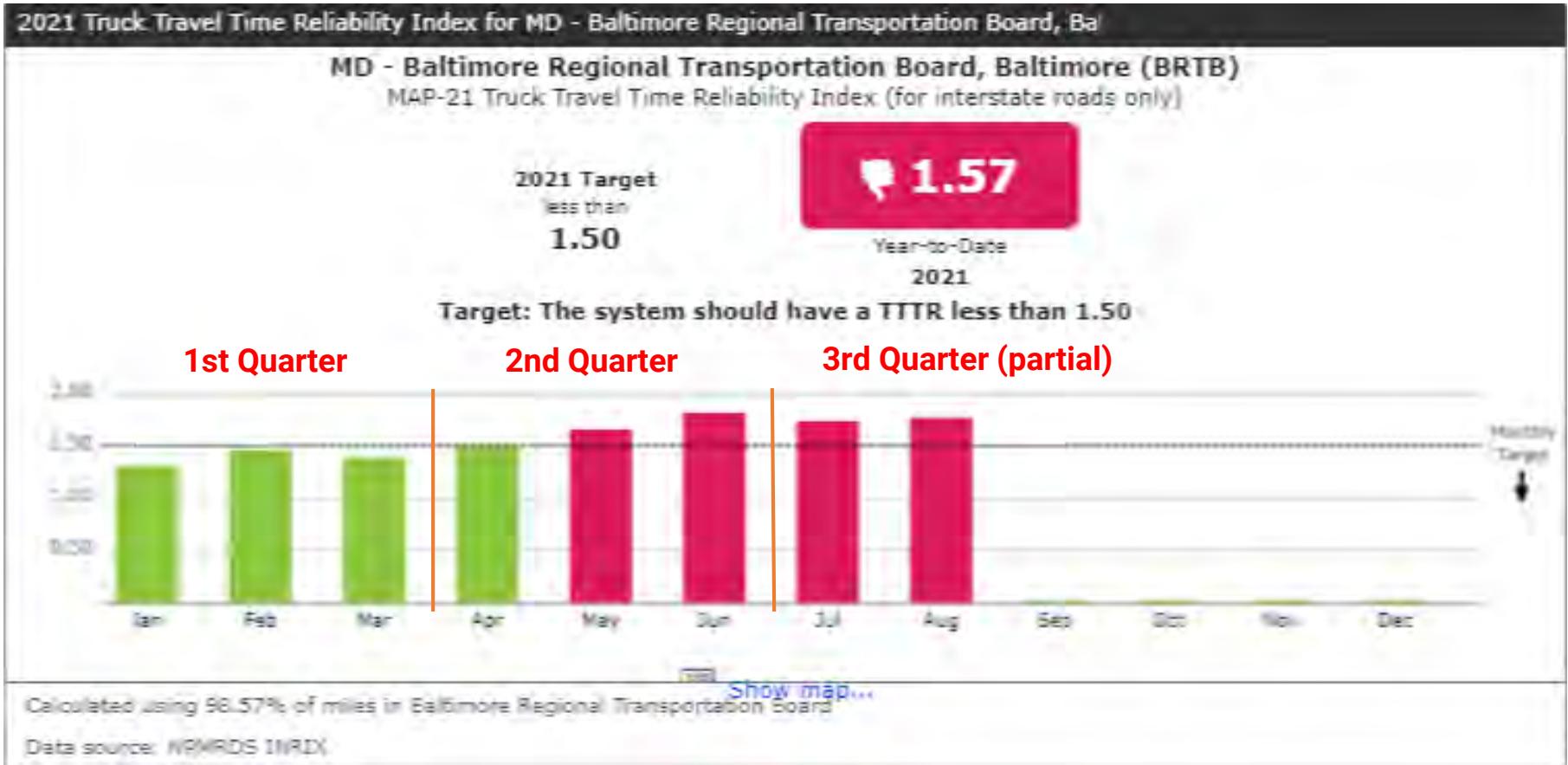
Level of Travel Time Reliability: non-Interstates

Travel time reliability is the consistency or dependability in travel times, as measured from day-to-day and/or across different times of the day.



Level of Truck Travel Time Reliability

Travel time reliability is the consistency or dependability in travel times, as measured from day-to-day and/or across different times of the day.



Ranked Bottleneck Monthly Comparison

2020 - 2021											Current Month	Location
Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	
-	-	-	-	-	-	-	-	10	-	3	1	I-95 N @ MD-543/EXIT 80
-	-	-	-	-	-	-	13	17	13	-	2	I-695 CCW @ I-70/EXIT 16
-	-	8	-	-	24	12	4	5	5	4	3	I-95 S @ MD-24/EXIT 77
-	-	-	-	-	-	-	-	24	20	20	4	I-695 CCW @ MD-26/EXIT 18
8	18	25	-	6	4	3	3	3	4	8	5	I-95 N @ MD-100/EXIT 43
12	5	-	11	-	9	24	12	-	-	-	6	I-695 CCW @ MD-122/SECURITY BLVD/EXIT 17
11	-	-	-	-	-	16	10	6	1	6	7	US-50 W @ WILLIAM PRESTON LANE BRG
6	17	10	4	-	6	5	5	11	16	25	8	MD-295 N @ CANINE RD
-	14	-	-	-	-	-	-	-	-	24	9	I-695 CW @ MD-542/LOCK RAVEN BLVD/EXIT 29
14	-	-	-	-	15	13	-	18	7	7	10	I-95 N @ MD-152/EXIT 74
21	22	-	-	-	-	-	7	8	10	11	11	I-95 S @ MD-216/EXIT 35
-	-	-	-	-	7	15	14	19	24	19	12	I-695 CW @ MD-122/SECURITY BLVD/EXIT 17
-	-	-	-	20	12	-	22	15	6	-	13	I-695 CCW @ US-40/EXIT 15
-	15	-	-	-	-	9	23	-	-	-	14	I-695 CW @ I-83/MD-25/EXIT 23
-	-	-	-	-	11	-	-	-	-	9	15	I-695 CCW @ GREENSPRING AVE/EXIT 22
-	-	-	-	-	-	20	20	-	22	-	16	I-695 CCW @ MD-567/CROMWELL BR RD/EXIT 29
18	12	-	-	-	-	10	2	4	2	1	17	I-95 N @ MD-24/EXIT 77
25	20	-	14	-	19	7	-	-	8	13	18	I-95 S @ MD-43/WHITE MARSH BLVD/EXIT 67
5	1	-	-	1	3	8	-	12	19	14	19	I-695 CW @ PROVIDENCE RD/EXIT 28
16	25	-	-	-	21	-	17	-	-	-	20	MD-295 S @ CANINE RD
-	-	-	-	-	-	17	-	-	17	-	21	MD-295 S @ PRINCE GEORGE'S/ARUNDEL CO LINE
15	-	-	-	10	-	-	16	-	-	-	22	I-95 N @ MD-216/EXIT 35
-	-	4	-	-	-	-	-	-	-	-	23	I-83 S @ I-695
-	-	11	-	-	-	-	15	16	12	18	24	I-95 S @ MD-175/EXIT 41
-	-	-	-	-	-	-	-	-	-	-	25	MD-100 W @ EXIT 7

Ranking 1 2 3

Using INRIX data

Updated Sep 30, 2021 10:00 PM

Conclusions/Observations:

I-95 held 4 of the Top 10 spots in October with 3 of those attributed to the express toll lanes construction in Harford County which has been resulting in off-peak lane and shoulder closures in addition to the usual high traffic volumes.

Traffic volumes at the SHA ATR counters were up 10% from the 3rd Quarter of 2020. Volumes in the 3rd Quarter were only down 6.5% from the baseline pre-pandemic year of 2019.

CW = Inner Loop (IL)
 CCW = Outer Loop (OL)

Credits



For More Information



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