



Quarterly Congestion Analysis Report Top 10 Bottlenecks

2nd Quarter 2021

September 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?

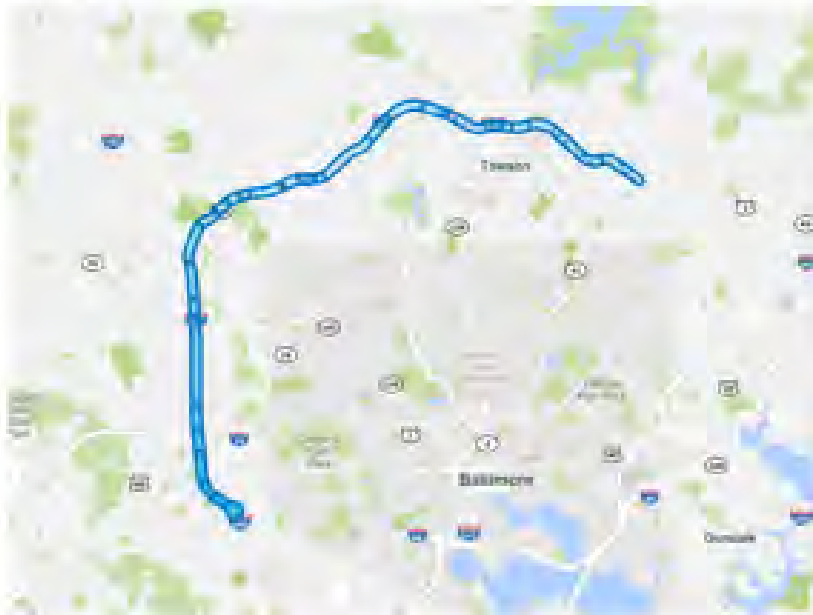
- **Rank** - The ranked position of the location according to the current table ordering by Base Impact – the aggregation of queue length over time for congestion at each location in mile minutes. It is then weighted by Total Delay – Raw speed drop weighted by VMT factor.
- **Average max length** - The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

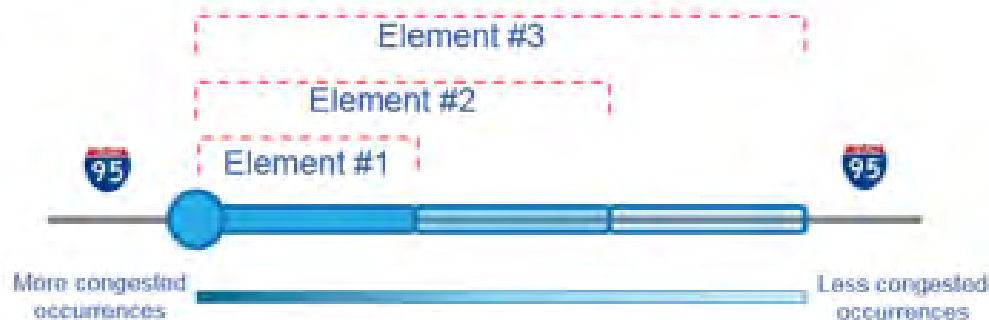
IL = Inner Loop

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 – 2nd Quarter 2021

Top 10 Bottlenecks – 2nd 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.

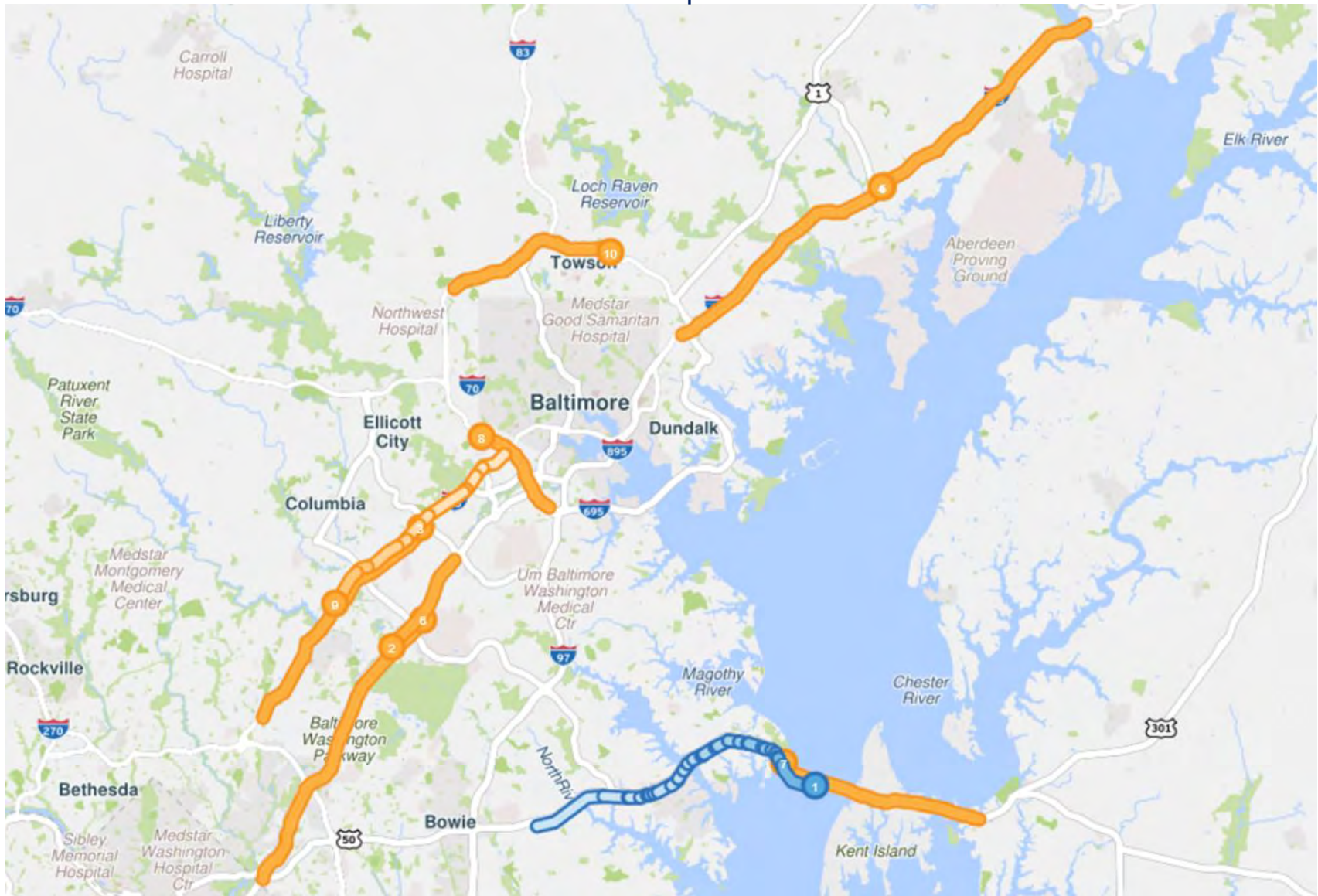
Rank	Location	Previous Quarter Ranking	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
1	US-50 E @ BAY BRIDGE	3	5.42	1 h 36 m	842	39,475
2	MD-295 S @ MD-198		3.02	4 h 14 m	93	48,044
3	I-95 N @ MD-100/EXIT 43	5	3.89	2 h 1 m	422	102,448
4	I-95 N @ MD-24/EXIT 77		4.53	1 h 46 m	422	71,435
5	I-95 S @ MD-24/EXIT 77		5.52	1 h 43 m	206	53,964
6	MD-295 N @ CANINE RD	4	3.03	1 h 43 m	231	49,834
7	US-50 W @ BAY BRIDGE		5.51	1 h 22 m	610	33,676
8	I-695 IL @ MD-372/WILKENS AVE/EXIT 12	6	1.92	1 h 26 m	191	97,812
9	I-95 S @ MD-216/EXIT 35		4.35	45 m	343	101,620
10	I-695 IL @ PROVIDENCE RD/EXIT 28	2	4.11	49 m	314	87,902

IL = Inner Loop

OL = Outer Loop

Top 10 Bottlenecks – 2nd Quarter 2021

Site Map



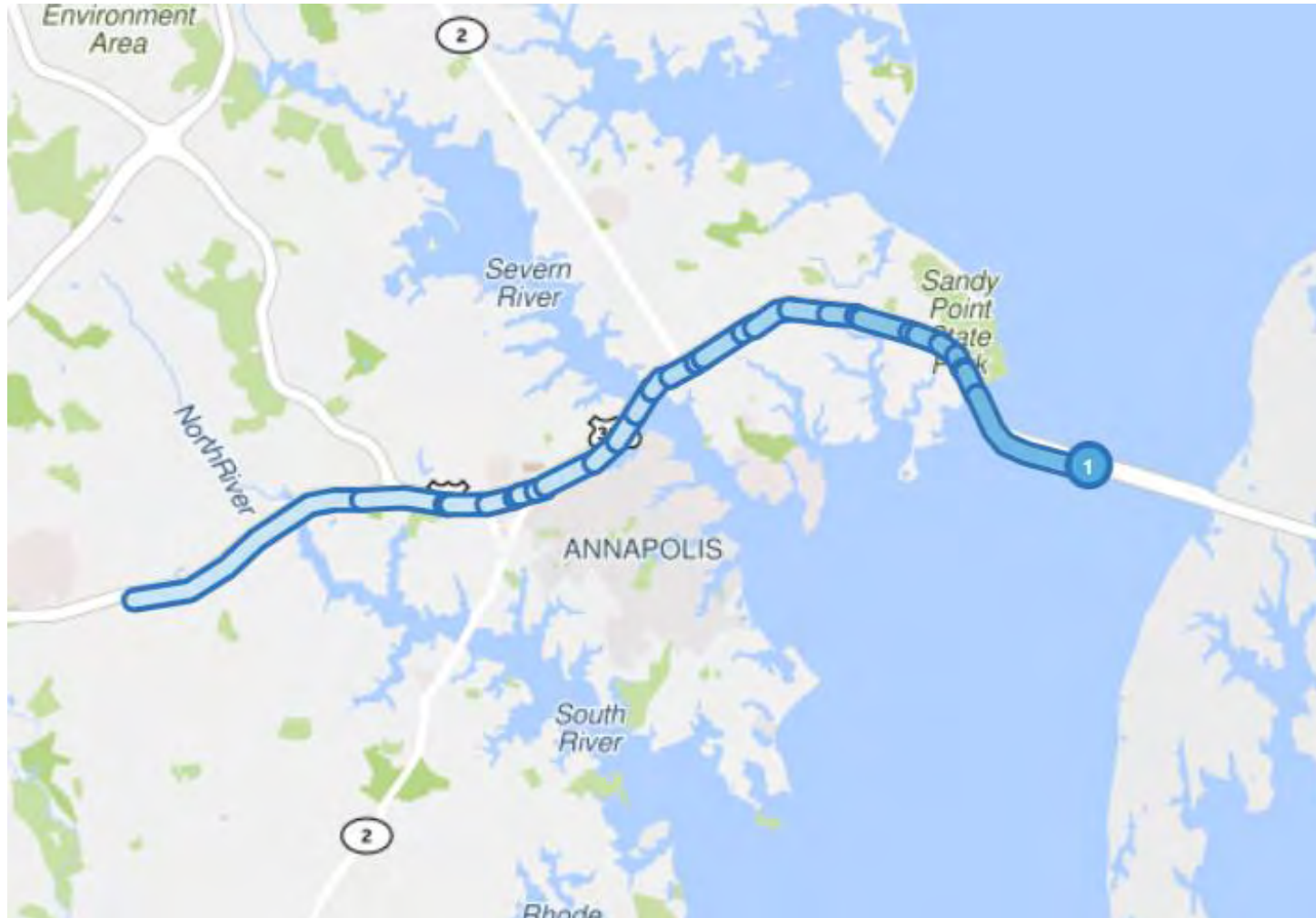
Top 10 Bottleneck Rankings in the Baltimore Region – 2nd Quarter 2021 by Location

Includes:

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

#1 Ranked Bottleneck – 2nd Quarter 2021 Location Map

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
US-50 E @ BAY BRIDGE	5.42	1 h 36 m	842	39,475

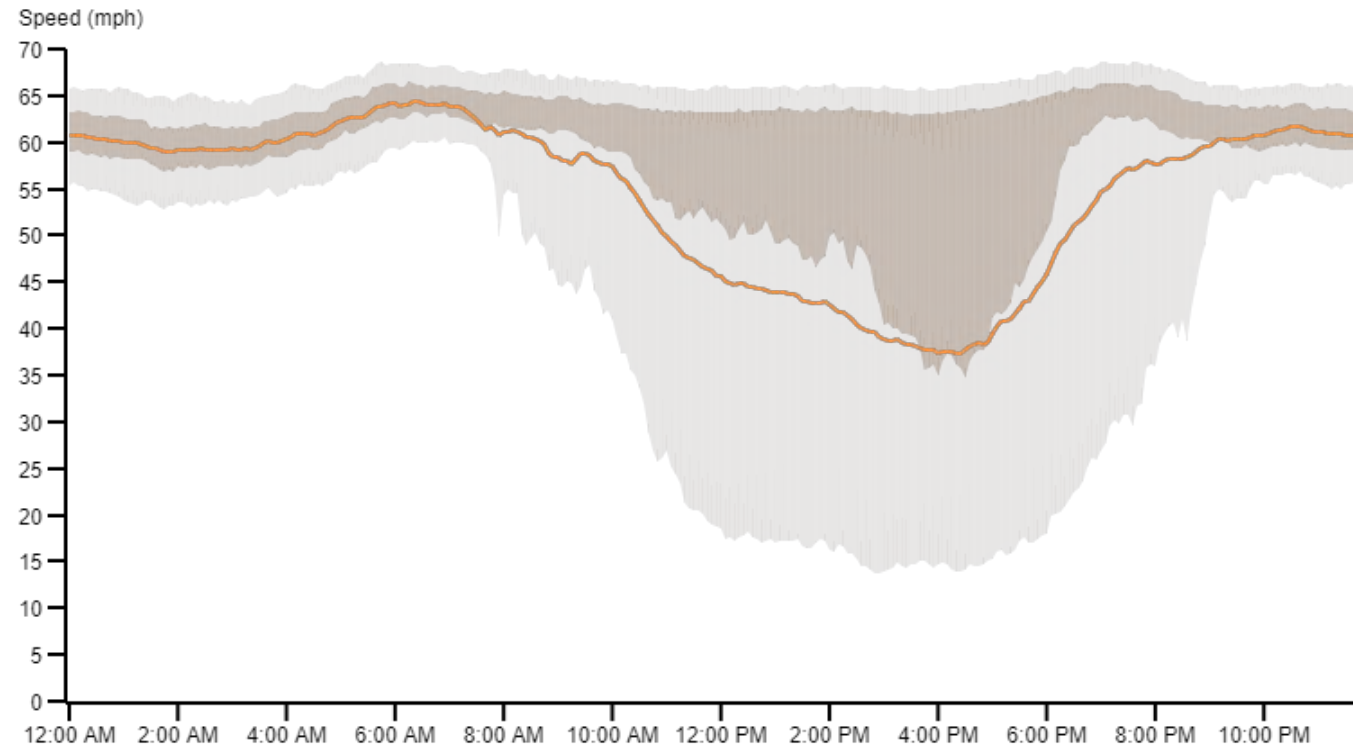


Notes: Heavy weekend traffic heading to the Maryland beach resorts. Miscellaneous Rehabilitation of the Bay Bridge Suspension Spans and Bay Bridge automated lane closure system in operation. Two-way traffic on the eastbound span when the westbound span is closed for deck rehabilitation.

#1 Ranked Bottleneck –2nd Quarter 2021 – Average Speeds Graph

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
US-50 E @ BAY BRIDGE	5.42	1 h 36 m	842	39,475

Speed for US-50 E @ Bay Bridge
Averaged per five minutes for Apr 01, 2021 through Jun 30, 2021
Eastbound



- Apr 01, 2021 through Jun 30, 2021 - INRIX
- Apr 01, 2021 through Jun 30, 2021 25th and 75th percentile - INRIX
- Apr 01, 2021 through Jun 30, 2021 5th and 95th percentile - INRIX

#1 Ranked Bottleneck –2nd Quarter 2021 – Travel Times

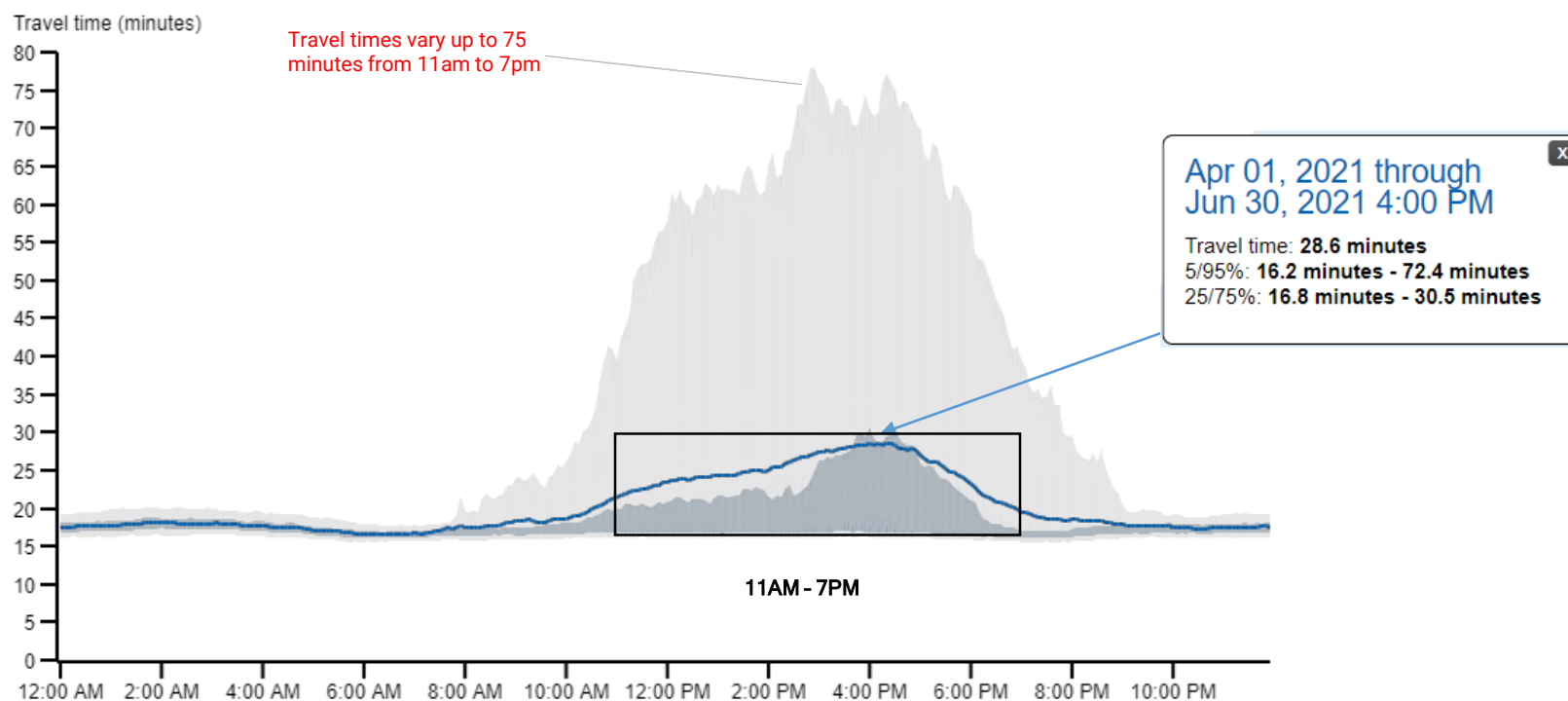
Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
US-50 E @ BAY BRIDGE	5.42	1 h 36 m	842	39,475

Eastbound

Travel time for US-50 E @ Bay Bridge

Averaged per five minutes for Apr 01, 2021 through Jun 30, 2021

Eastbound

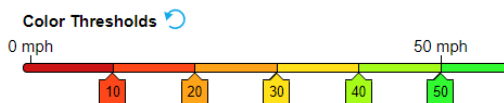
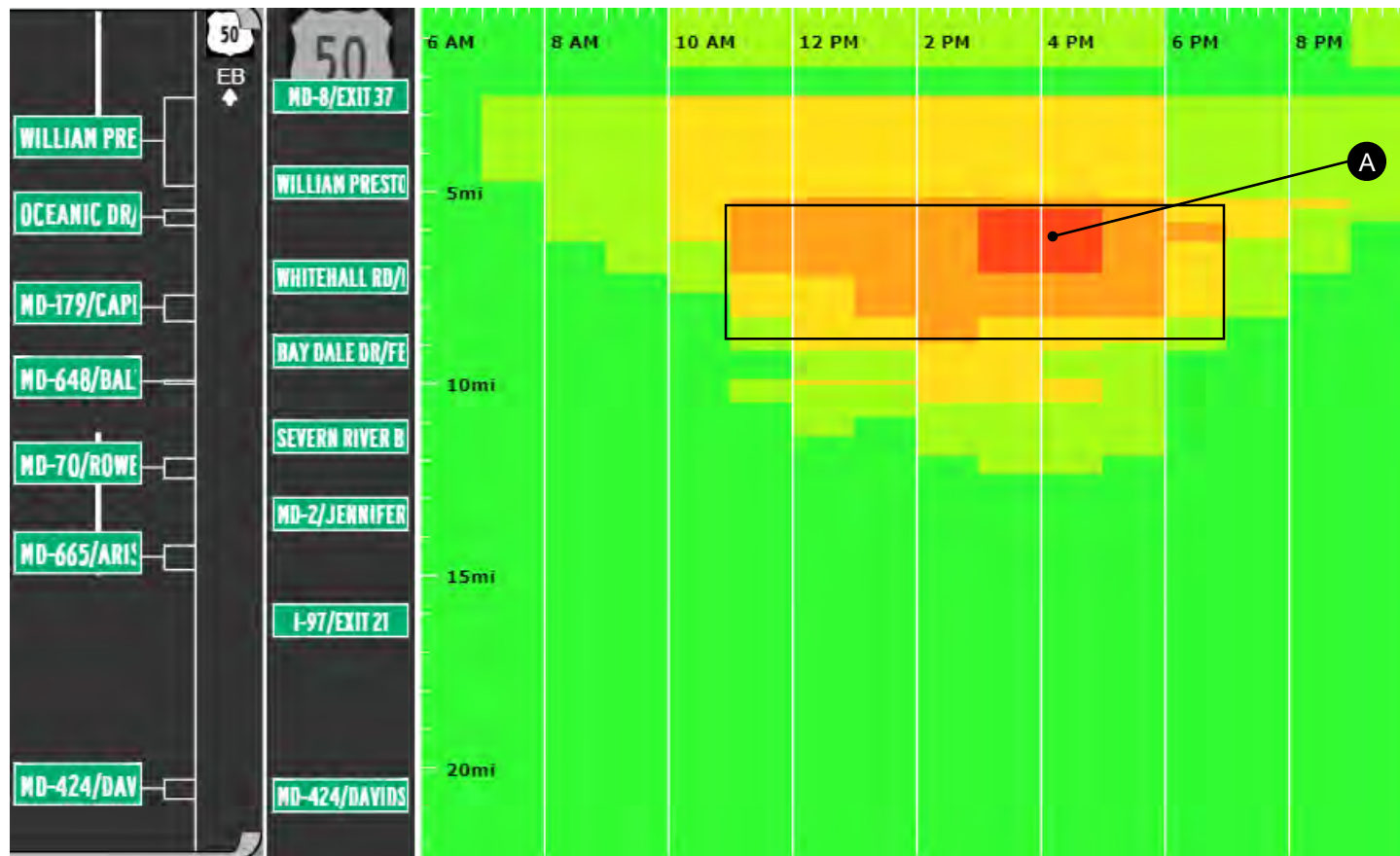


- Apr 01, 2021 through Jun 30, 2021 - INRIX
- Apr 01, 2021 through Jun 30, 2021 25th and 75th percentile - INRIX
- Apr 01, 2021 through Jun 30, 2021 5th and 95th percentile - INRIX

#1 Ranked Bottleneck –2nd Quarter 2021 – Congestion Scan

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
US-50 E @ BAY BRIDGE	5.42	1 h 36 m	842	39,475

Eastbound

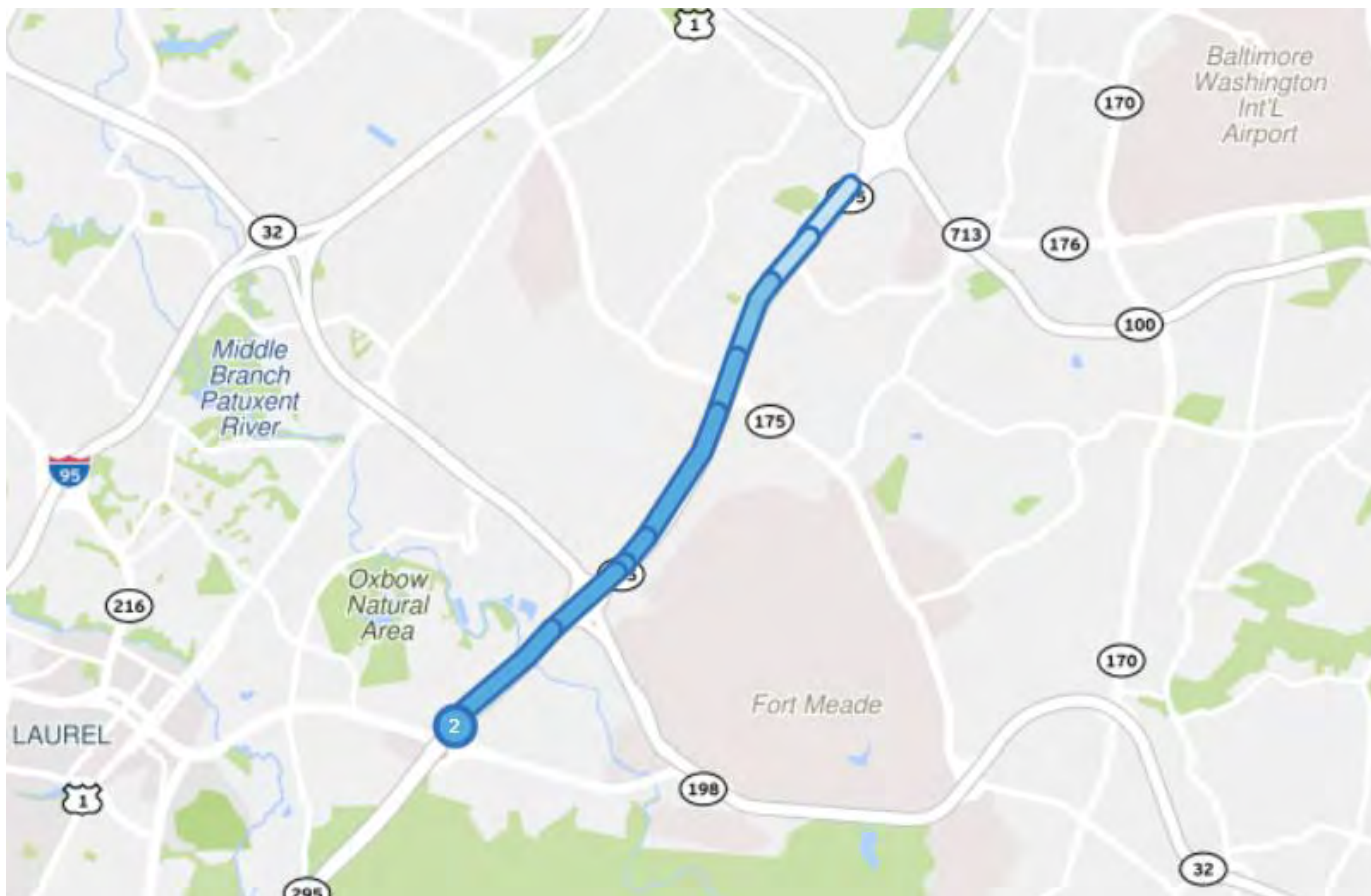


Locations of Congestion (EB)

A: 11AM – 7PM : Bay Dale Dr to Bay Bridge Toll Plaza

#2 Ranked Bottleneck – 2nd Quarter 2021 – Location Map

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
MD-295 S @ MD-198	3.02	4 h 14 m	93	48,044

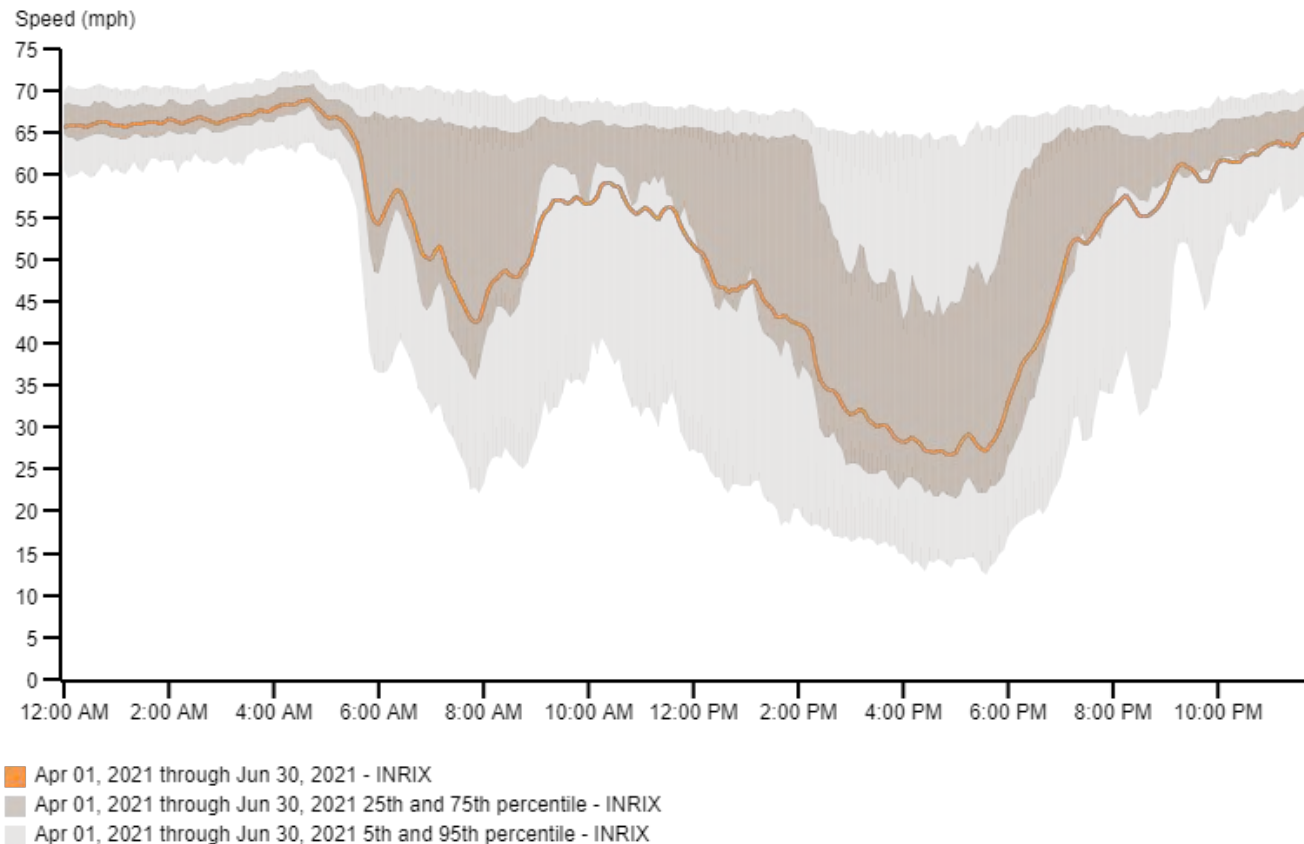


Notes: Southbound PM congestion from MD-198 extending into the southern portion of the Baltimore region near Fort Meade occurring during both the morning and afternoon peak periods. Volume related delays caused by factors such as Baltimore commuters to DC and Fort Meade and the MD-295 merge with the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

#2 Ranked Bottleneck – 2nd Quarter 2021 – Average Speeds Graph

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
MD-295 S @ MD-198	3.02	4 h 14 m	93	48,044

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



#2 Ranked Bottleneck –2nd Quarter 2021 – Travel Times

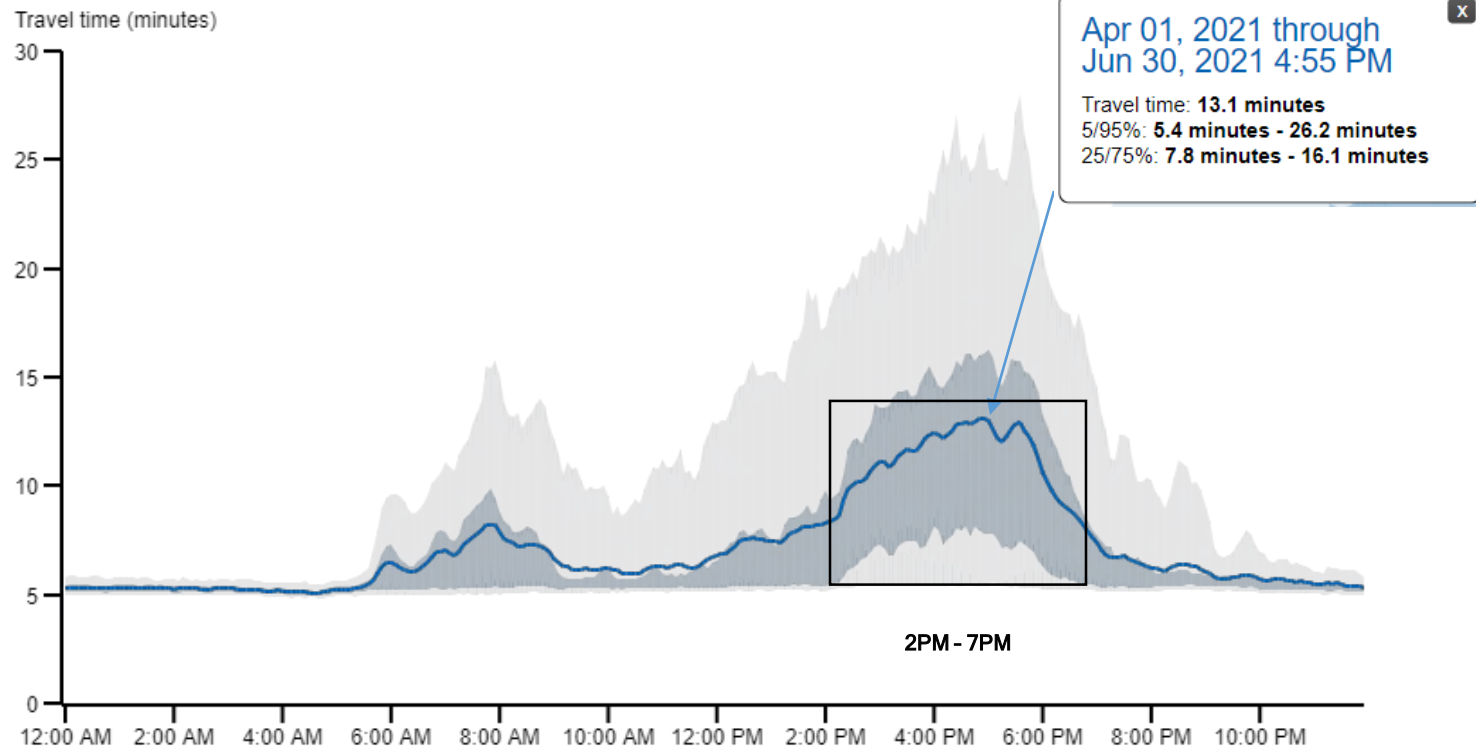
Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
MD-295 S @ MD-198	3.02	4 h 14 m	93	48,044

Southbound

Travel time for MD-295 S @ MD-198

Averaged per five minutes for Apr 01, 2021 through Jun 30, 2021

Southbound

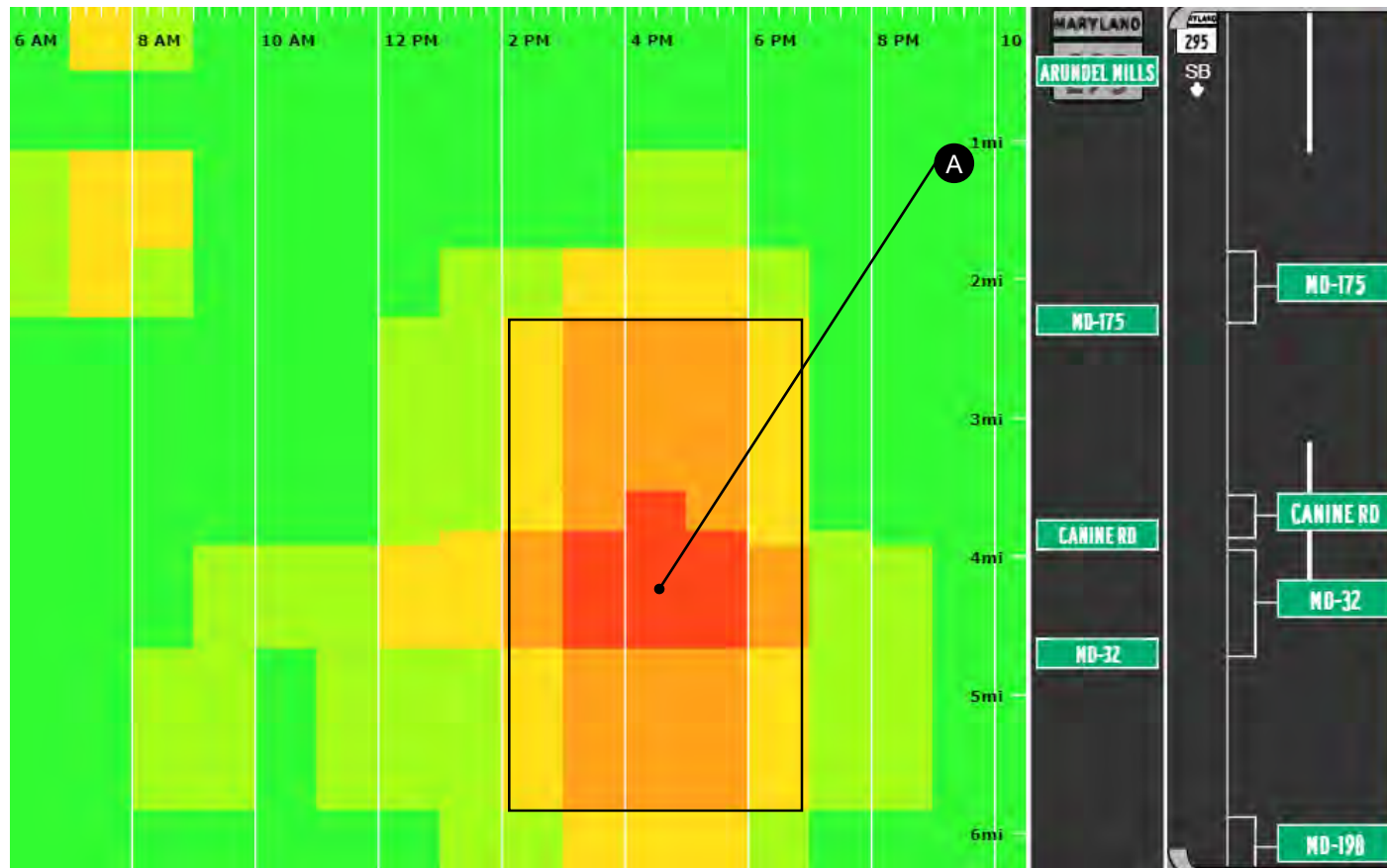


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#2 Ranked Bottleneck –2nd Quarter 2021 – Congestion Scan

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
MD-295 S @ MD-198	3.02	4 h 14 m	93	48,044

Southbound

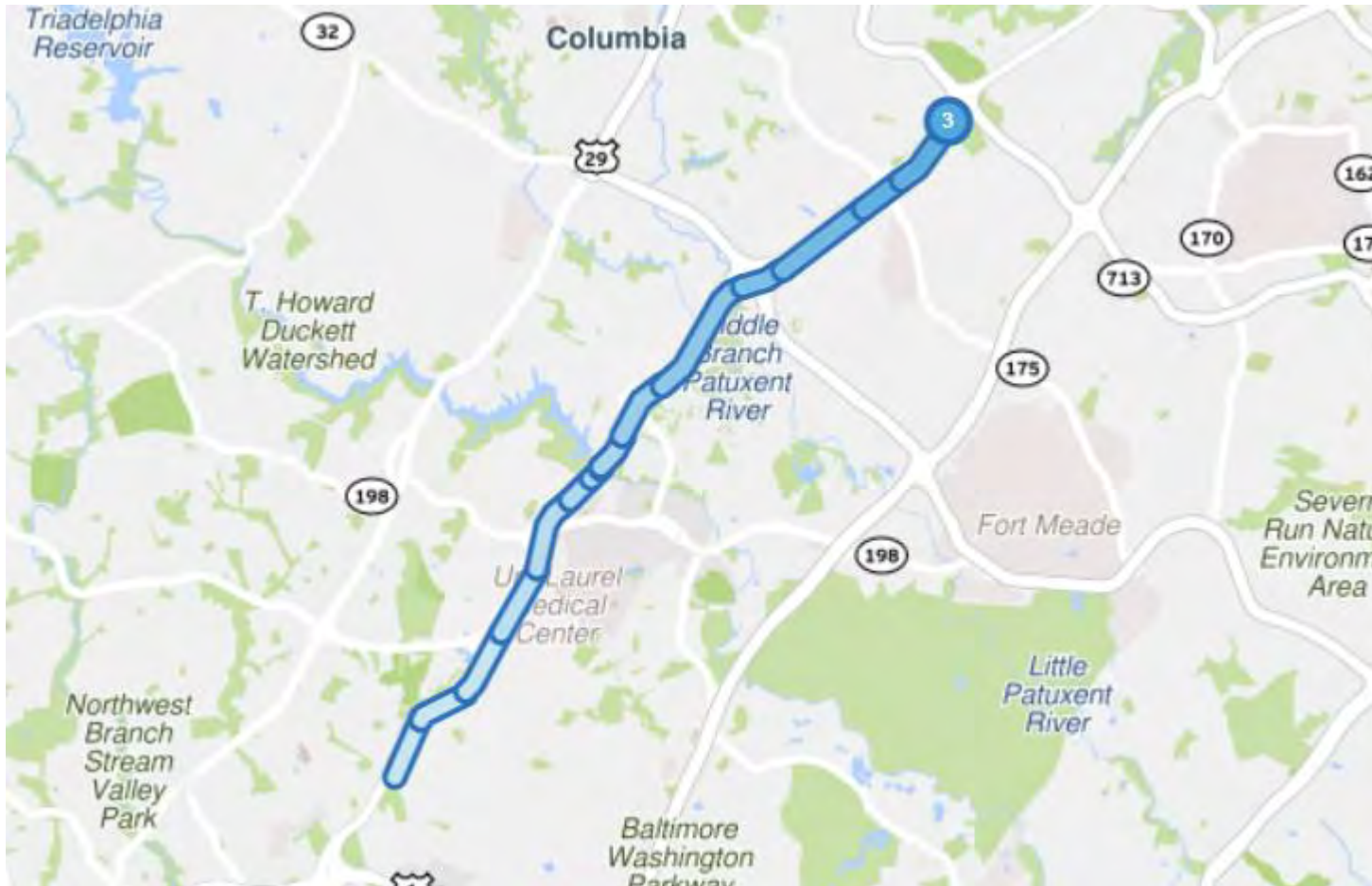


Locations of Congestion (SB)

A: 2PM - 7PM : Arundel Mills Blvd to MD-198

#3 Ranked Bottleneck – 2nd 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	3.89	2 h 1 m	422	102,448



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.

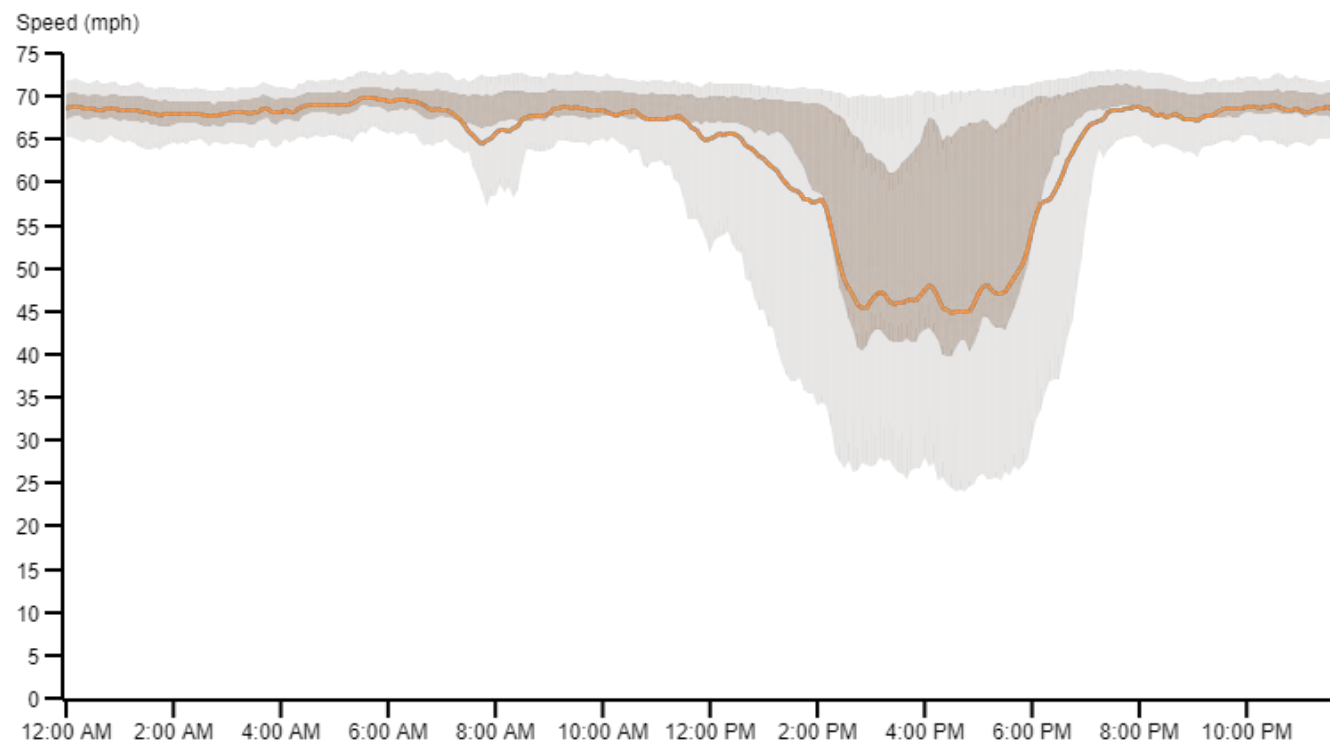
#3 Ranked Bottleneck – 2nd Quarter 2021 – Average Speeds Graph

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
I-95 N @ MD-100/EXIT 43	3.89	2 h 1 m	422	102,448

Speed for I-95 N @ MD-100/EXIT 43

Averaged per five minutes for Apr 01, 2021 through Jun 30, 2021

Northbound



- Apr 01, 2021 through Jun 30, 2021 - INRIX
- Apr 01, 2021 through Jun 30, 2021 25th and 75th percentile - INRIX
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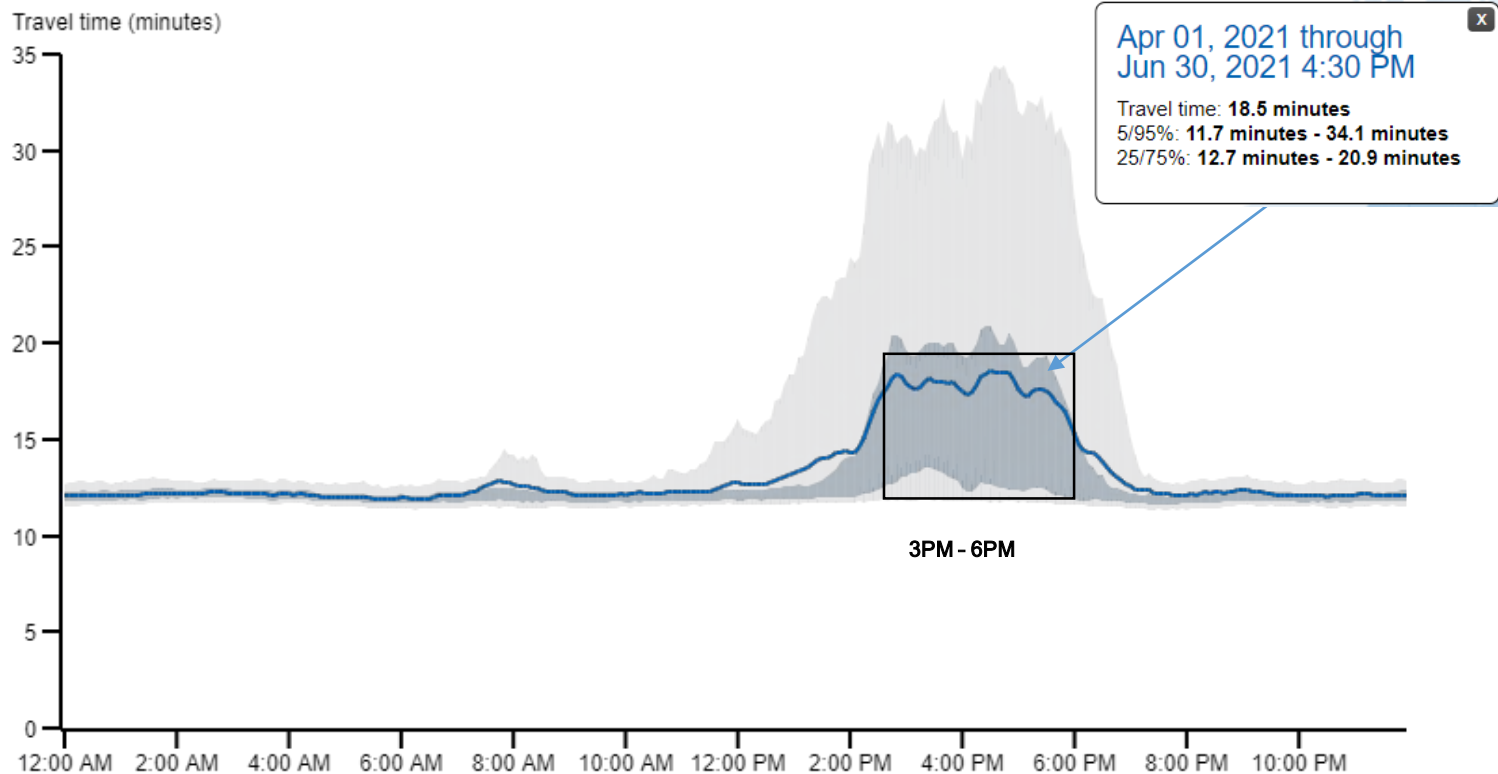
#3 Ranked Bottleneck –2nd Quarter 2021 – Travel Times

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
I-95 N @ MD-100/EXIT 43	3.89	2 h 1 m	422	102,448

Northbound

Travel time for I-95 N @ MD-100/EXIT 43
Averaged per five minutes for Apr 01, 2021 through Jun 30, 2021

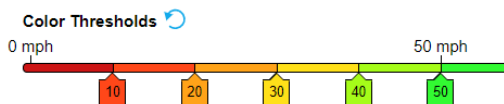
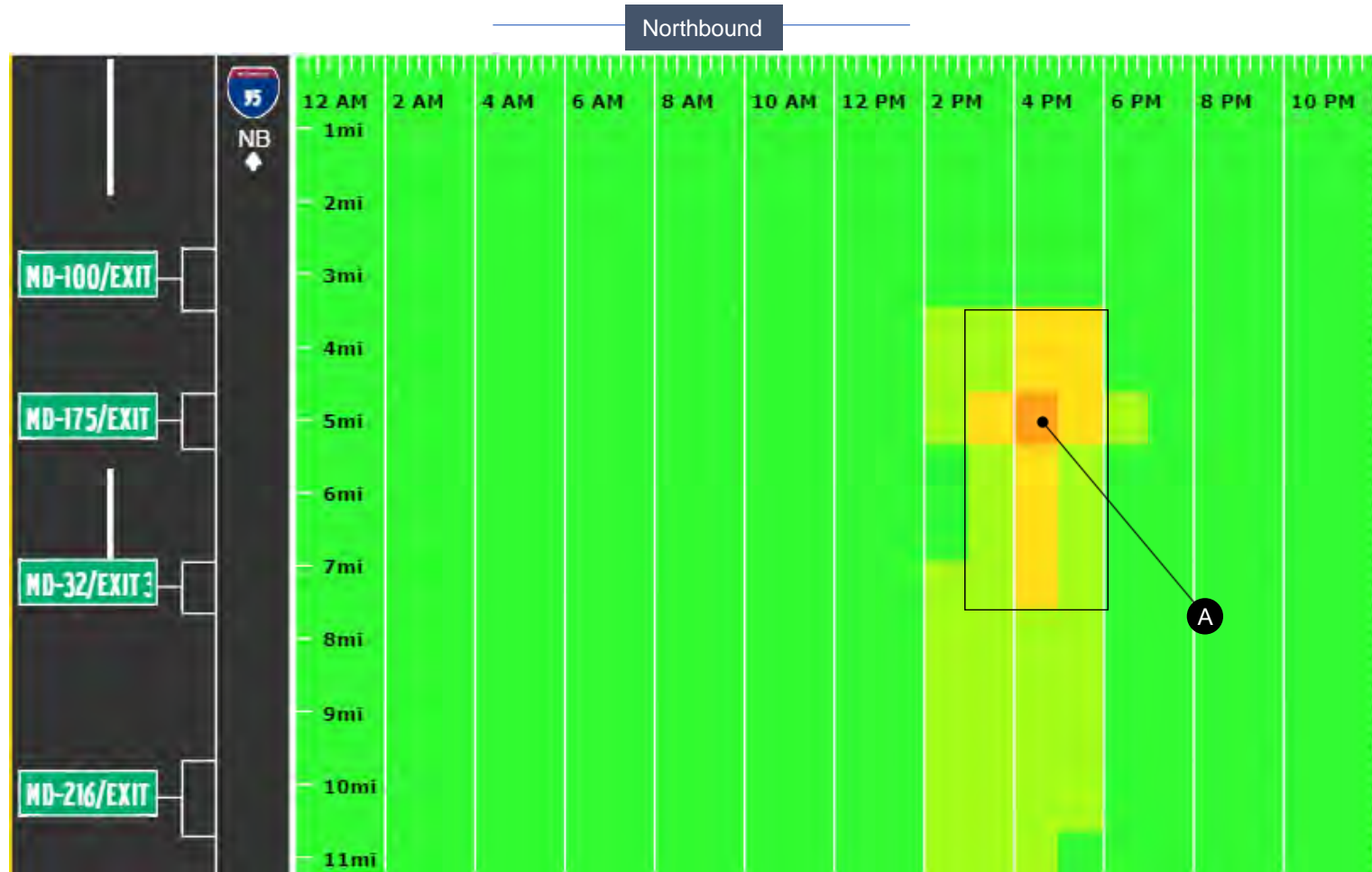
Northbound



- Apr 01, 2021 through Jun 30, 2021 - INRIX
- Apr 01, 2021 through Jun 30, 2021 25th and 75th percentile - INRIX
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#3 Ranked Bottleneck –2nd 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	3.89	2 h 1 m	422	102,448

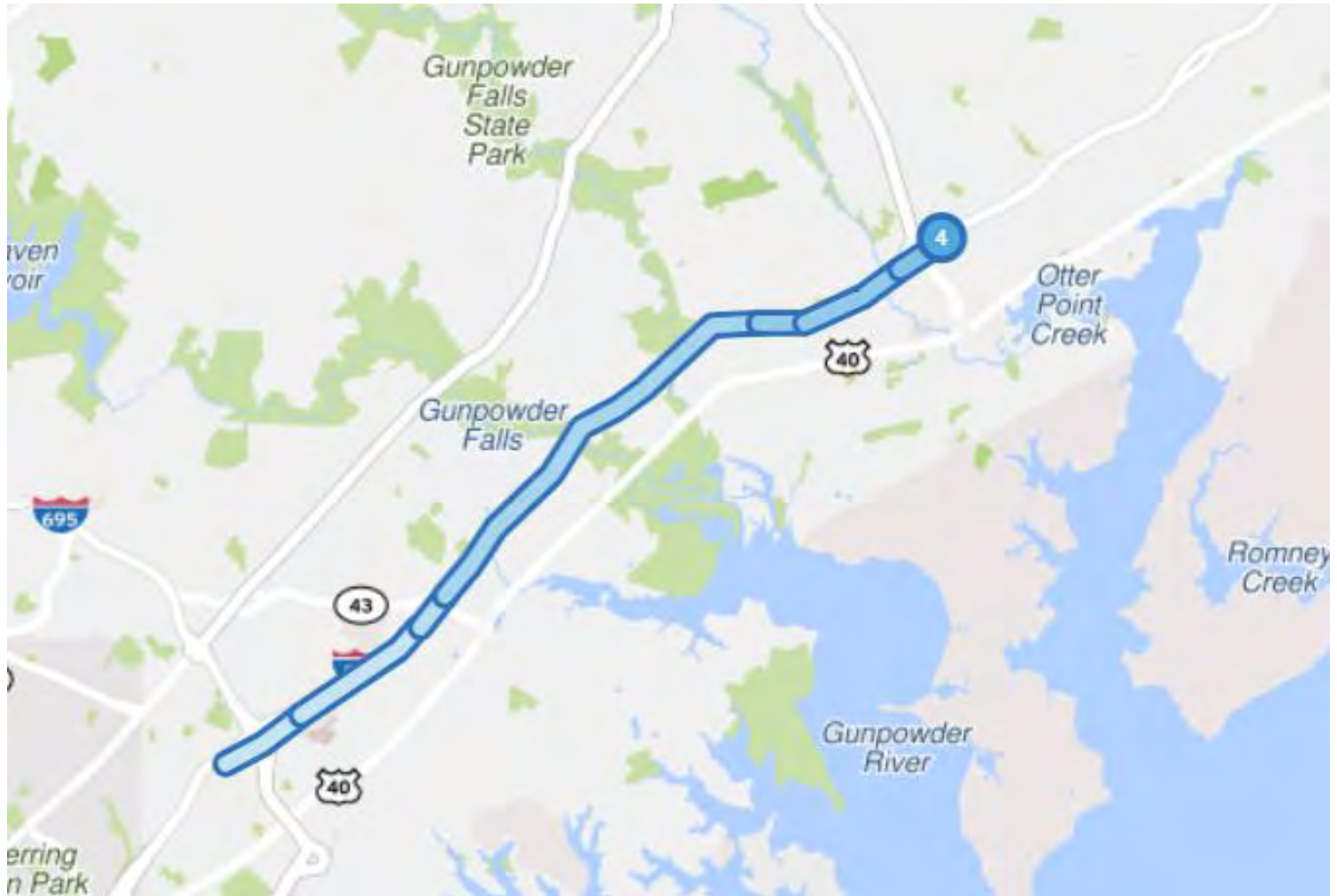


Locations of Congestion (NB)

A: 3PM - 6PM : MD-32 to MD-100

#4 Ranked Bottleneck – 2nd 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	4.53	1 h 46 m	422	71,435

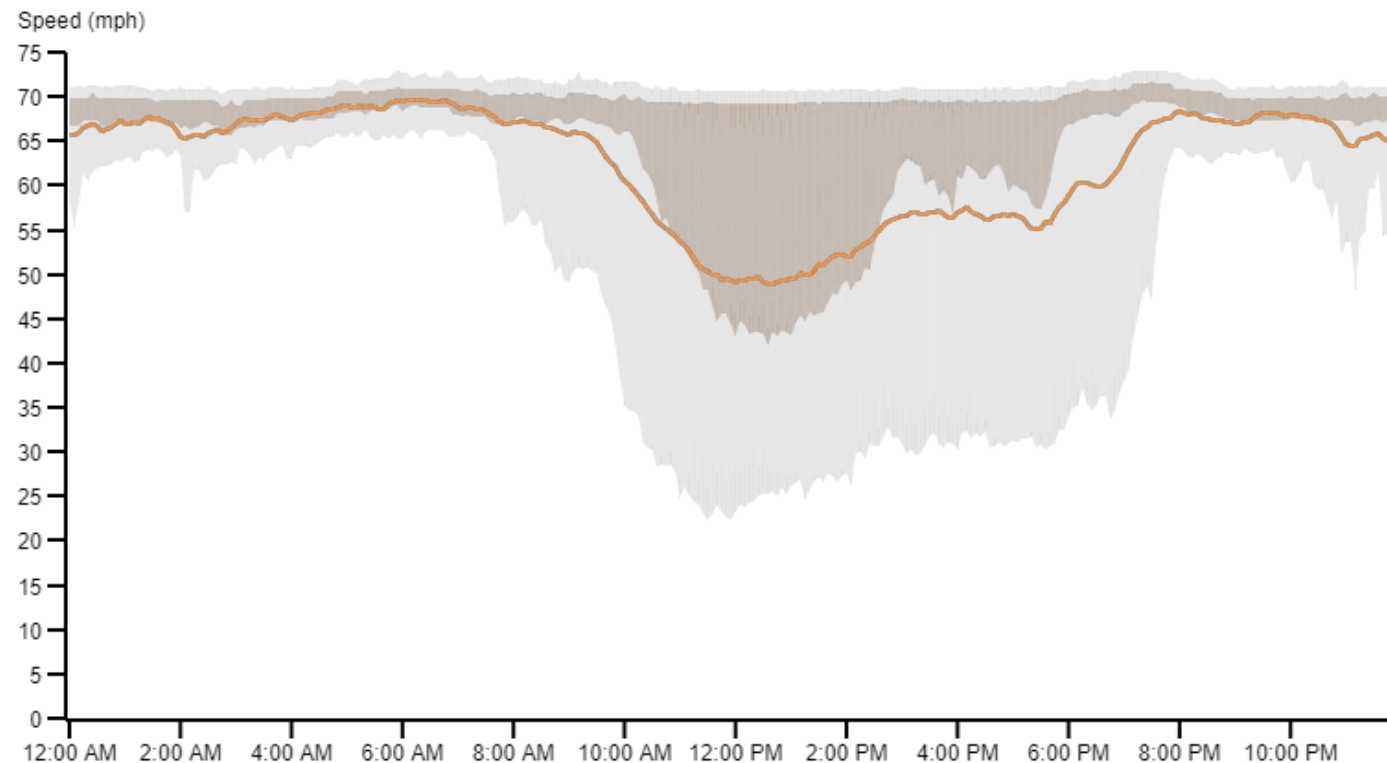


Notes: I-95 Express Toll Lanes Northbound Extension From MD 43 to MD 152 is responsible for off-peak shoulder and lane closures. The extension is expected to be open to traffic by the end of 2023 to MD 152, with the full extension to north of MD 24 open to traffic by the end of 2026. This includes the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

#4 Ranked Bottleneck – 2nd 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	4.53	1 h 46 m	422	71,435

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

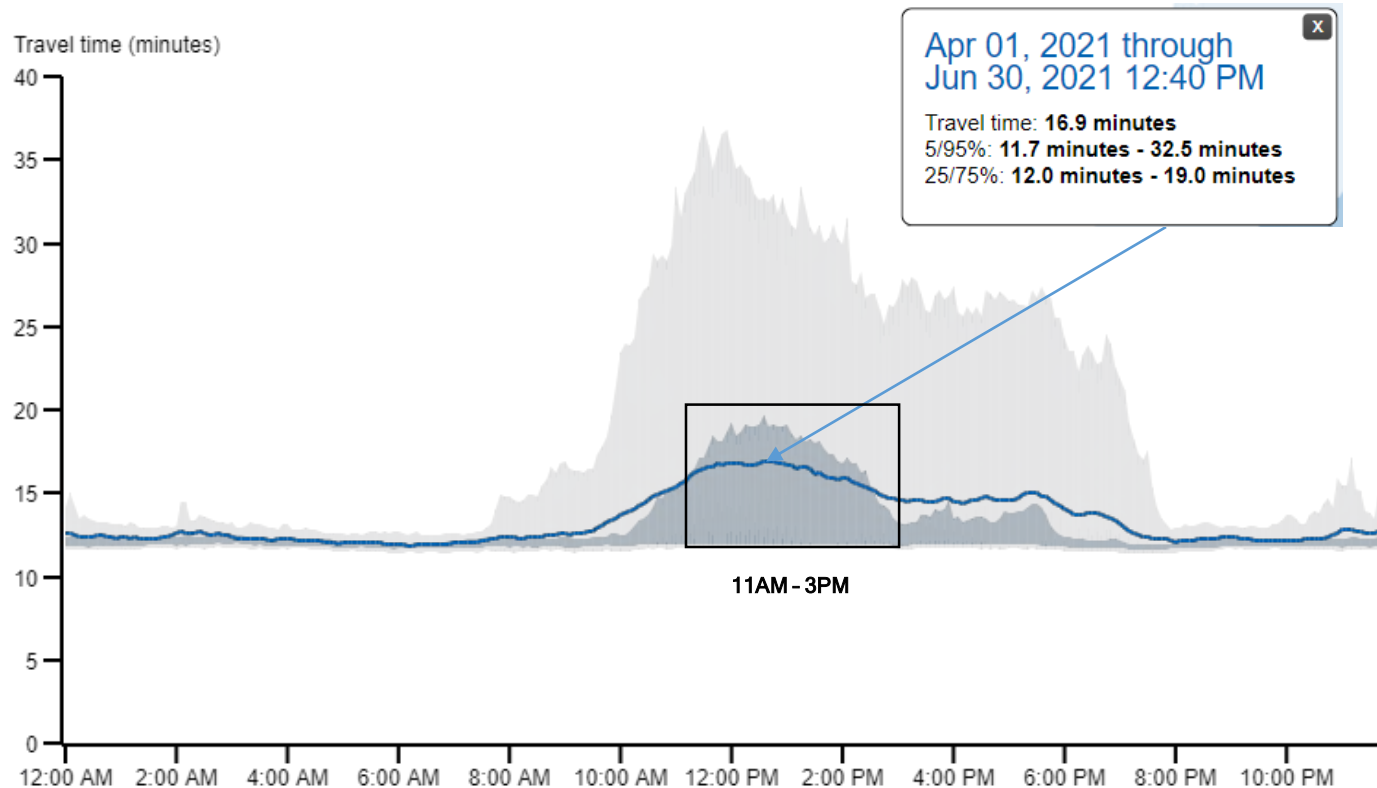


- Apr 01, 2021 through Jun 30, 2021 - INRIX
- Apr 01, 2021 through Jun 30, 2021 25th and 75th percentile - INRIX
- Apr 01, 2021 through Jun 30, 2021 5th and 95th percentile - INRIX

#4 Ranked Bottleneck –2nd 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	4.53	1 h 46 m	422	71,435

Northbound
 Travel time for I-95 N @ MD-24/EXIT 77
 Averaged per five minutes for Apr 01, 2021 through Jun 30, 2021
 Northbound

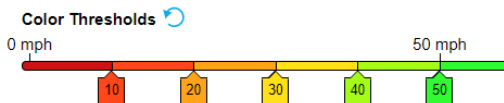
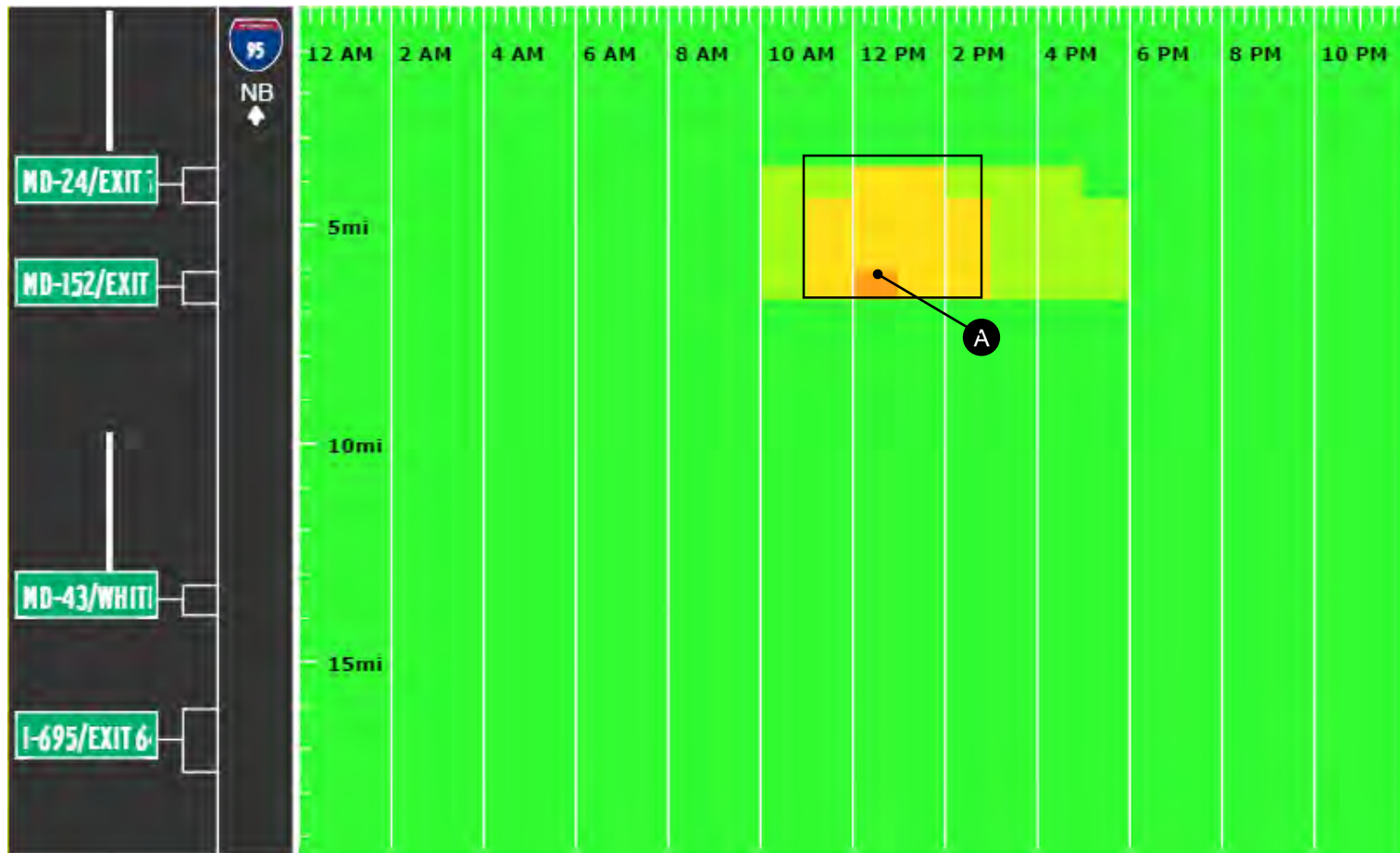


- Apr 01, 2021 through Jun 30, 2021 - INRIX
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#4 Ranked Bottleneck –2nd Quarter 2021 – Congestion Scan

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
I-95 N @ MD-24/EXIT 77	4.53	1 h 46 m	422	71,435

Northbound

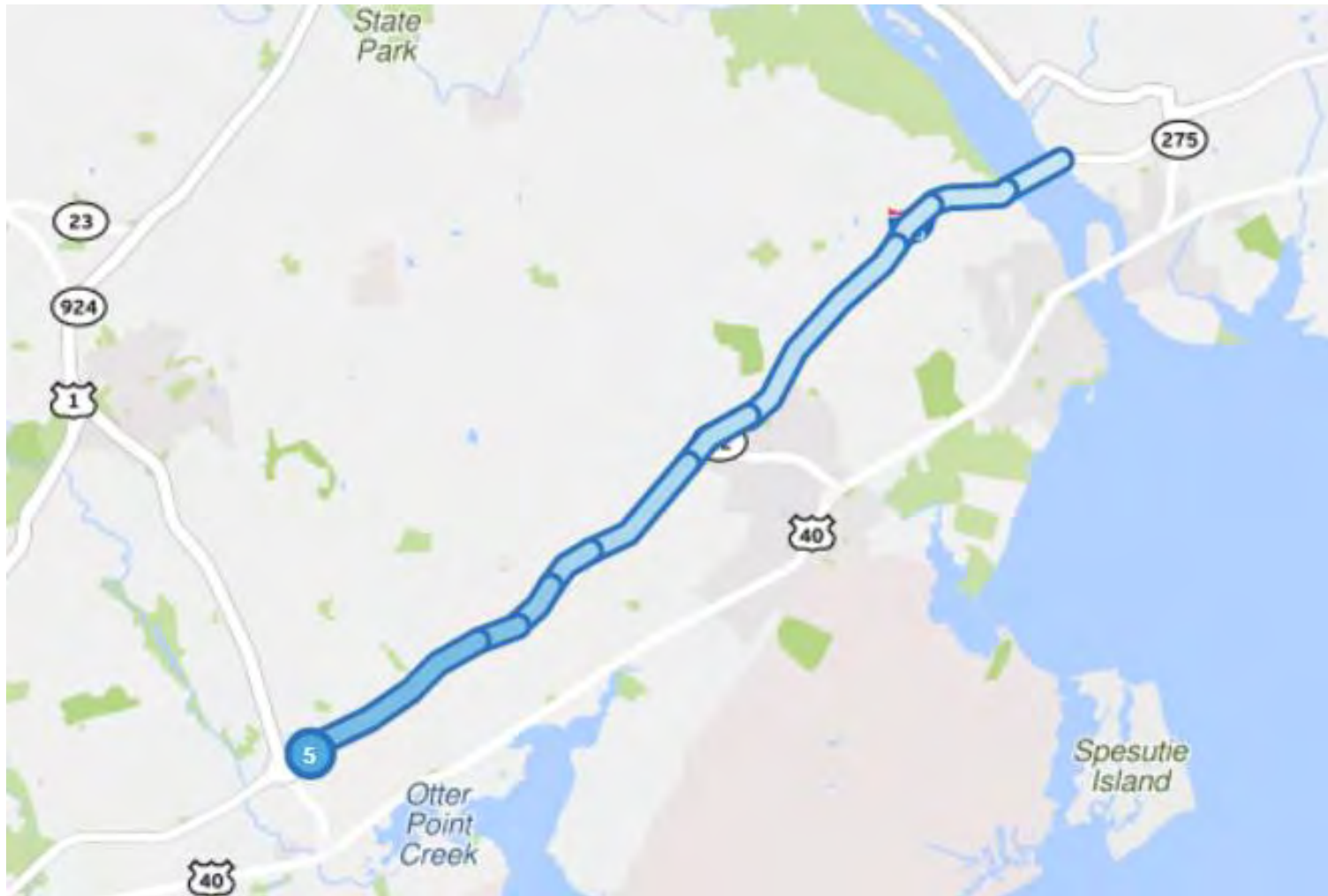


Locations of Congestion (NB)

A: 11AM - 3PM: MD-152/Mountain Rd to MD-24

#5 Ranked Bottleneck – 2nd 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	5.52	1 h 43 m	206	53,964

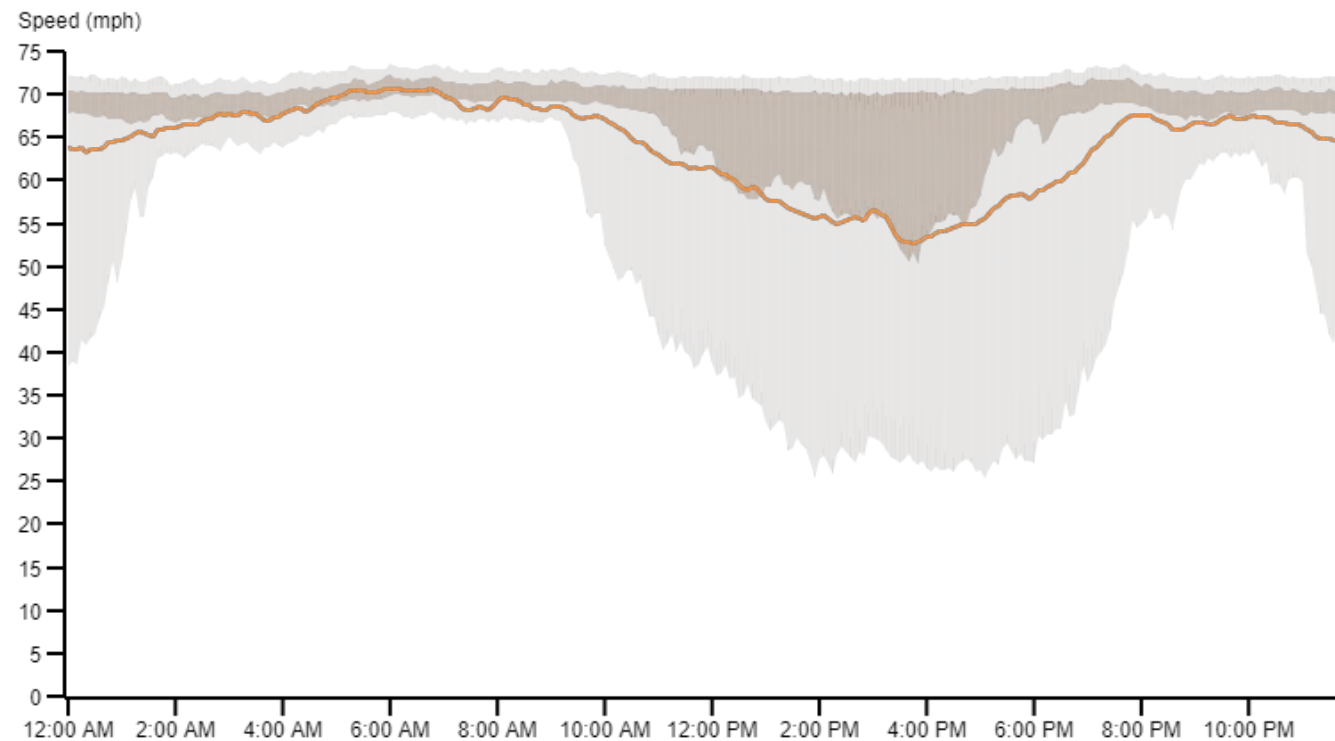


Notes: MD 152 to MD 24 Auxiliary Lane & MD 24 Ramp Improvement project. Off-peak shoulder and lane closures. The Clayton Road Bridge Overpass Reconstruction is also affecting traffic in this high volume area.

#5 Ranked Bottleneck – 2nd 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	5.52	1 h 43 m	206	53,964

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



■ Apr 01, 2021 through Jun 30, 2021 - INRIX
■ Apr 01, 2021 through Jun 30, 2021 25th and 75th percentile - INRIX
■ Apr 01, 2021 through Jun 30, 2021 5th and 95th percentile - INRIX

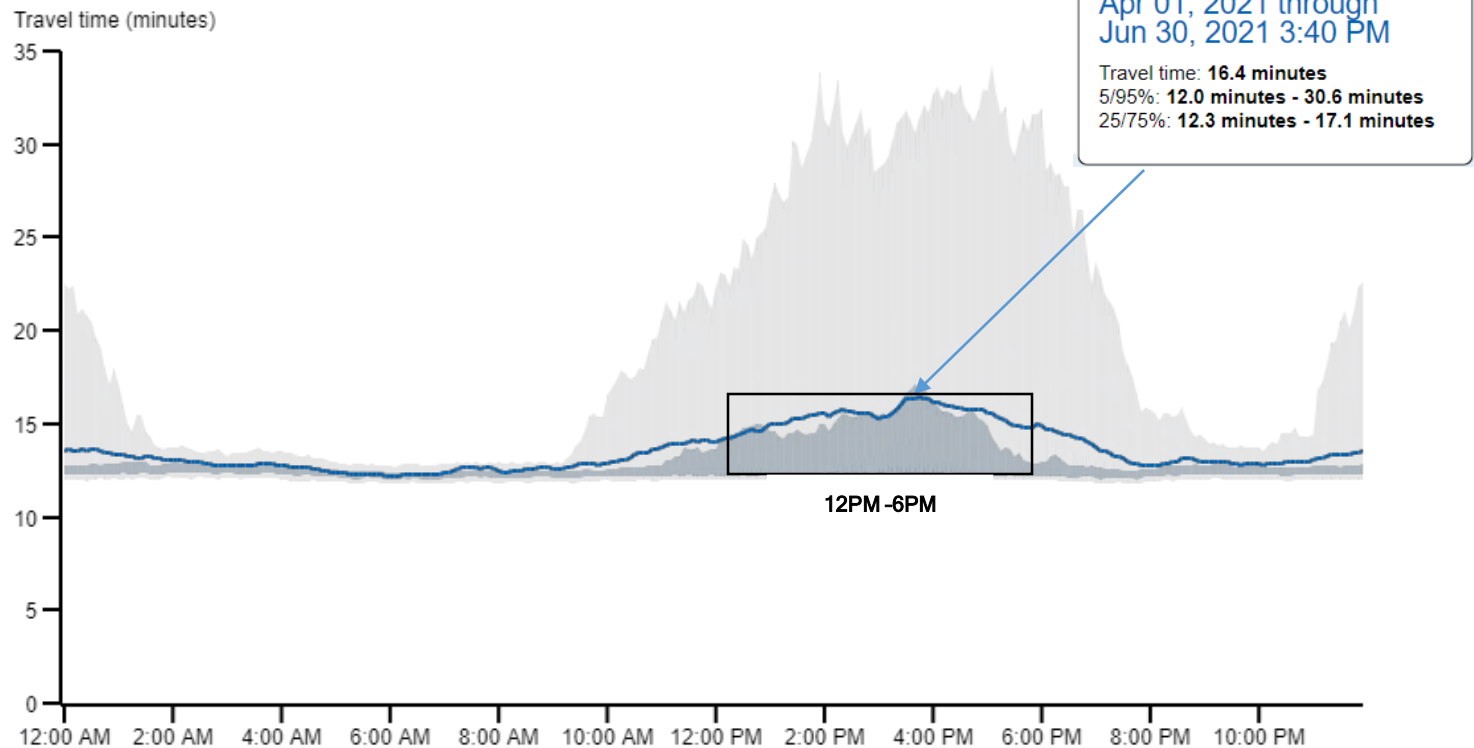
#5 Ranked Bottleneck –2nd Quarter 2021 – Travel Times

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
I-95 S @ MD-24/EXIT 77	5.52	1 h 43 m	206	53,964

Southbound

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

Southbound

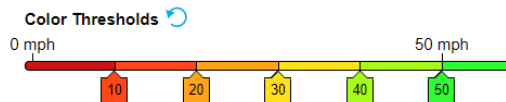
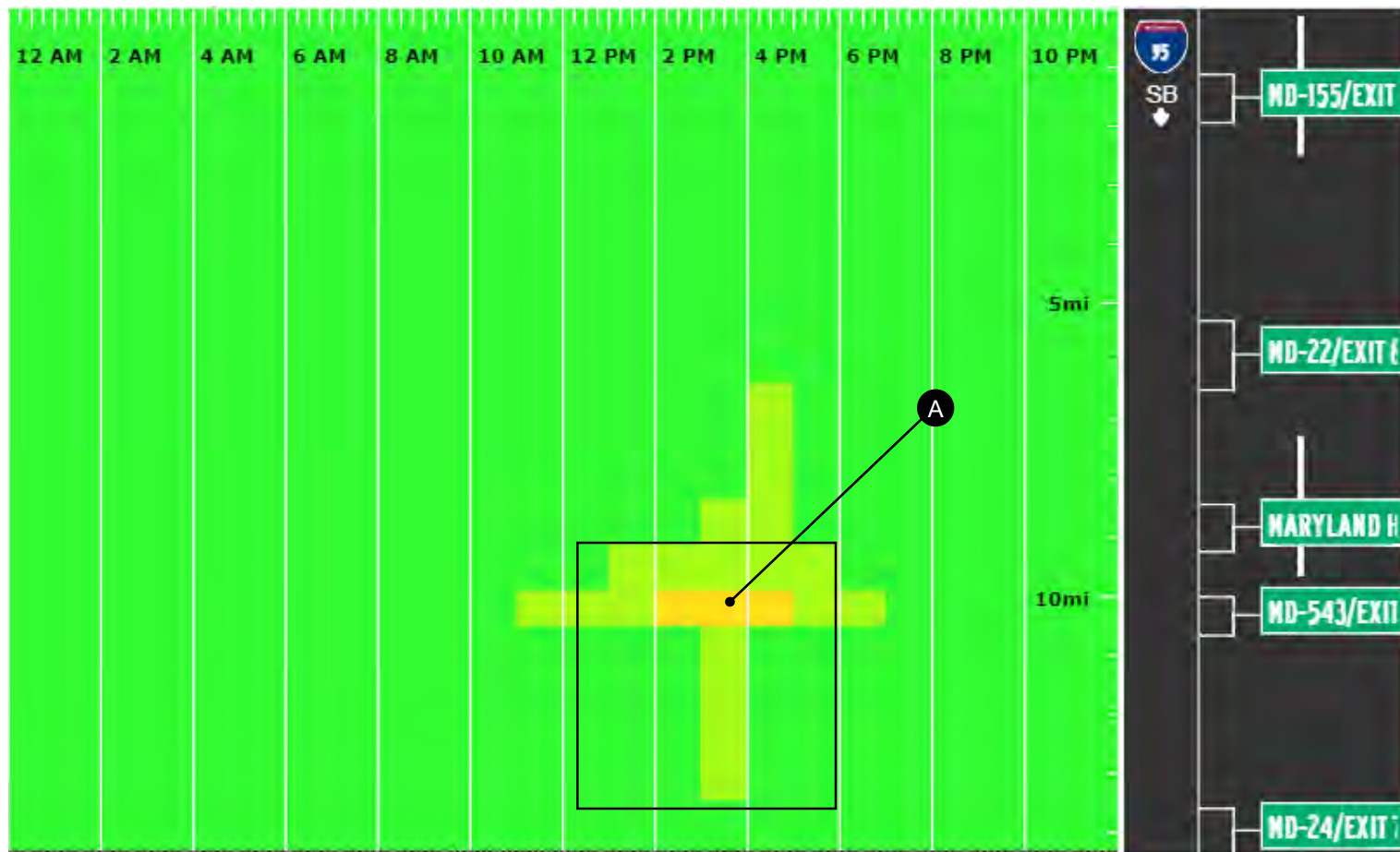


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#5 Ranked Bottleneck –2nd Quarter 2021 – Congestion Scan

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
I-95 S @ MD-24/EXIT 77	5.52	1 h 43 m	206	53,964

Southbound

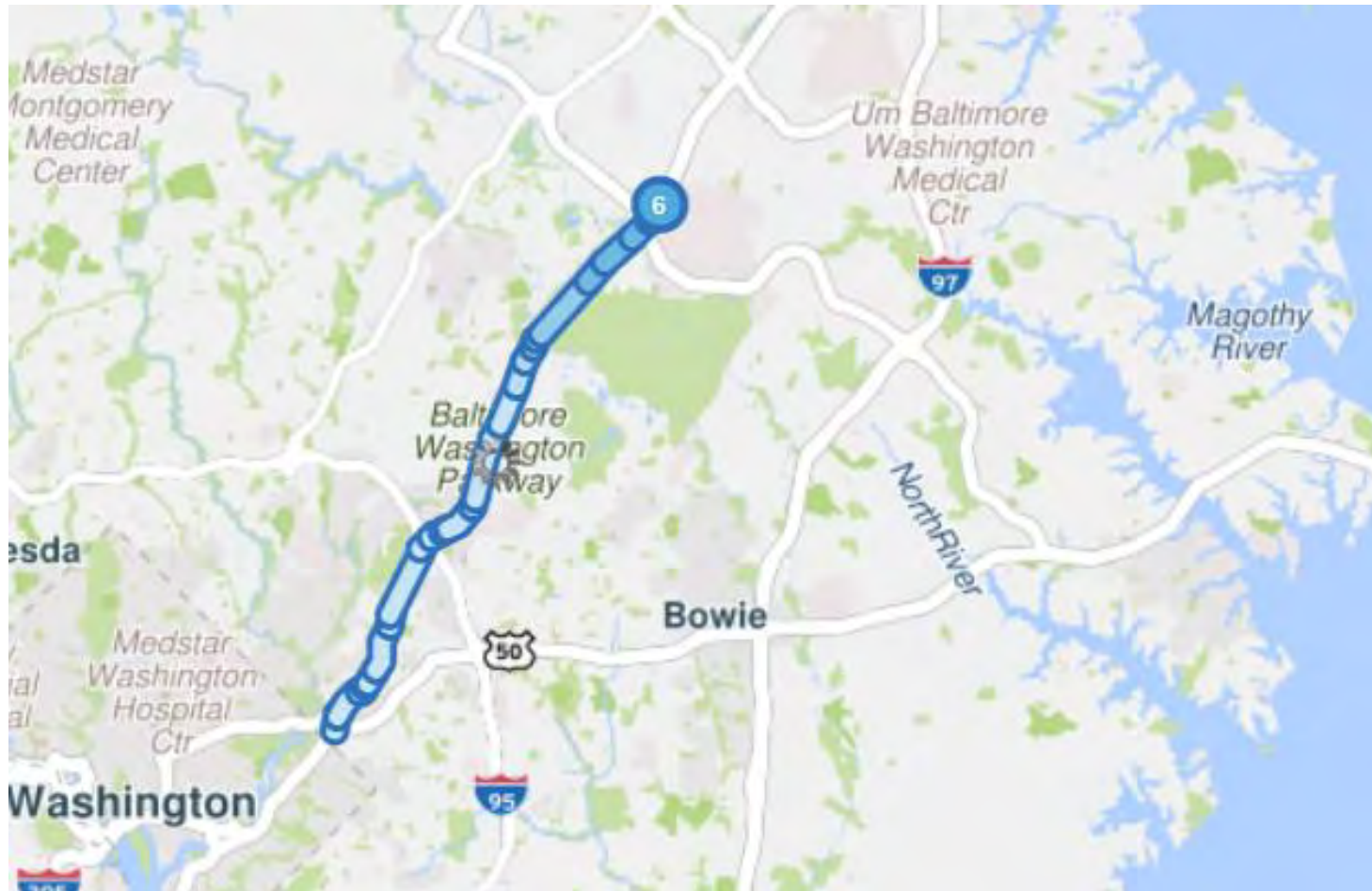


Locations of Congestion (SB)

A: 12PM - 6PM: MD-543 to MD-24

#6 Ranked Bottleneck – 2nd Quarter 2021 – Location Map

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
MD-295 N @ CANINE RD	3.03	1 h 43 m	231	49,834

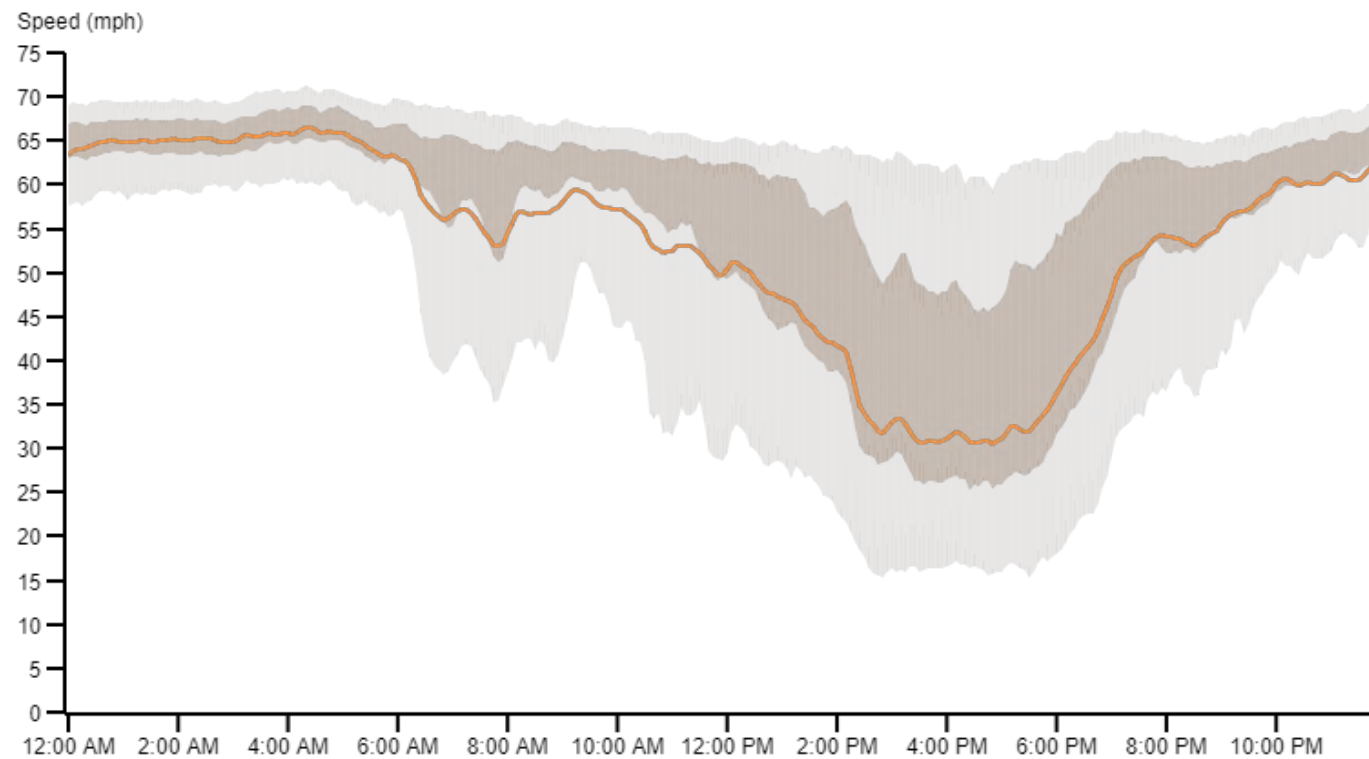


Notes: Afternoon congestion. Level of Service "F" from 3 to 6 pm. A primary cause appeared to be the discharge of traffic from NSA / Ft. Meade onto northbound MD 295 via the Connector Rd. Weaving and merging at the MD 32 interchange also contributed to the congestion.

#6 Ranked Bottleneck – 2nd Quarter 2021 – Average Speeds Graph

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
MD-295 N @ CANINE RD	3.03	1 h 43 m	231	49,834

Speed for MD-295 N @ CANINE RD
Averaged per five minutes for Apr 01, 2021 through Jun 30, 2021
Northbound



- Apr 01, 2021 through Jun 30, 2021 - INRIX
- Apr 01, 2021 through Jun 30, 2021 25th and 75th percentile - INRIX
- Apr 01, 2021 through Jun 30, 2021 5th and 95th percentile - INRIX

#6 Ranked Bottleneck – 2nd Quarter 2021 – Travel Times

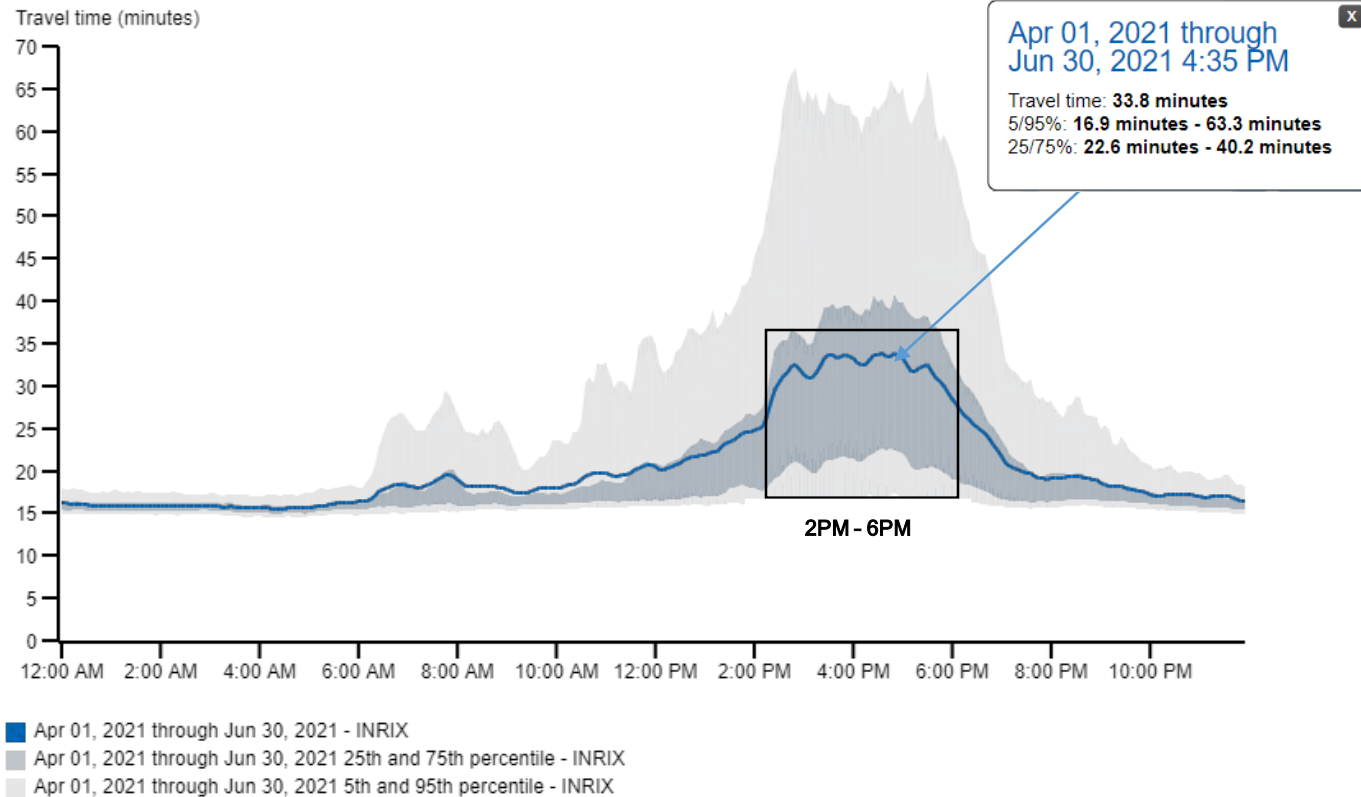
Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
MD-295 N @ CANINE RD	3.03	1 h 43 m	231	49,834

Northbound

Travel time for MD-295 N @ CANINE RD

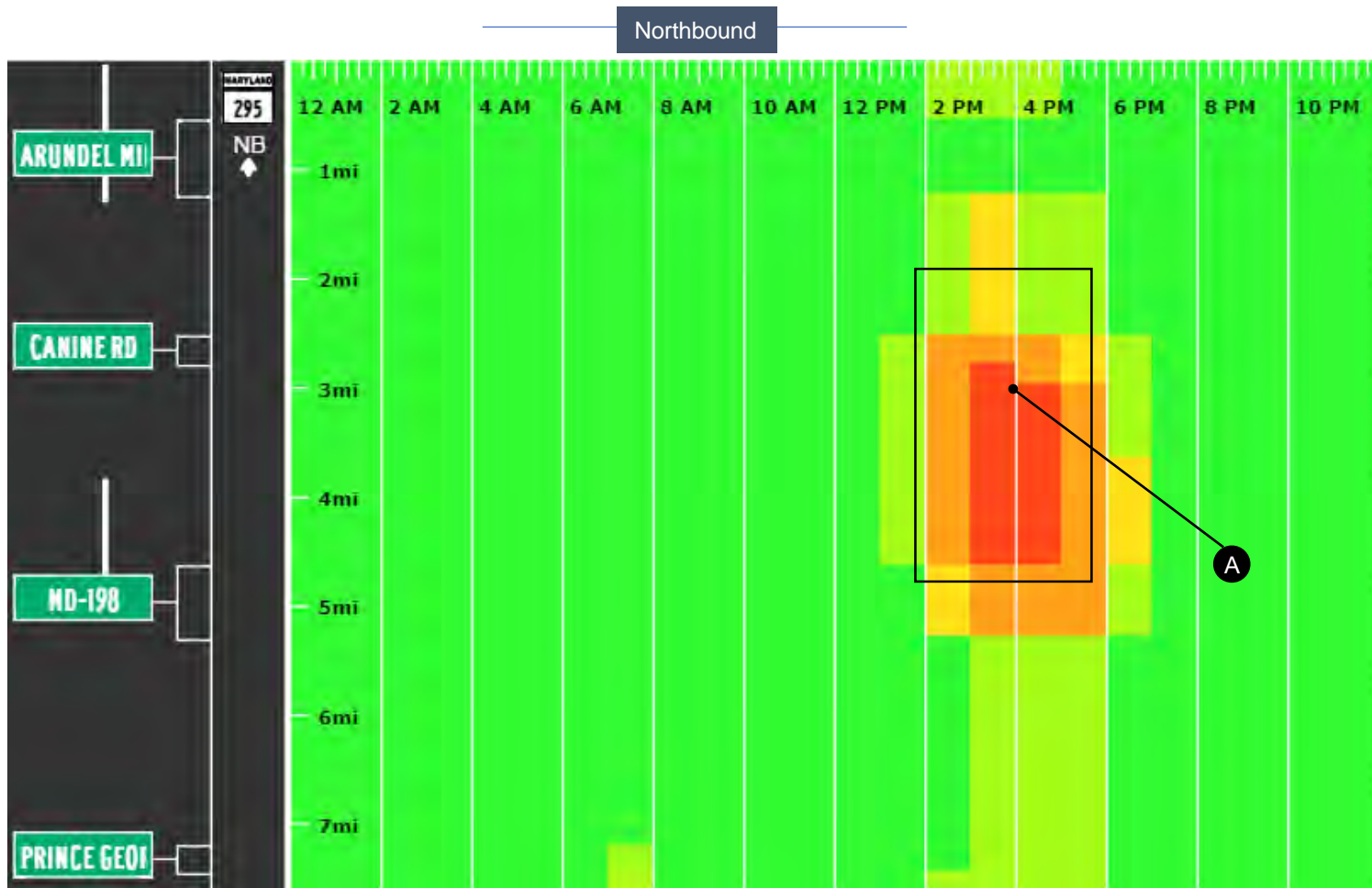
Averaged per five minutes for Apr 01, 2021 through Jun 30, 2021

Northbound



#6 Ranked Bottleneck – 2nd Quarter 2021 – Congestion Scan

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
MD-295 N @ CANINE RD	3.03	1 h 43 m	231	49,834

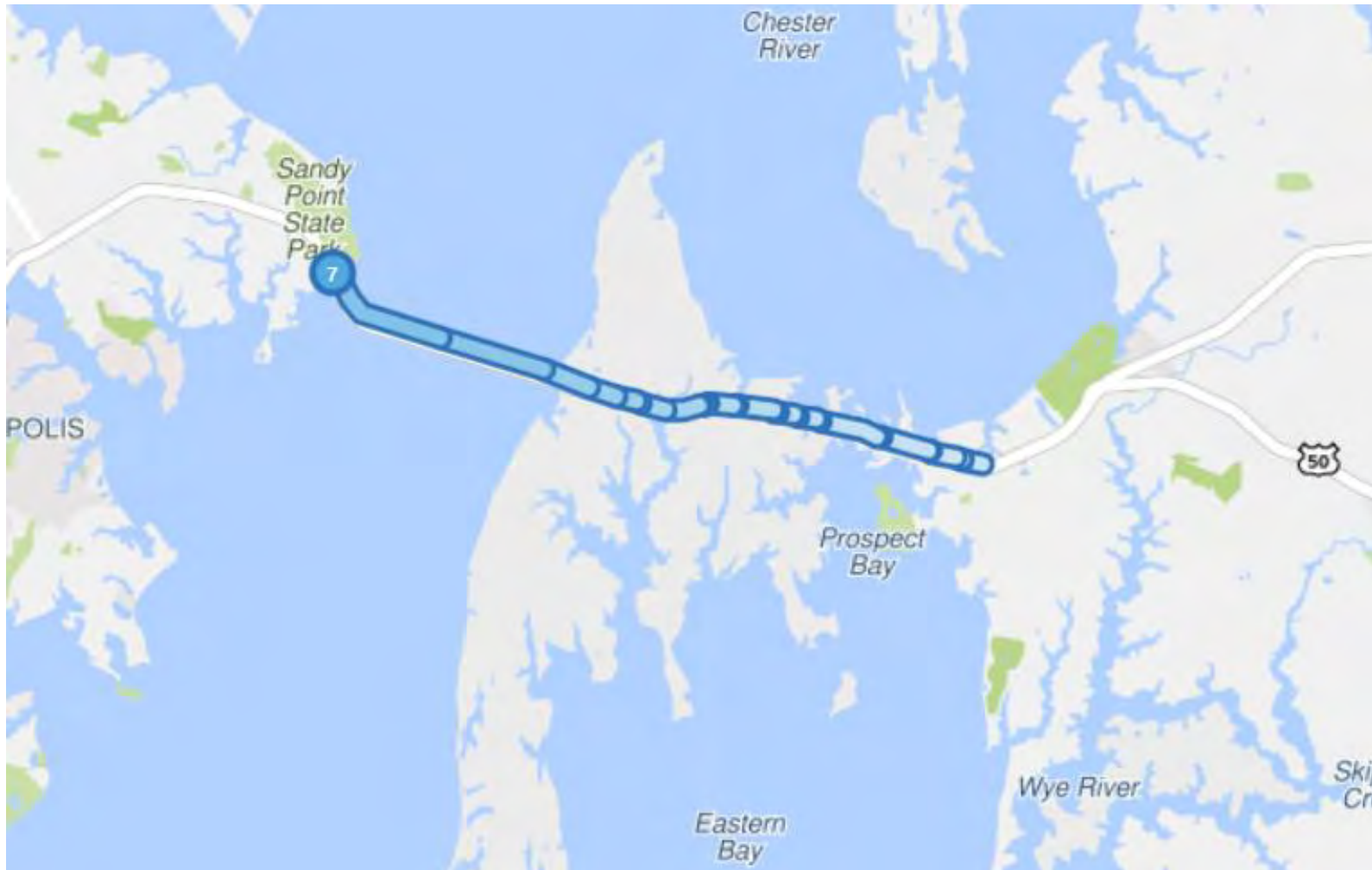


Locations of Congestion (NB)

A: 2PM - 6PM : MD-198 to Canine Rd

#7 Ranked Bottleneck – 2nd Quarter 2021 – Location Map

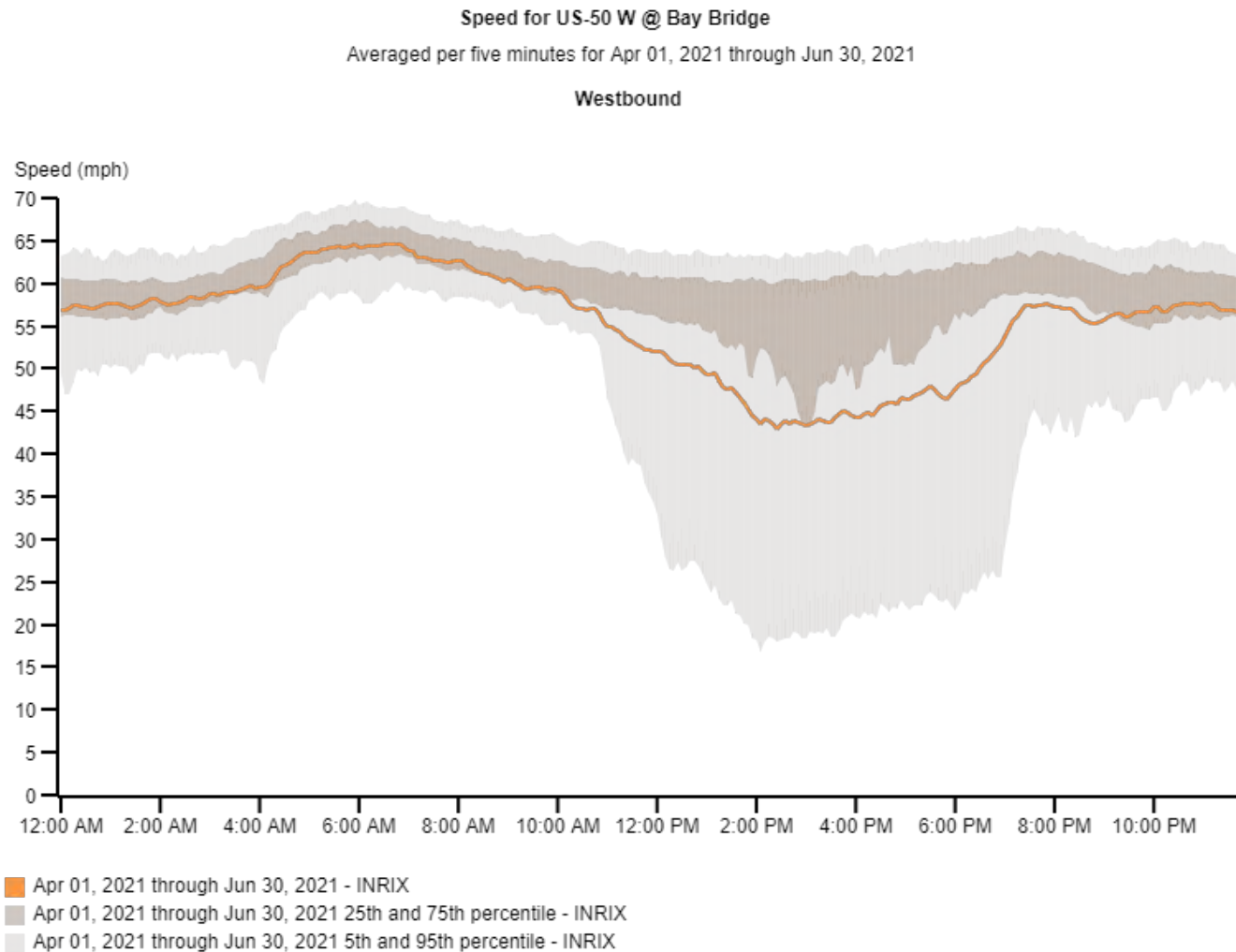
Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
US-50 W @ BAY BRIDGE	5.51	1 h 22 m	610	33,676



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.

#7 Ranked Bottleneck – 2nd Quarter 2021 – Average Speeds Graph

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
US-50 W @ BAY BRIDGE	5.51	1 h 22 m	610	33,676



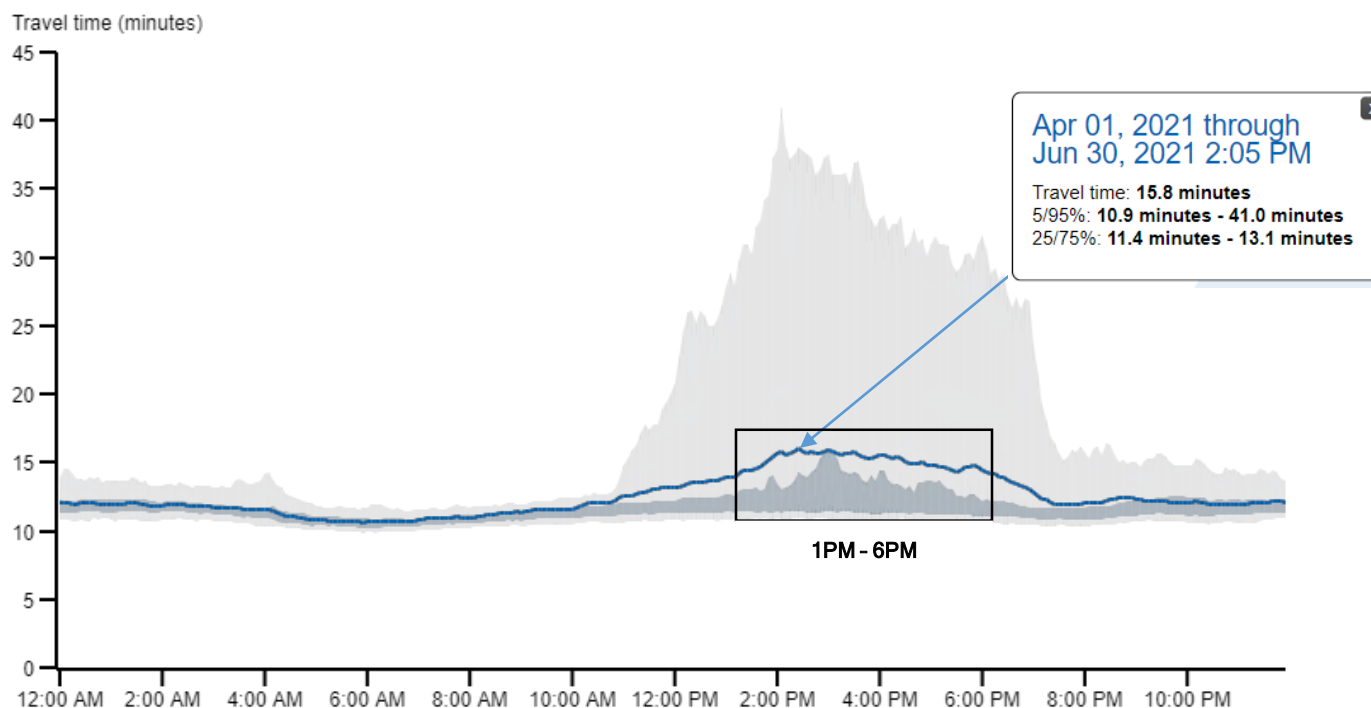
#7 Ranked Bottleneck – 2nd Quarter 2021 – Travel Times

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
US-50 W @ BAY BRIDGE	5.51	1 h 22 m	610	33,676

Westbound

Travel time for US-50 W @ WILLIAM PRESTON LANE BRG
Averaged per five minutes for Apr 01, 2021 through Jun 30, 2021

Westbound

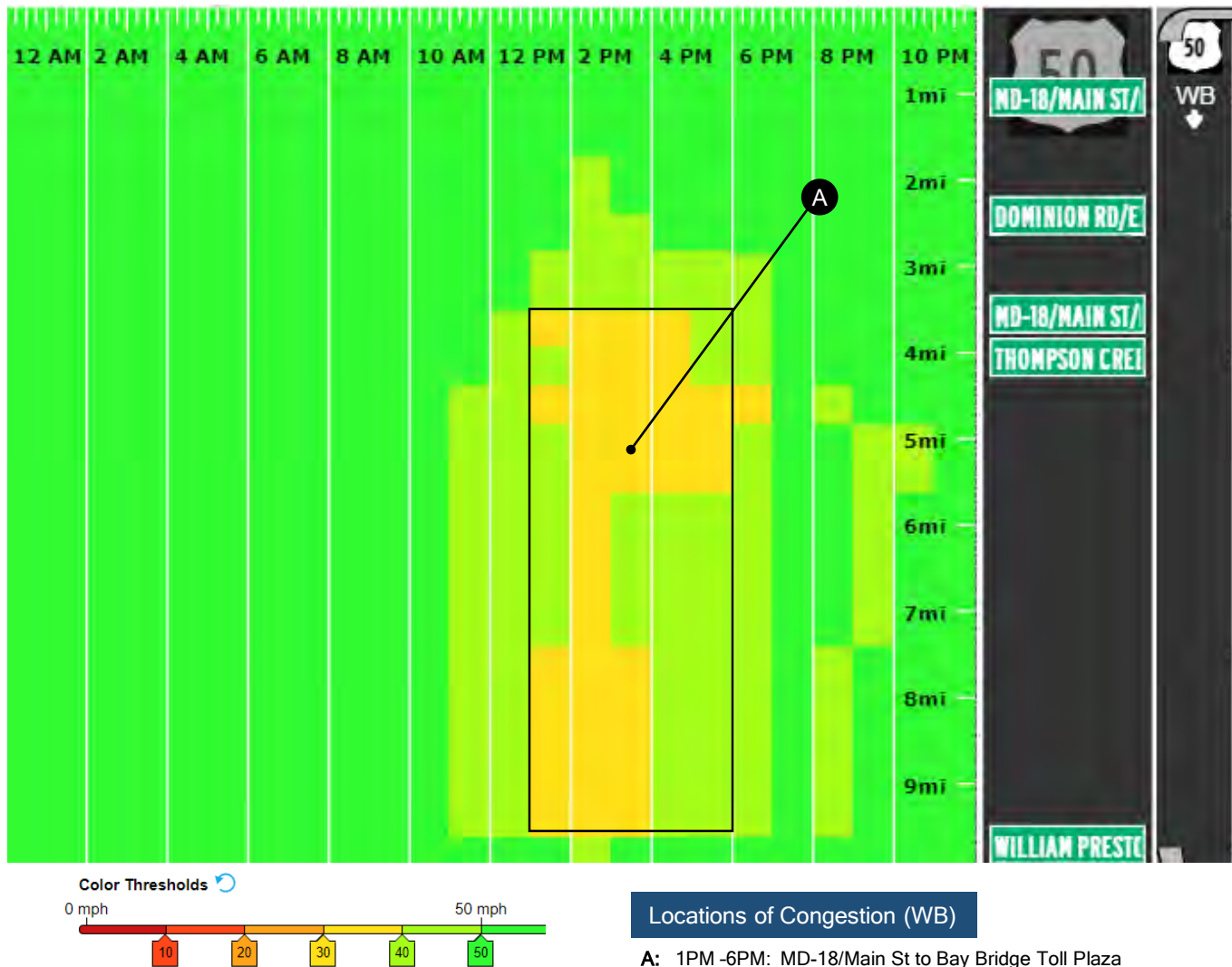


■ Apr 01, 2021 through Jun 30, 2021 - INRIX
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■ Apr 01, 2021 through Jun 30, 2021 5th and 95th percentile - INRIX

#7 Ranked Bottleneck – 2nd Quarter 2021 – Congestion Scan

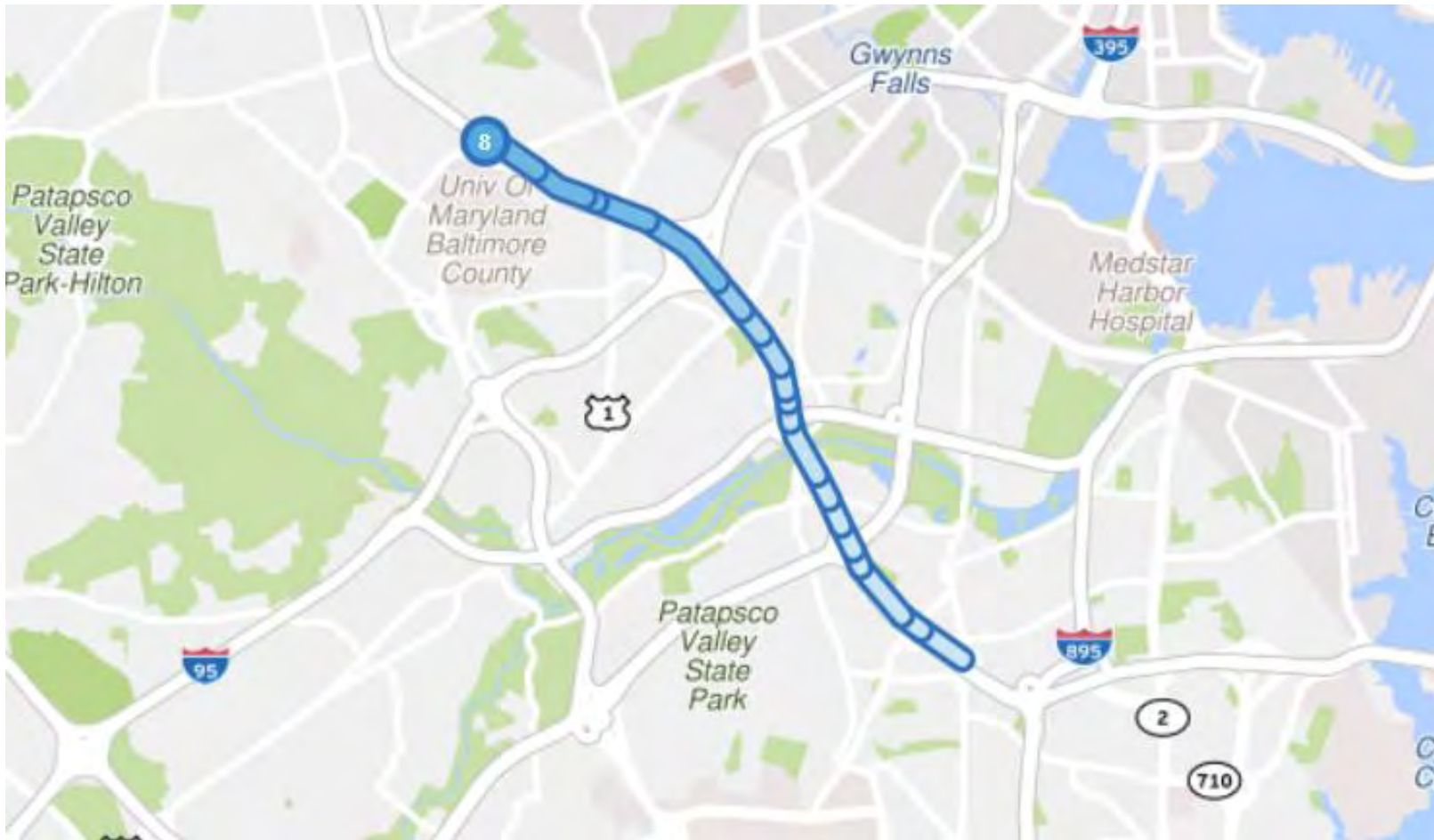
Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
US-50 W @ BAY BRIDGE	5.51	1 h 22 m	610	33,676

Westbound



#8 Ranked Bottleneck – 2nd 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	1.92	1 h 26 m	191	97,812

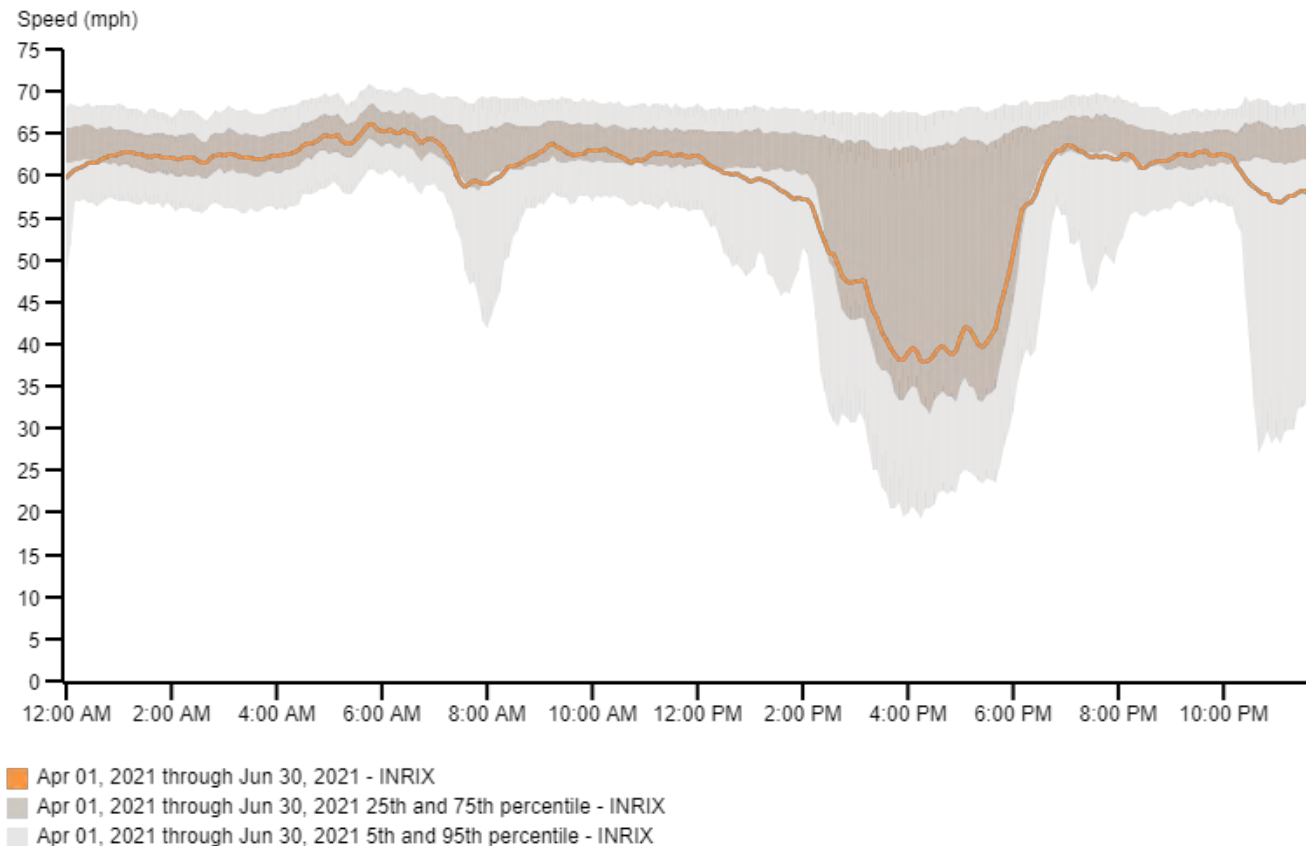


Notes: Afternoon congestion on the inner loop of the beltway with the greatest delays between MD 144 and the lane drop at I-70. High-volume ramps from Security Blvd, I-70 and US 40 contributed to the congestion.

#8 Ranked Bottleneck – 2nd Quarter 2021 – Average Speeds Graph

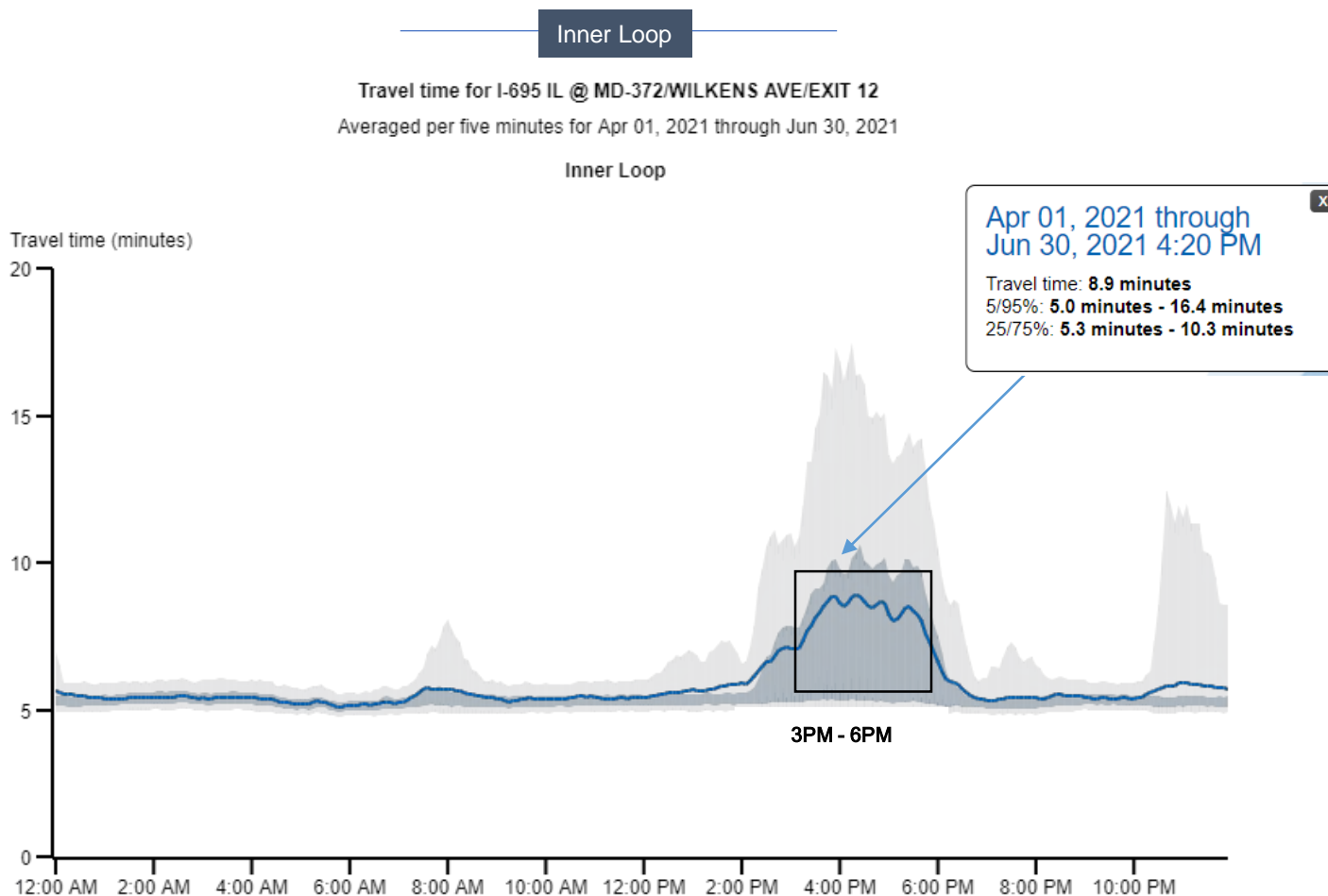
Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
I-695 IL @ MD-372/WILKENS AVE/EXIT 12	1.92	1 h 26 m	191	97,812

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



#8 Ranked Bottleneck –2nd Quarter 2021 – Travel Times

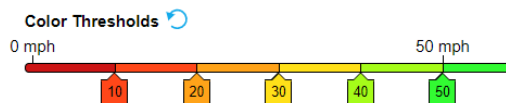
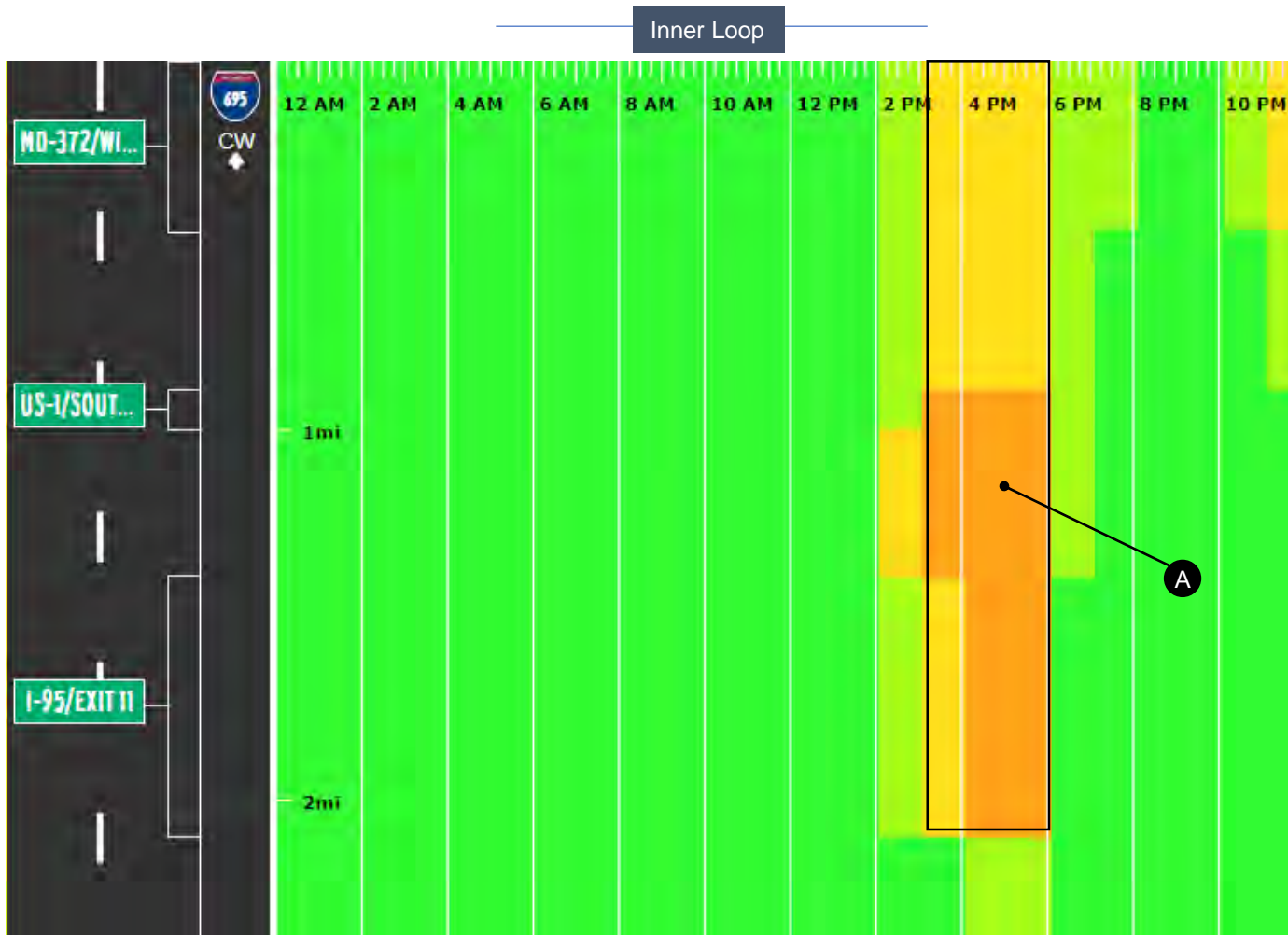
Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
I-695 IL @ MD-372/WILKENS AVE/EXIT 12	1.92	1 h 26 m	191	97,812



- Apr 01, 2021 through Jun 30, 2021 - INRIX
- Apr 01, 2021 through Jun 30, 2021 25th and 75th percentile - INRIX
- Apr 01, 2021 through Jun 30, 2021 5th and 95th percentile - INRIX

#8 Ranked Bottleneck –2nd 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	1.92	1 h 26 m	191	97,812



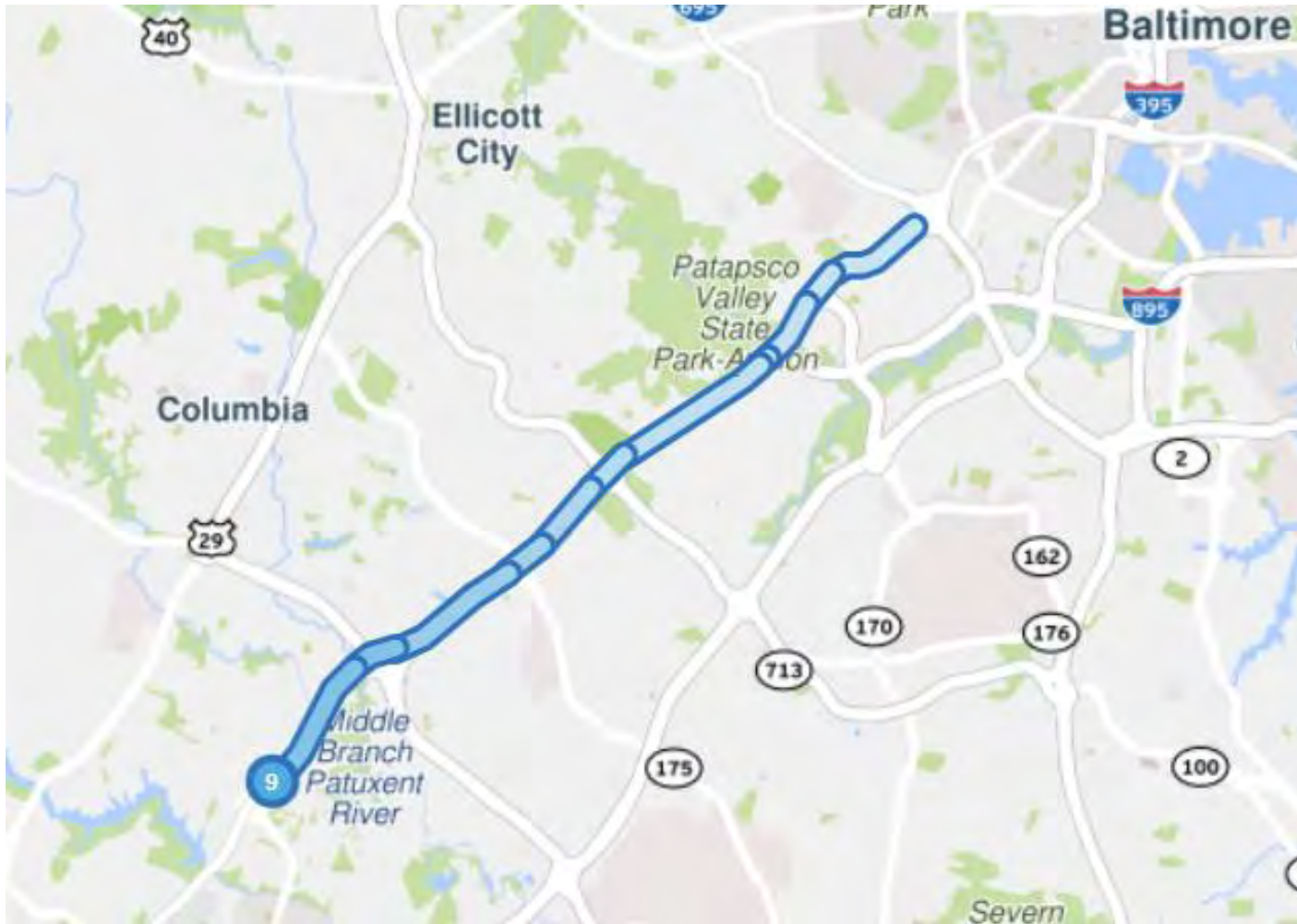
Locations of Congestion (IL)

A: 3PM - 6PM :

I=95 to MD-372/Wilkens Ave

#9 Ranked Bottleneck – 2nd 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	4.35	45 m	343	101,620

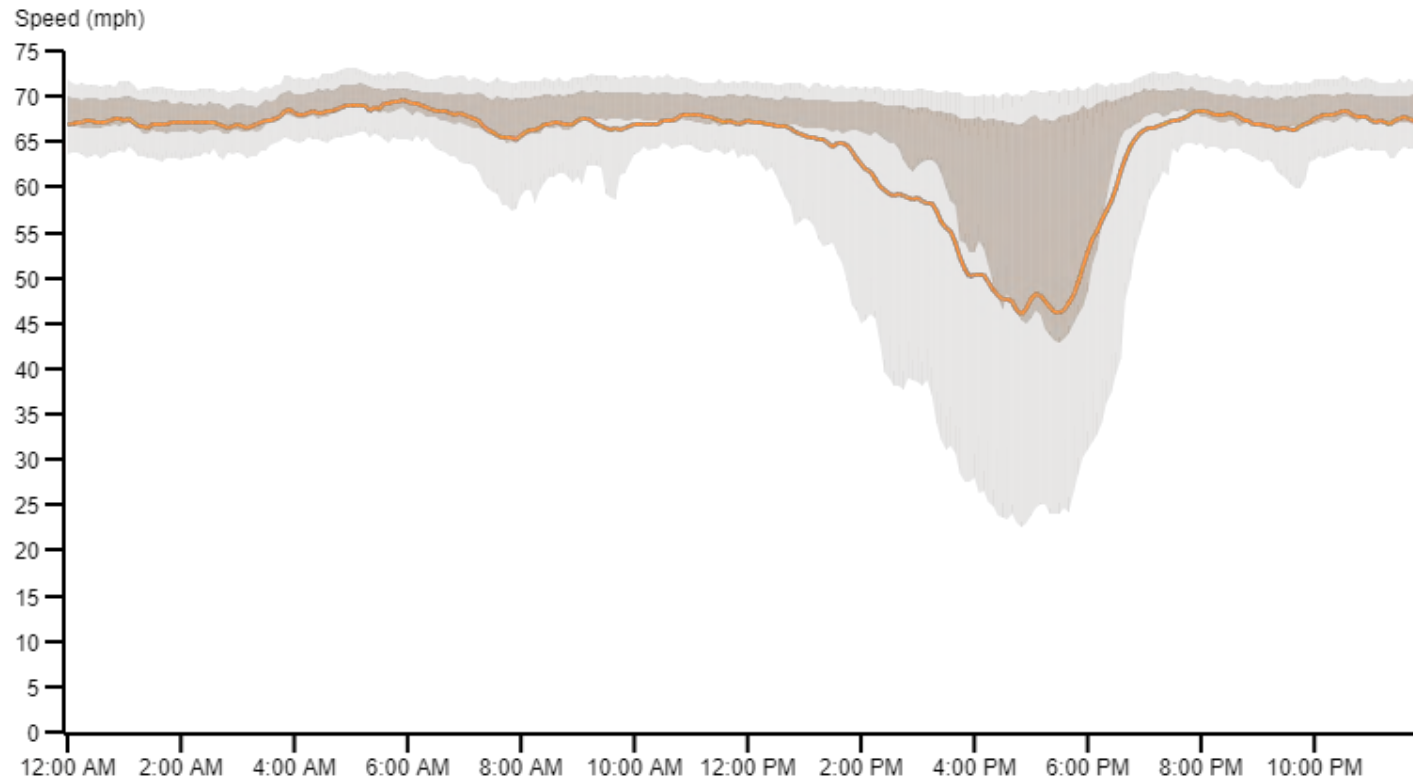


Notes: High traffic volume corridor primarily in the afternoon. Traffic in this corridor has 3 major merge areas at MD-216, MD-32 and MD-175 near Columbia, MD.

#9 Ranked Bottleneck – 2nd 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	4.35	45 m	343	101,620

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



- Apr 01, 2021 through Jun 30, 2021 - INRIX
- Apr 01, 2021 through Jun 30, 2021 25th and 75th percentile - INRIX
- Apr 01, 2021 through Jun 30, 2021 5th and 95th percentile - INRIX

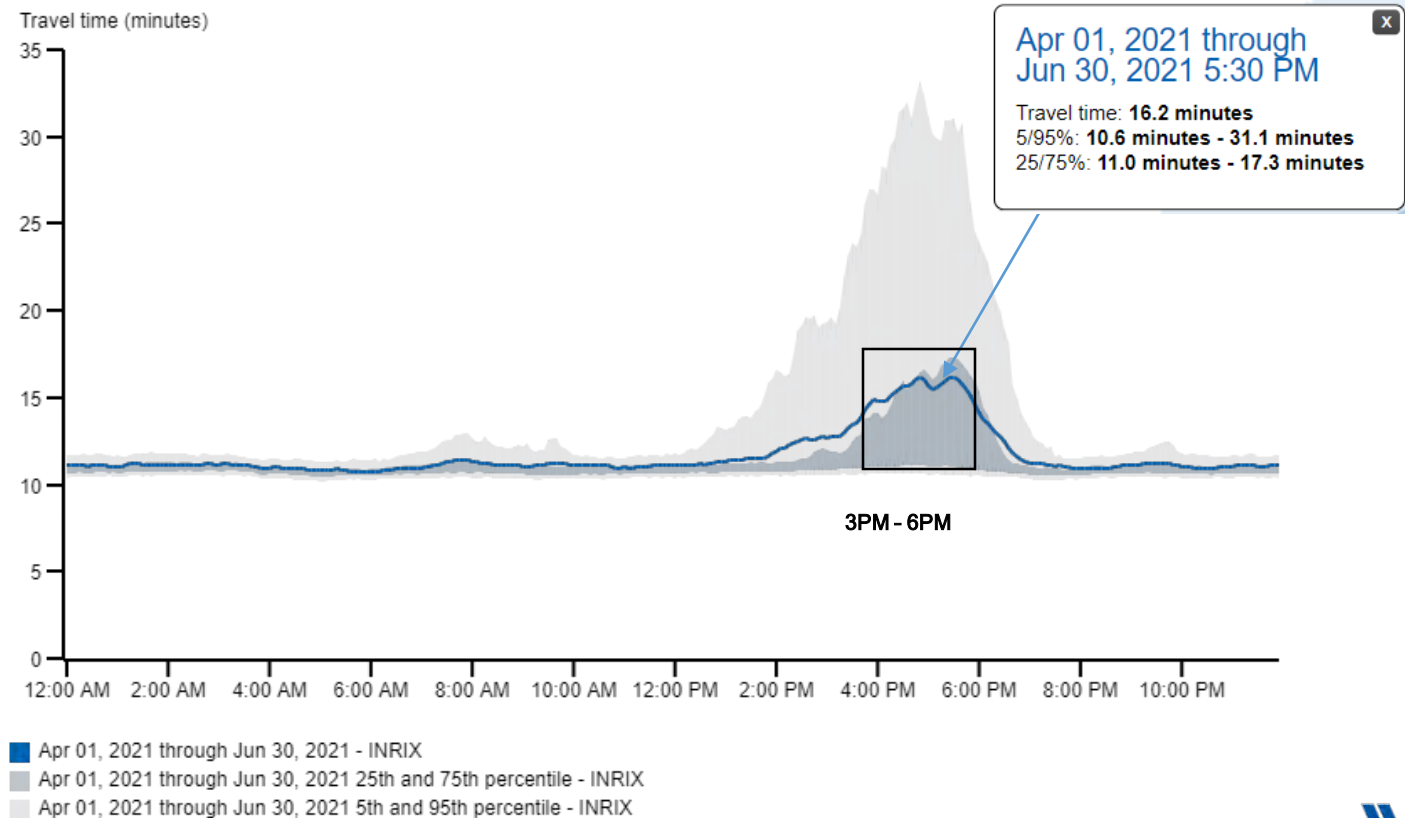
#9 Ranked Bottleneck –2nd Quarter 2021 – Travel Times

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
I-95 S @ MD-216/EXIT 35	4.35	45 m	343	101,620

Southbound

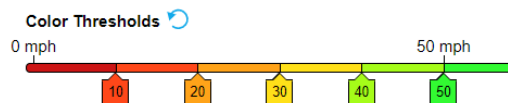
Travel time for I-95 S @ MD-216/EXIT 35
Averaged per five minutes for Apr 01, 2021 through Jun 30, 2021

Southbound



#9 Ranked Bottleneck –2nd 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	4.35	45 m	343	101,620

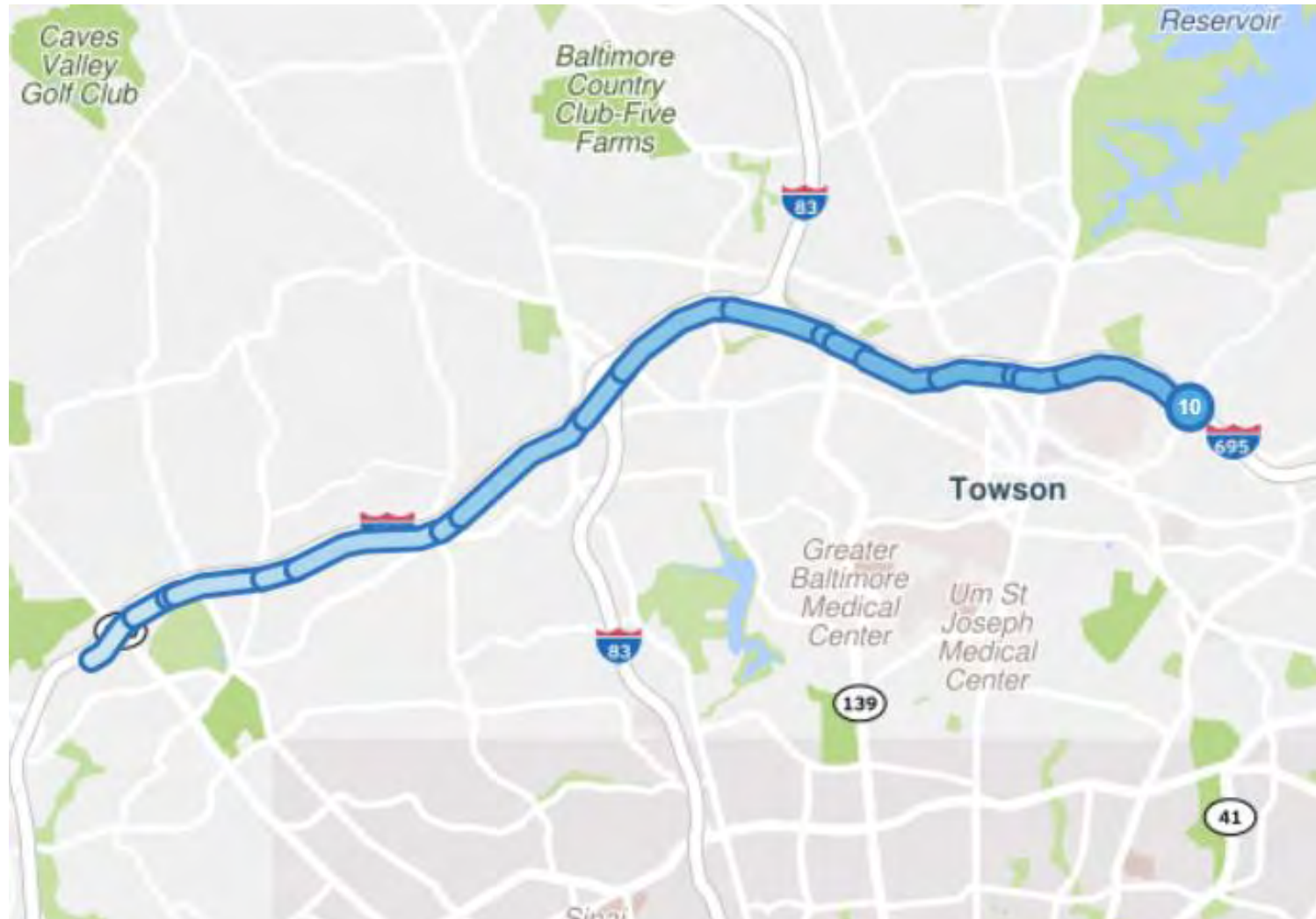


Locations of Congestion (SB)

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

#10 Ranked Bottleneck –2nd Quarter 2021 – Location Map

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
I-695 IL @ PROVIDENCE RD/EXIT 28	4.11	49 m	314	87,902



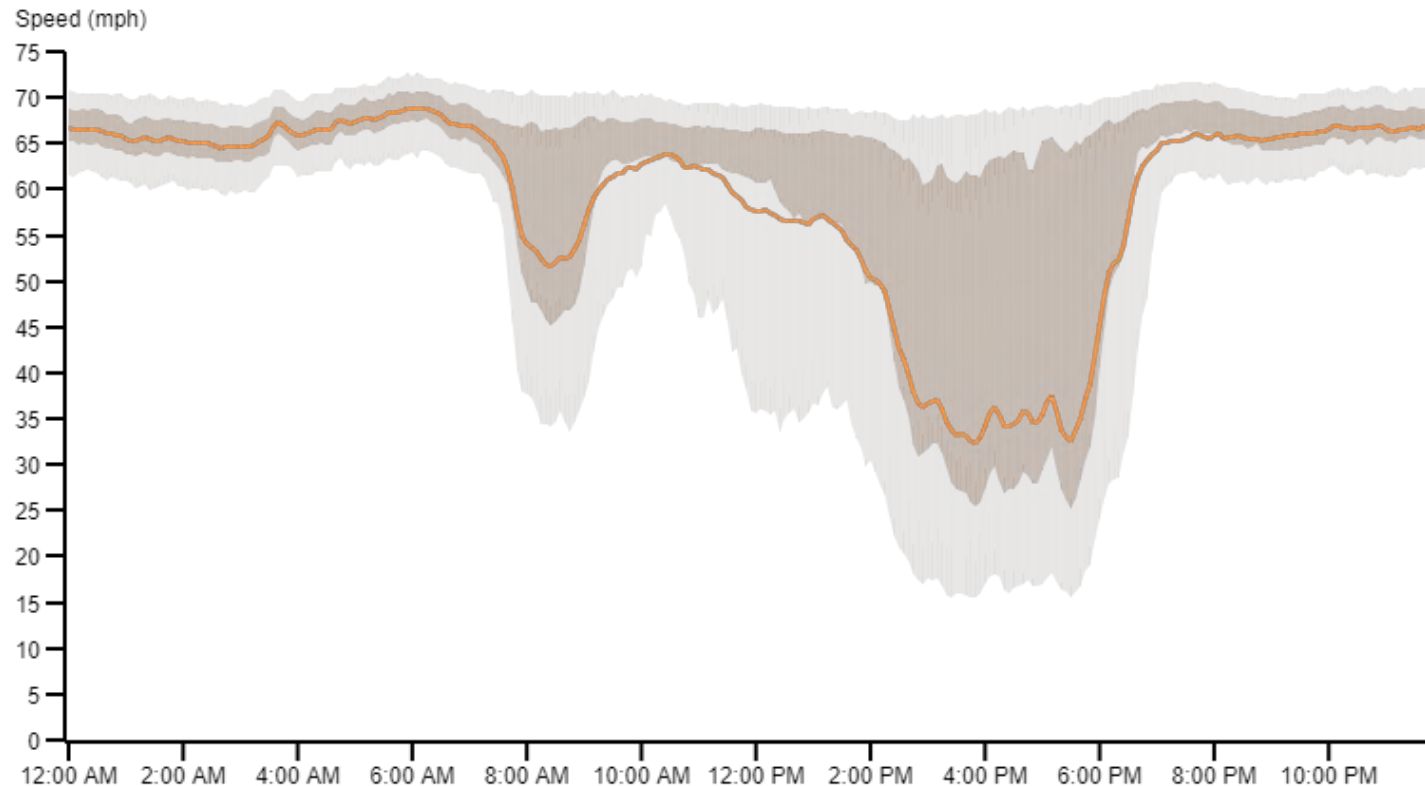
Notes: Congestion was most severe between I-83 and Providence Rd in the PM rush. Factors contributing to this long-standing and extended congested zone: merging and weaving associated with traffic at each interchange; and a lane drop (to three lanes) at MD 45 (York Rd).

#10 Ranked Bottleneck – 2nd Quarter 2021 – Average Speeds Graph

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
I-695 IL @ PROVIDENCE RD/EXIT 28	4.11	49 m	314	87,902

Speed for I-695 IL @ PROVIDENCE RD/EXIT 28
Averaged per five minutes for Apr 01, 2021 through Jun 30, 2021

Inner Loop



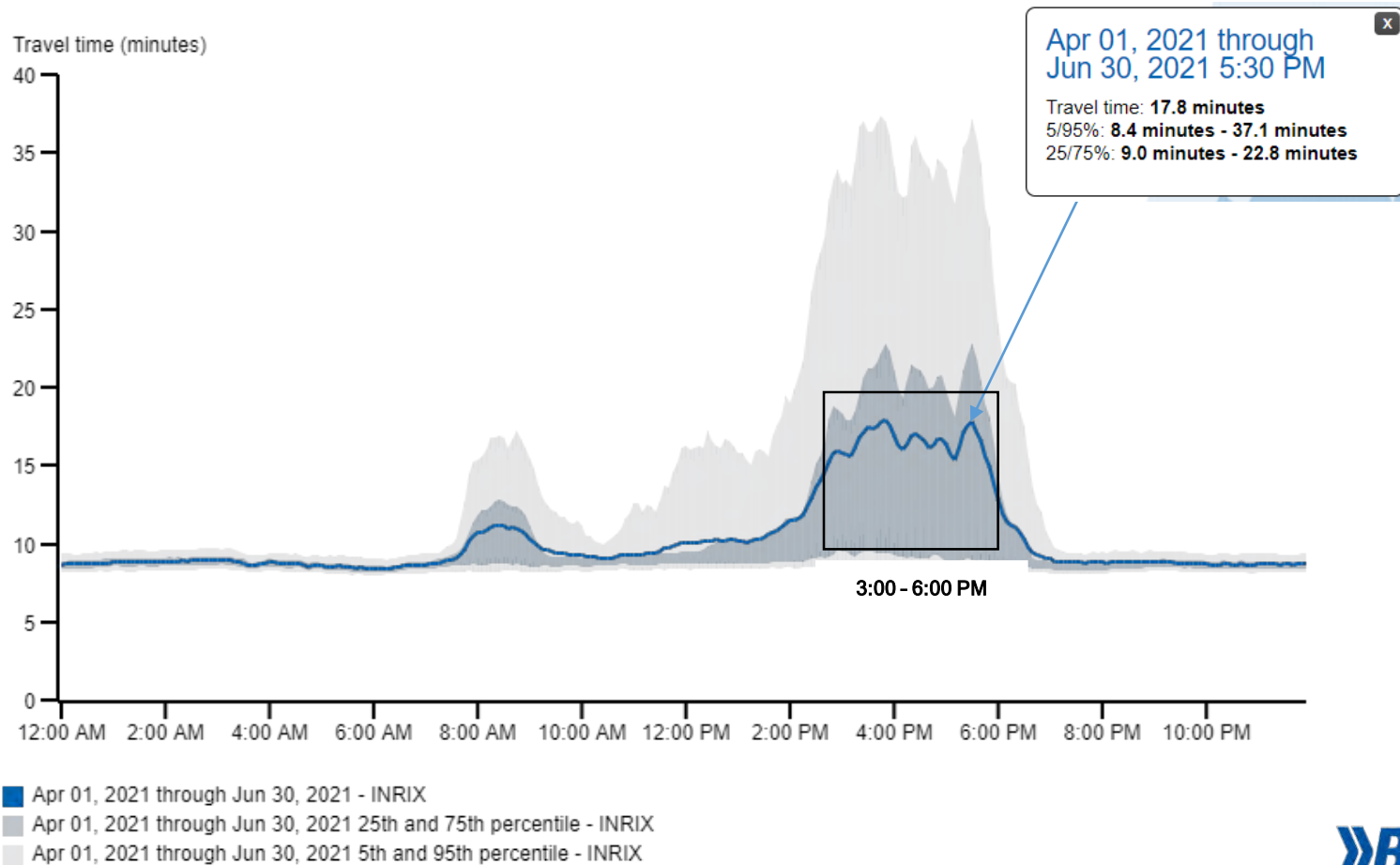
#10 Ranked Bottleneck –2nd Quarter 2021 – Travel Times

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
I-695 IL @ PROVIDENCE RD/EXIT 28	4.11	49 m	314	87,902

Inner Loop

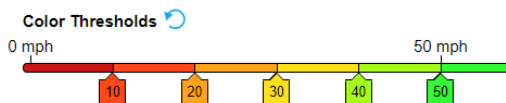
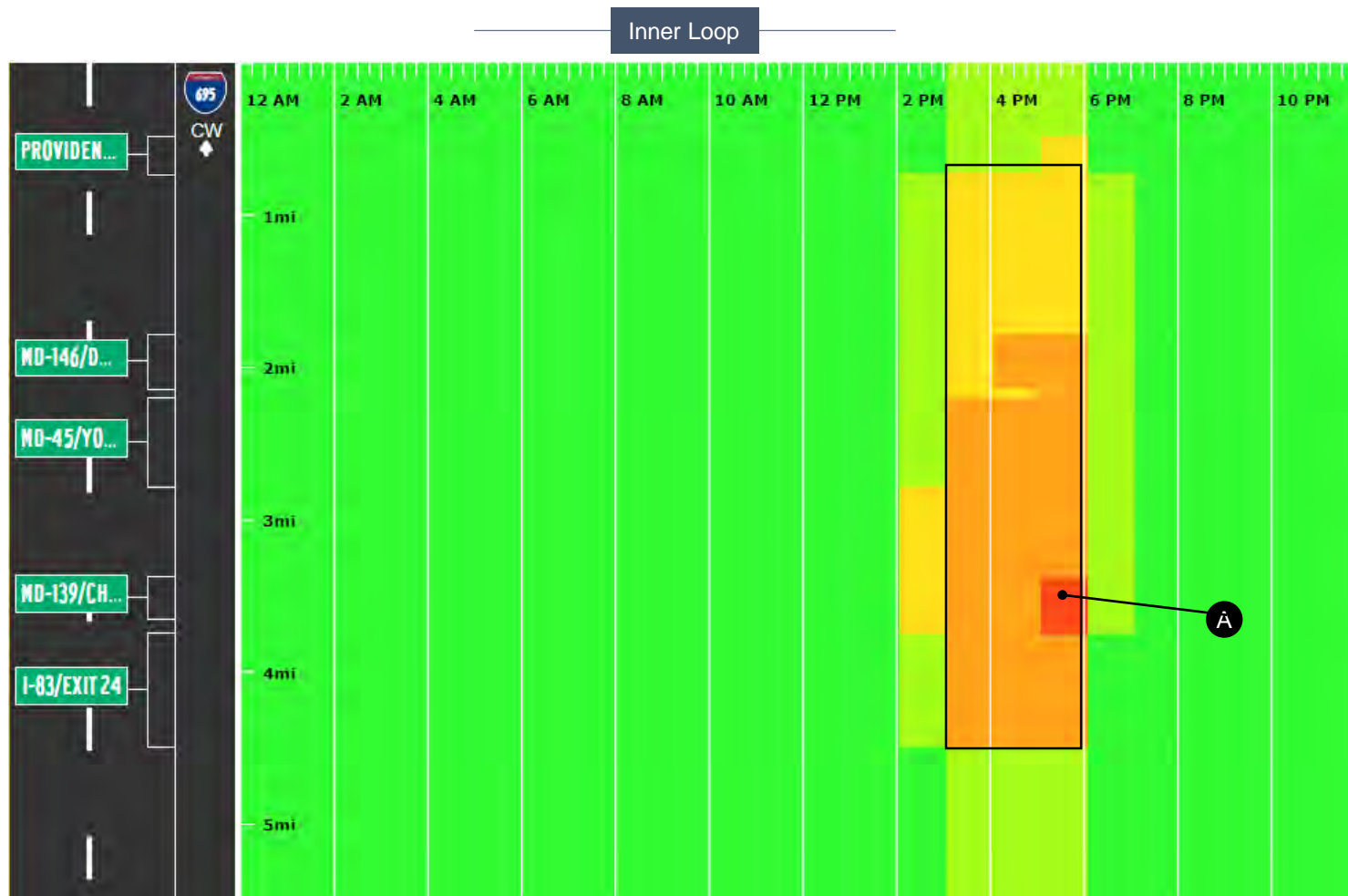
Travel time for I-695 IL @ PROVIDENCE RD/EXIT 28
Averaged per five minutes for Apr 01, 2021 through Jun 30, 2021

Inner Loop



#10 Ranked Bottleneck –2nd Quarter 2021 – Congestion Scan

Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
I-695 IL @ PROVIDENCE RD/EXIT 28	4.11	49 m	314	87,902



Locations of Congestion (IL)

A: 3:00 - 6:00PM: I-83 ramps to Providence Rd

Top 10 Bottlenecks on Non-Limited Access Roads

Top 10 Bottlenecks in the Baltimore Region – Non Limited Access Roads – 2nd 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.

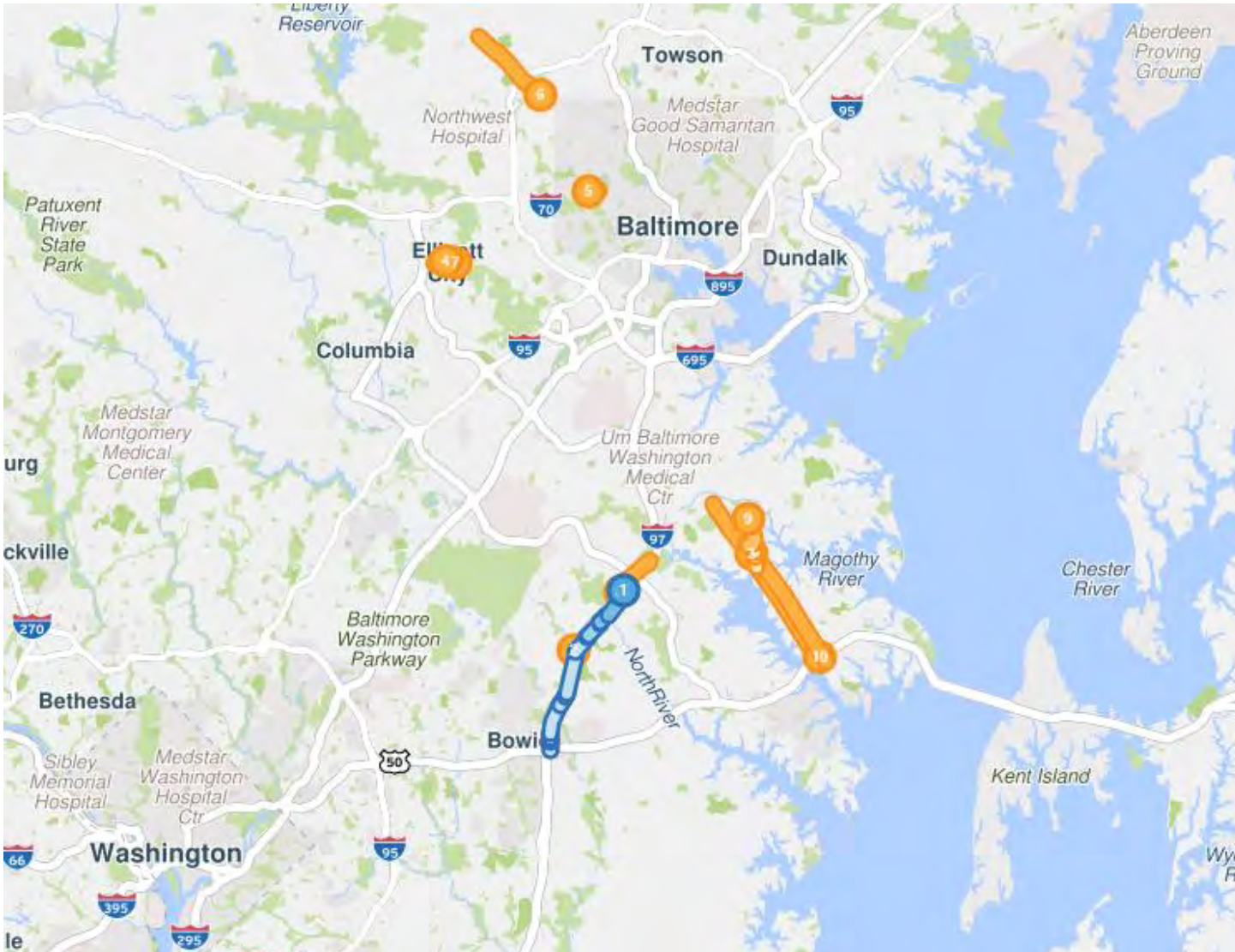
Rank	Location	Average max length (miles)	Average Daily Duration	All Events/ Incidents	Volume Estimate (AADT)
1	MD-3 N @ MD-175/ANNAPOLIS RD/MILLERSVILLE RD	2.06	1 h 22 m	12	34,176
2	MD-3 N @ MD-424/DAVIDSONVILLE RD/CONWAY RD	2.18	1 h 21 m	6	35,428
3	MD-2 N @ ROBINSON RD	2.93	1 h 09 m	18	28,969
4	MD-144 W @ ELLICOTT MILLS DR	0.48	8 h 58 m	15	9,705
5	WINDSOR MILL RD @ GWYNNS FALLS PKWY	0.38	10 h 51 m	No data	9,669
6	MD-140 E @ SUDBROOK LA	0.55	6 h 4 m	59	15,299
7	MD-144 E @ WESTCHESTER AVE	0.5	9 h 31 m	8	6,663
8	MD-3 S @ MD-175/ANNAPOLIS RD/MILLERSVILLE RD	0.52	2 h 44 m	10	28,236
9	MD-648 N @ MAGOTHY BRIDGE RD	1.42	56 m	No Data	27,389
10	MD-2 S @ US-301/US-50	1.49	17 m	13	27,362

IL = Inner Loop

OL = Outer Loop

Top 10 Bottlenecks – Non Limited Access Roads – 2nd Quarter 2021

Overview Map



Ranked Bottleneck Lists by Jurisdiction

Top 25 Bottlenecks in Local Jurisdictions- 2nd 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	I-97 S @ MD-178/EXIT 5
7	MD-3 N @ MD-175/ANNAPOLIS RD/MILLERSVILLE RD
8	MD-3 N @ MD-424/DAVIDSONVILLE RD/CONWAY RD
9	MD-295 N @ MD-32
10	MD-295 S @ CANINE RD
11	MD-2 N @ ROBINSON RD
12	MD-295 N @ PRINCE GEORGE'S/ARUNDEL CO LINE
13	MD-295 N @ I-195
14	MD-295 N @ MD-100
15	US-50 E @ BAY BRIDGE TOLL PLAZA
16	MD-295 S @ MD-175
17	US-50 E @ MD-648/BALTIMORE ANNAPOLIS BLVD
18	I-97 S @ US-50/US-301
19	I-695 CCW @ MD-170/CAMP MEADE RD/EXIT 6
20	MD-100 E @ MD-170/TELEGRAPH RD/EXIT 11
21	MD-3 S @ MD-175/ANNAPOLIS RD/MILLERSVILLE RD
22	I-695 CCW @ MD-295/WASH-BALT PKY/EXIT 7
23	MD-648 N @ MAGOTHY BRIDGE RD
24	MD-2 S @ US-301/US-50
25	COLLEGE PKY S @ MD-179/CAPE ST CLAIRE RD

Baltimore City

Rank	Location
1	I-895 N @ HARBOR TUNNEL THWY (NORTH)
2	WINDSOR MILL RD W @ GWYNNS FALLS PKWY
3	I-83 S @ MD-25/FALLS RD/EXIT 8
4	HOWARD ST S @ W CONWAY ST
5	I-895 S @ HARBOR TUNNEL THWY (SOUTH)
6	I-95 N @ KEITH AVE/EXIT 56
7	HOWARD ST S @ W PRATT ST
8	MD-295 N @ BAYARD ST
9	MARTIN L KING JR BLVD S @ BALTIMORE ST
10	I-895 N @ HOLABIRD AVE/EXIT 10
11	MT ROYAL AVE W @ US-1/W NORTH AVE
12	FOREST PARK AVE N @ WINDSOR MILL RD
13	I-895 S @ O'DONNELL ST/EXIT 11
14	I-95 N @ FORT MCHENRY TUNNEL
15	BOSTON ST W @ S CHESTER ST/FLEET ST
16	W NORTHERN PKY E @ ROLAND AVE
17	US-40 W @ BROADWAY
18	W NORTHERN PKY W @ I-83
19	MD-173 S @ FORT ARMISTEAD RD
20	I-83 N @ COLD SPRING LN/EXIT 9
21	I-95 N @ I-95 (EAST)
22	US-40 E @ MD-2/ST PAUL PL
23	US-40 W @ ATHOL AVE
24	US-40 W @ MD-295/PACA ST
25	US-40 E @ WOLFE ST

Top 25 Bottlenecks in Local Jurisdictions- 2nd 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-695 IL @ MD-372/WILKENS AVE/EXIT 12
2	I-695 IL @ PROVIDENCE RD/EXIT 28
3	I-95 N @ MD-152/EXIT 74
4	I-95 S @ MD-43/WHITE MARSH BLVD/EXIT 67
5	I-695 IL @ MD-122/SECURITY BLVD/EXIT 17
6	I-695 OL @ US-40/EXIT 15
7	I-70 E @ I-695/EXIT 91
8	I-695 OL @ I-70/EXIT 16
9	I-695 OL @ MD-567/CROMWELL BR RD/EXIT 29
10	I-695 IL @ EDMONDSON AVE/EXIT 14
11	I-695 OL @ MD-122/SECURITY BLVD/EXIT 17
12	I-695 OL @ MD-26/EXIT 18
13	I-695 IL @ I-83/MD-25/EXIT 23
14	I-95 N @ I-695/EXIT 49
15	I-695 IL @ MD-147/HARFORD RD/EXIT 31
16	I-695 IL @ MD-41/PERRING PKY/EXIT 30
17	I-695 IL @ MD-542/LOCK RAVEN BLVD/EXIT 29
18	I-695 OL @ EDMONDSON AVE/EXIT 14
19	I-70 W @ US-29/EXIT 87
20	MD-295 N @ MD-648/ANNAPOLIS RD/WATERVIEW AVE
21	I-695 IL @ I-795/NORTHWEST EXPY/EXIT 19
22	I-695 IL @ US-40/EXIT 15
23	I-695 IL @ I-70/EXIT 16
24	I-695 OL @ MD-41/PERRING PKY/EXIT 30
25	MD-140 E @ SUDBROOK LN

Carroll County

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

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

Howard County

Rank	Location
1	I-95 N @ MD-100/EXIT 43
2	I-95 S @ MD-216/EXIT 35
3	I-95 N @ MD-32/EXIT 38
4	I-95 S @ MD-175/EXIT 41
5	I-95 S @ MD-32/EXIT 38
6	I-70 W @ US-29/EXIT 87
7	MD-32 W @ I-95
8	I-95 N @ MD-175/EXIT 41
9	MD-100 W @ EXIT 7
10	MD-144 W @ ELLICOTT MILLS DR
11	I-95 N @ I-895/EXIT 46
12	MD-144 E @ WESTCHESTER AVE
13	I-95 N @ MD-216/EXIT 35
14	I-95 S @ I-895/EXIT 46
15	I-70 W @ MARRIOTTSVILLE RD/EXIT 83
16	I-70 E @ US-29/EXIT 87
17	US-40 W @ ST JOHNS LN
18	US-29 N @ MD-32/EXIT 16
19	I-95 N @ PRINCE GEORGE'S/HOWARD CO LINE
20	US-1 S @ WHISKEY BOTTOM RD
21	I-95 S @ MD-100/EXIT 43
22	I-70 W @ MD-32/EXIT 80
23	MD-32 W @ I-70/US-40
24	US-29 N @ US-40
25	US-40 E @ CENTENNIAL LN/BETHANY LN

Top 25 Bottlenecks in Local Jurisdictions- 2nd 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	Location
1	US-50 W @ BAY BRIDGE
2	US-50 E @ BAY BRIDGE
3	US-50 E @ MD-213/CENTREVILLE RD
4	US-50 W @ MD-213/CENTREVILLE RD
5	US-50 W @ US-301/BLUE STAR MEML HWY
6	US-50 W @ MD-18/MAIN ST/EXIT 41
7	US-50 W @ MD-522/DOMINION ROAD/EXIT 39B
8	US-301 S @ US-50
9	US-50 W @ NESBIT RD/EXIT 45B
10	US-50 E @ MD-8/EXIT 37
11	US-50 W @ MD-404/QUEEN ANNE HWY
12	US-50 W @ MD-8/EXIT 37
13	US-50 E @ US-301/BLUE STAR MEML HWY
14	US-50 W @ CHESTER RIVER BEACH RD/EXIT 43B
15	MD-313 S @ MD-544/MCGINNES RD
16	US-50 E @ BEGIN FREEWAY
17	US-50 E @ MD-522/DOMINION ROAD/EXIT 39B
18	US-50 E @ MD-18/MAIN ST/EXIT 41
19	US-50 E @ MD-404/QUEEN ANNE HWY
20	US-50 W @ DUNDEE AVE/EXIT 40B
21	US-50 E @ PINEY RD/PINEY CRK RD/EXIT 40A
22	US-50 E @ MD-18/MAIN ST/EXIT 42
23	MD-300 E @ MD-213/CHURCH HILL RD
24	MD-213 S @ MD-544/MCGINNES RD
25	US-50 E @ MD-18/MAIN ST/EXIT 38

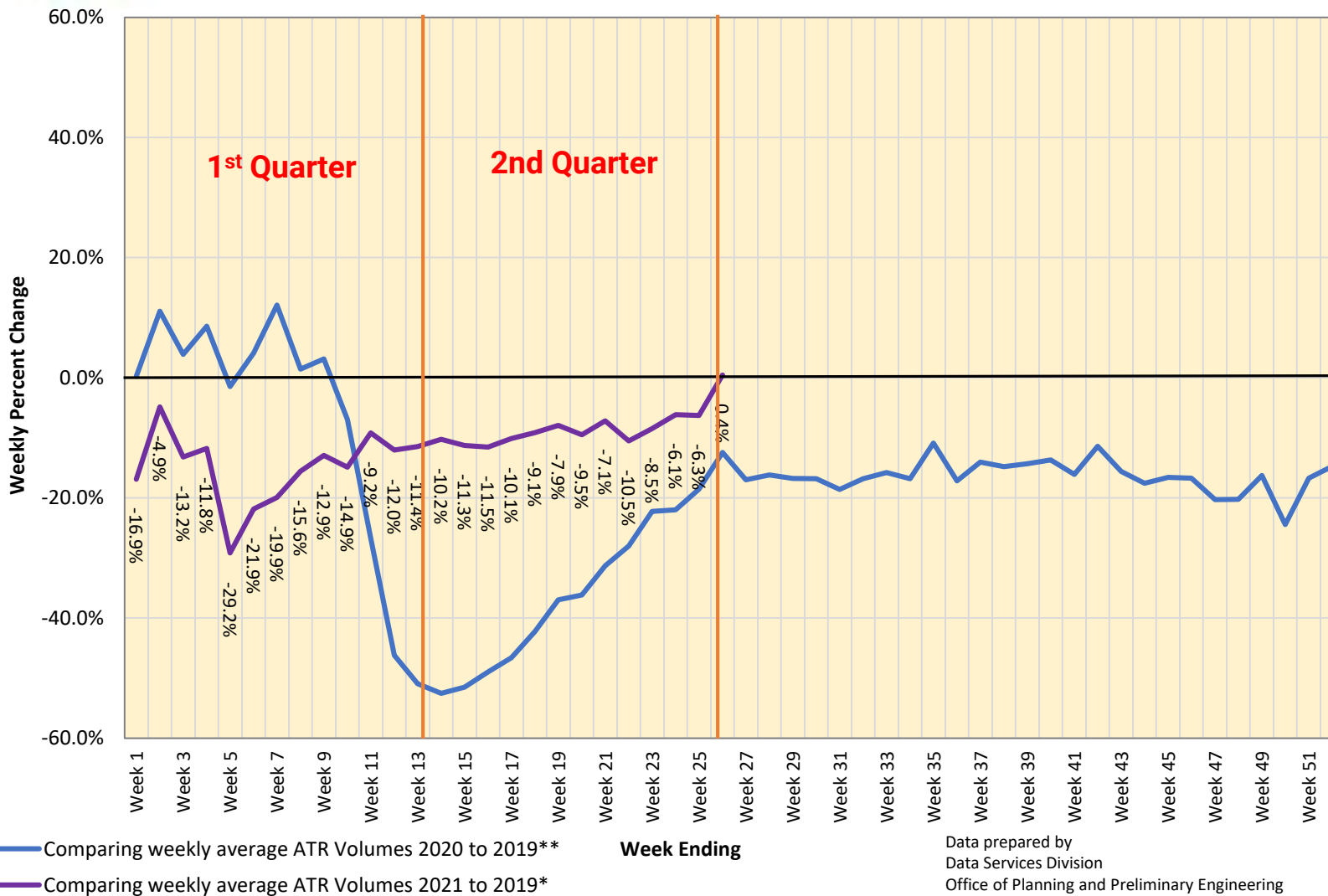
Traffic Volume Trend Graphs

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

Traffic Volumes



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

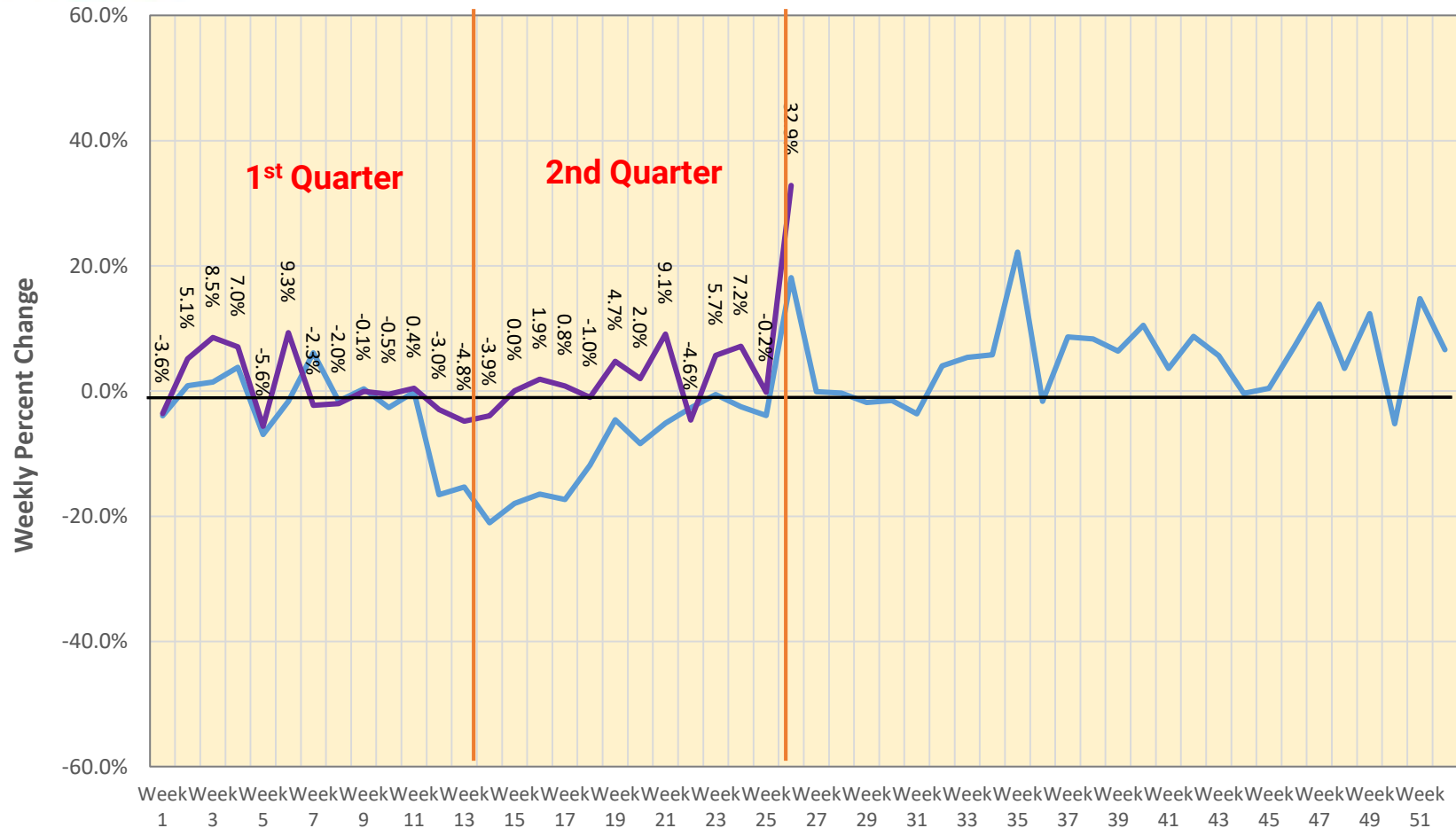


Data prepared by
Data Services Division
Office of Planning and Preliminary Engineering

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*

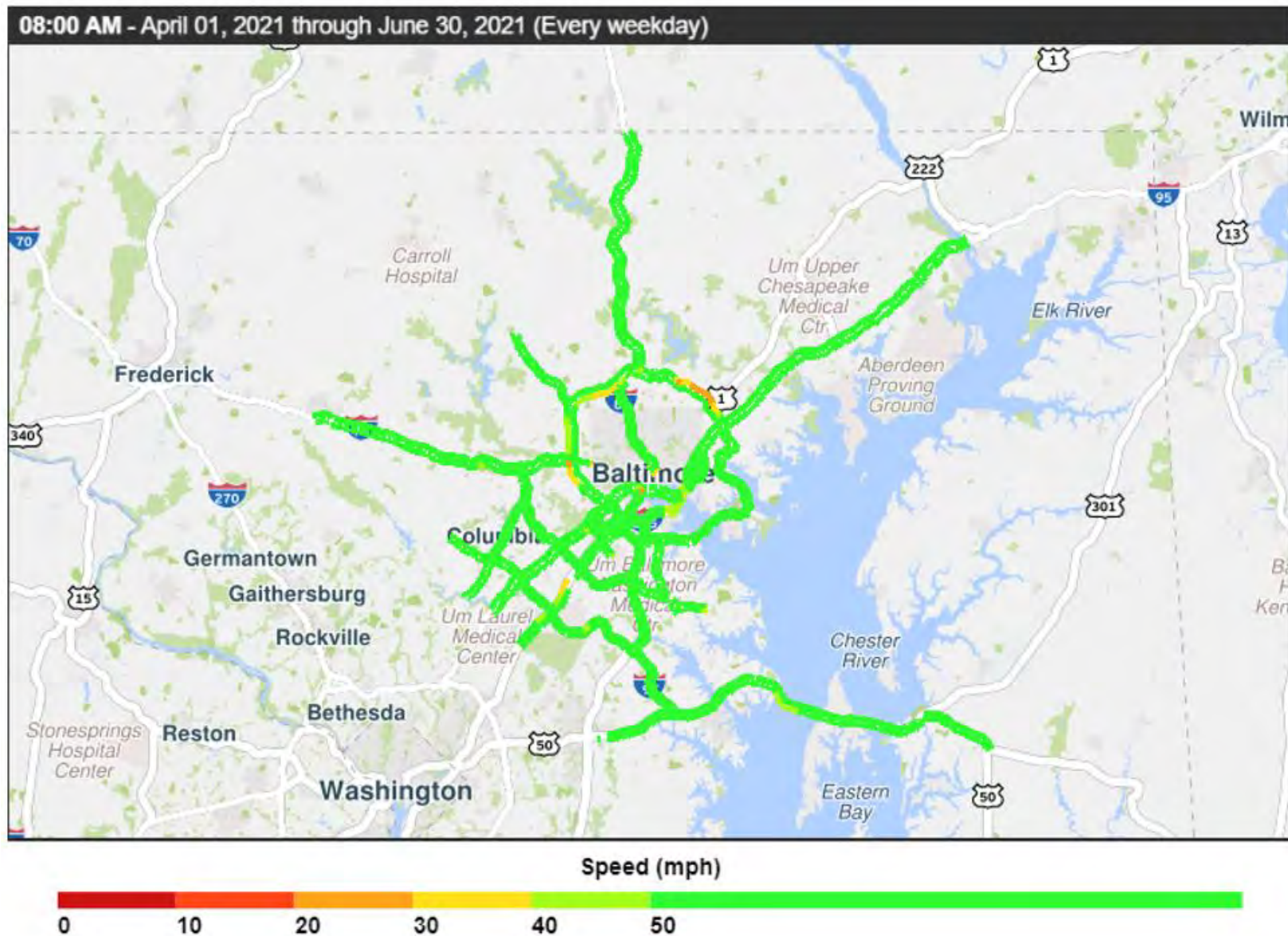
Trucks are FHWA Class 5-13

Week Ending

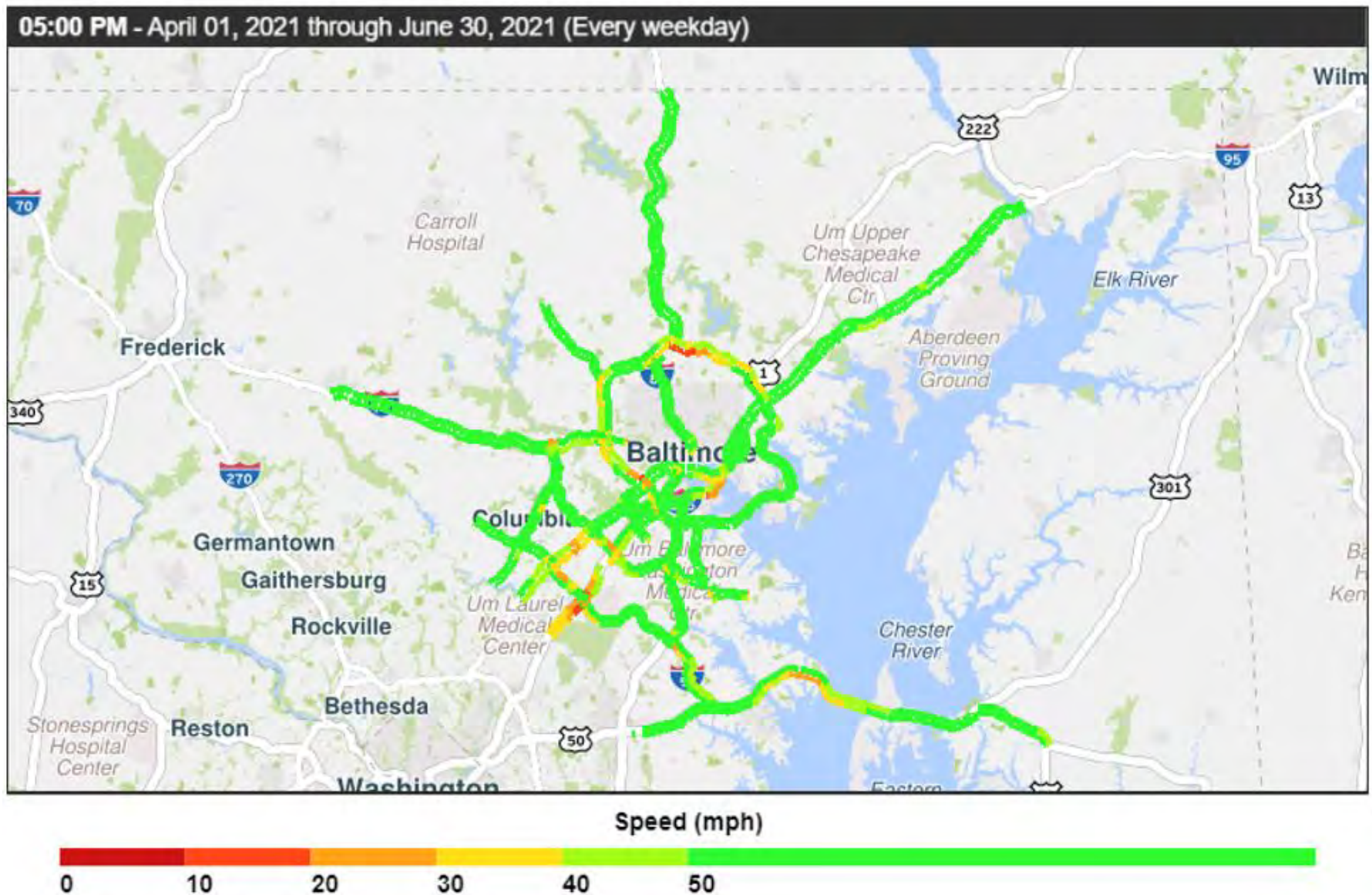
Data prepared by
Data Services Division
Office of Planning and Preliminary Engineering

Regional Speed Maps

AM Peak Period Rush Hour: April 1 – June 30th



PM Peak Period Rush Hour: April 1 – June 30th



System Reliability Performance Measures

Percent of reliable person-miles traveled on the Interstate

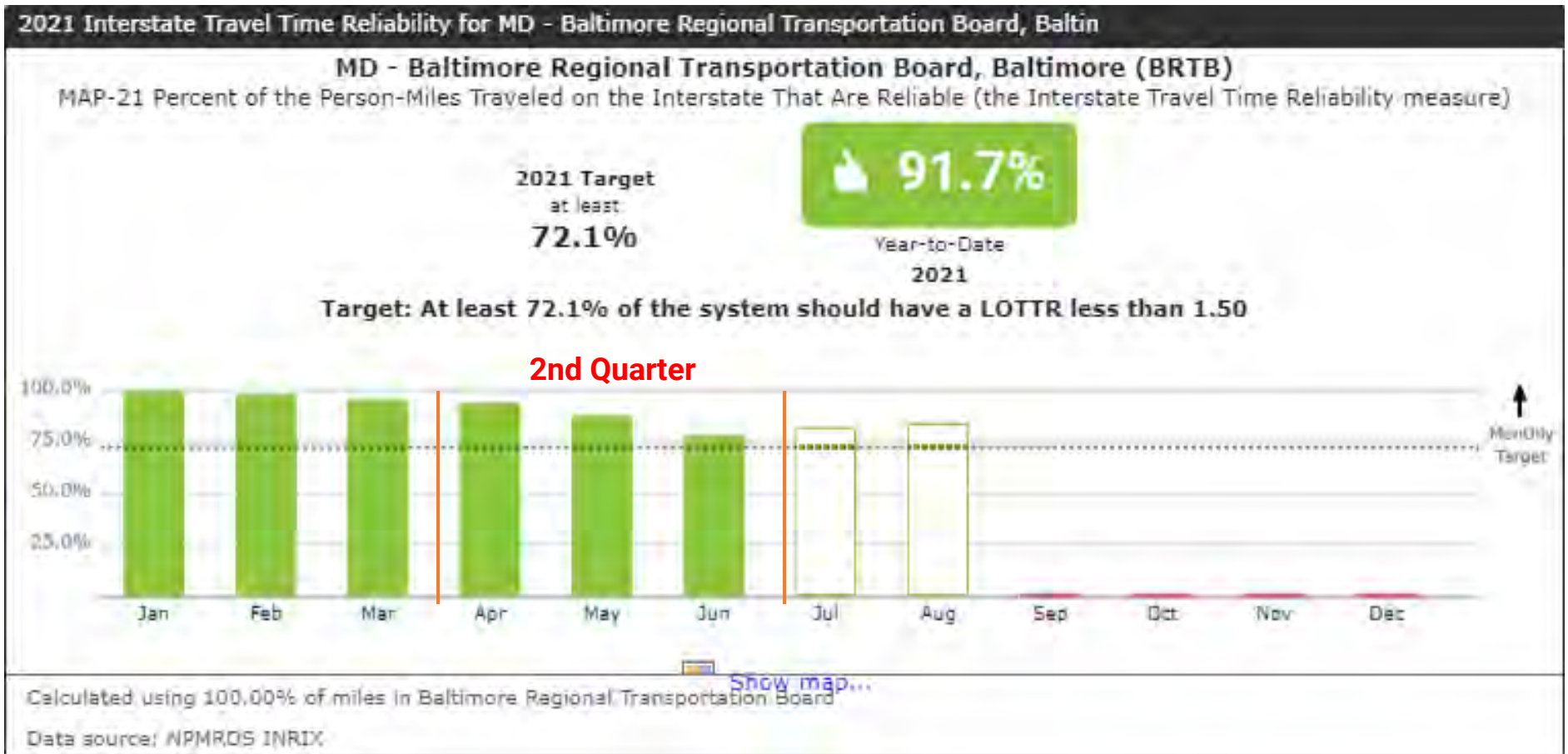
Percent of reliable person-miles traveled on the Non-Interstate NHS

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

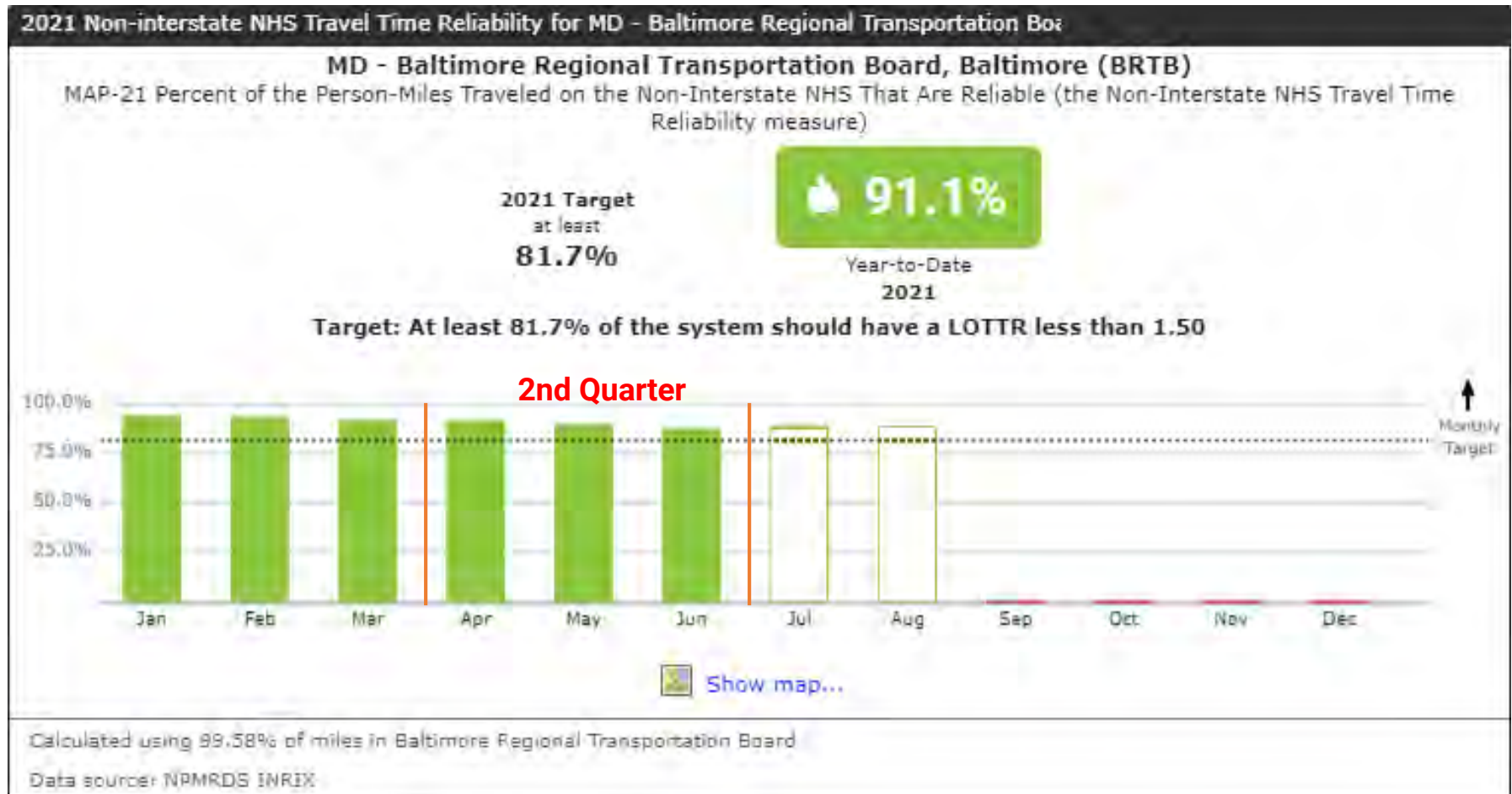
Travel time reliability is the consistency or dependability in travel times, as measured from day-to-day and/or across different times of the day.



Trends in the 2nd Quarter from April through June show a downward trend as traffic conditions begin to approach pre-pandemic levels. An uptick after the end of the quarter may be attributed to summer conditions with schools not in session.

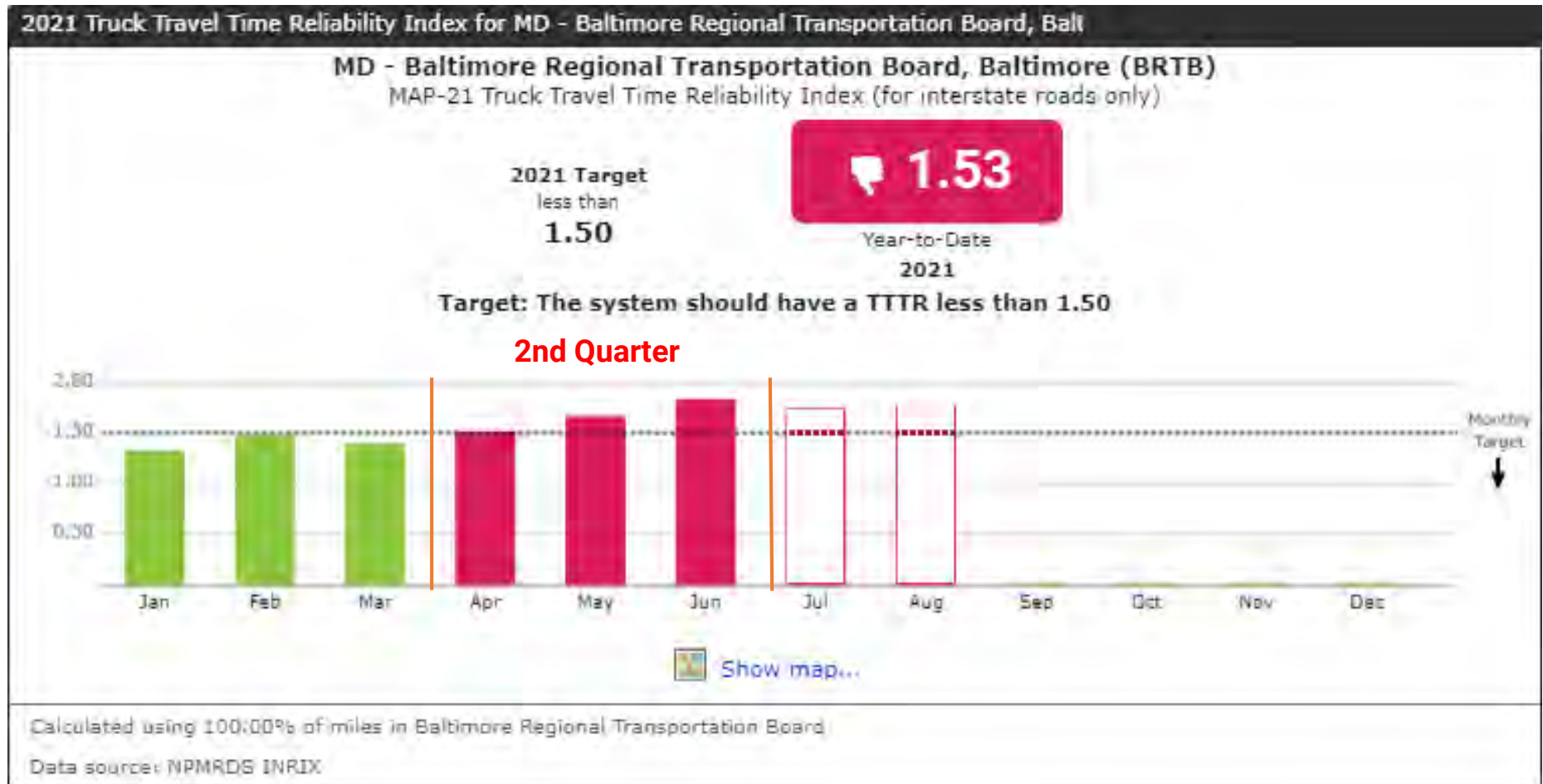
Level of Travel Time Reliability: non-Interstates

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
Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May		
2	1	3	1	-	-	-	4	2	-	-	1	US-50 E @ WILLIAM PRESTON LANE BRG
9	3	2	3	3	2	3	3	1	2	1	2	MD-295 S @ MD-198
-	-	14	8	18	25	-	6	4	3	3	3	I-95 N @ MD-100/EXIT 43
-	-	-	18	12	-	-	-	-	10	2	4	I-95 N @ MD-24/EXIT 77
-	15	-	-	-	8	-	-	24	12	4	5	I-95 S @ MD-24/EXIT 77
1	5	1	11	-	-	-	-	-	16	10	6	US-50 W @ WILLIAM PRESTON LANE BRG
-	-	-	-	-	-	-	-	-	-	-	7	I-95 N @ MILLARD E TYDINGS MEMORIAL BRG
-	-	-	21	22	-	-	-	-	-	7	8	I-95 S @ MD-216/EXIT 35
-	-	7	9	19	-	-	5	8	6	6	9	I-695 CW @ MD-372/WILKENS AVE/EXIT 12
-	-	-	-	-	-	-	-	-	-	-	10	I-95 N @ MD-543/EXIT 80
-	-	8	6	17	10	4	-	6	5	5	11	MD-295 N @ CANINE RD
-	12	5	5	1	-	-	1	3	8	-	12	I-695 CW @ PROVIDENCE RD/EXIT 28
-	-	-	7	-	-	22	-	-	-	-	13	I-95 S @ MD-152/EXIT 74
-	-	-	-	-	-	-	20	12	-	22	14	I-695 CCW @ US-40/EXIT 15
-	-	-	-	-	11	-	-	-	-	15	15	I-95 S @ MD-175/EXIT 41
-	-	-	-	-	-	-	-	-	-	13	16	I-695 CCW @ I-70/EXIT 16
-	-	-	-	-	-	-	-	-	21	-	17	I-695 CW @ EDMONDSON AVE/EXIT 14
-	-	-	-	-	-	-	-	7	15	14	18	I-695 CW @ MD-122/SECURITY BLVD/EXIT 17
3	4	4	2	6	6	-	-	-	18	8	19	I-895 N @ HARBOR TUNNEL THWY (NORTH)
-	-	-	-	-	-	-	-	-	-	-	20	I-695 CW @ MD-147/HARFORD RD/EXIT 31
-	-	-	-	24	22	-	-	-	14	-	21	I-70 E @ I-695/EXIT 91
-	23	-	-	2	13	5	-	-	-	-	22	I-95 N @ MD-32/EXIT 38
18	9	12	14	-	-	-	-	15	13	-	23	I-95 N @ MD-152/EXIT 74
-	-	25	-	-	-	-	-	-	-	-	24	I-695 CCW @ MD-26/EXIT 18
-	-	-	-	-	-	-	-	-	-	-	25	MD-3 N @ MD-175/ANNAPOLIS RD/MILLERSVILLE
Ranking 1 2 3												

Using INRIX data

Updated Jun 30, 2021 8:47 PM

Conclusions:

MD-295 S @ MD 198 is the most consistent bottleneck placing in the Top 3 every month over the last year.

The #1 bottleneck in June US-50 E at the (William Preston Lane) Bay Bridge is more seasonal now that the ongoing deck rehabilitation has been completed on the eastbound span of the bridge..

Credits



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For More Information



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