Quarterly Congestion Analysis Report

Top 10 Bottlenecks in the Baltimore Region

2nd Quarter 2024

BRTB Baltimore Regional Transportation Board

Report created November 2024

BALTIMORE METROPOLITAN COUNCIL

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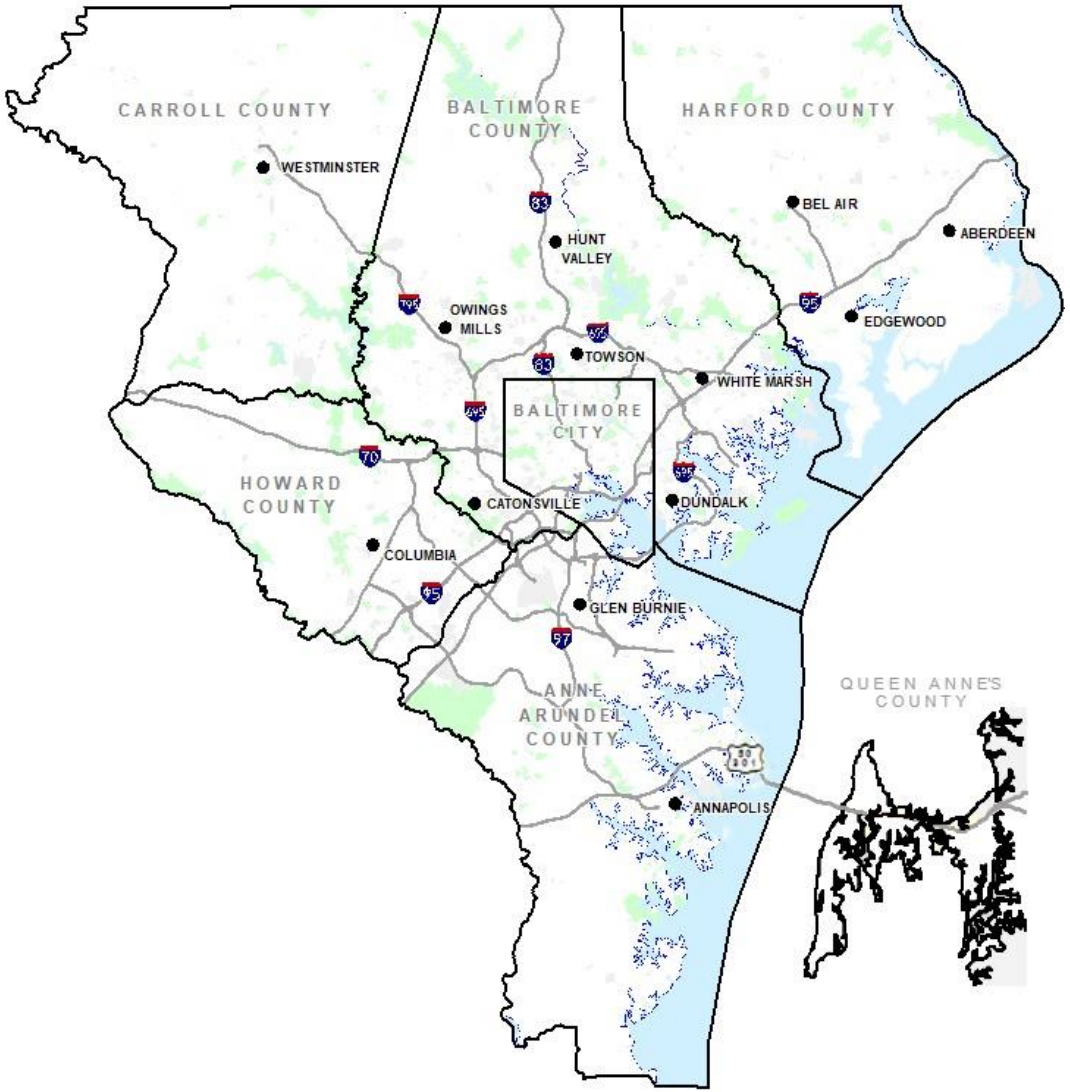
About the Region

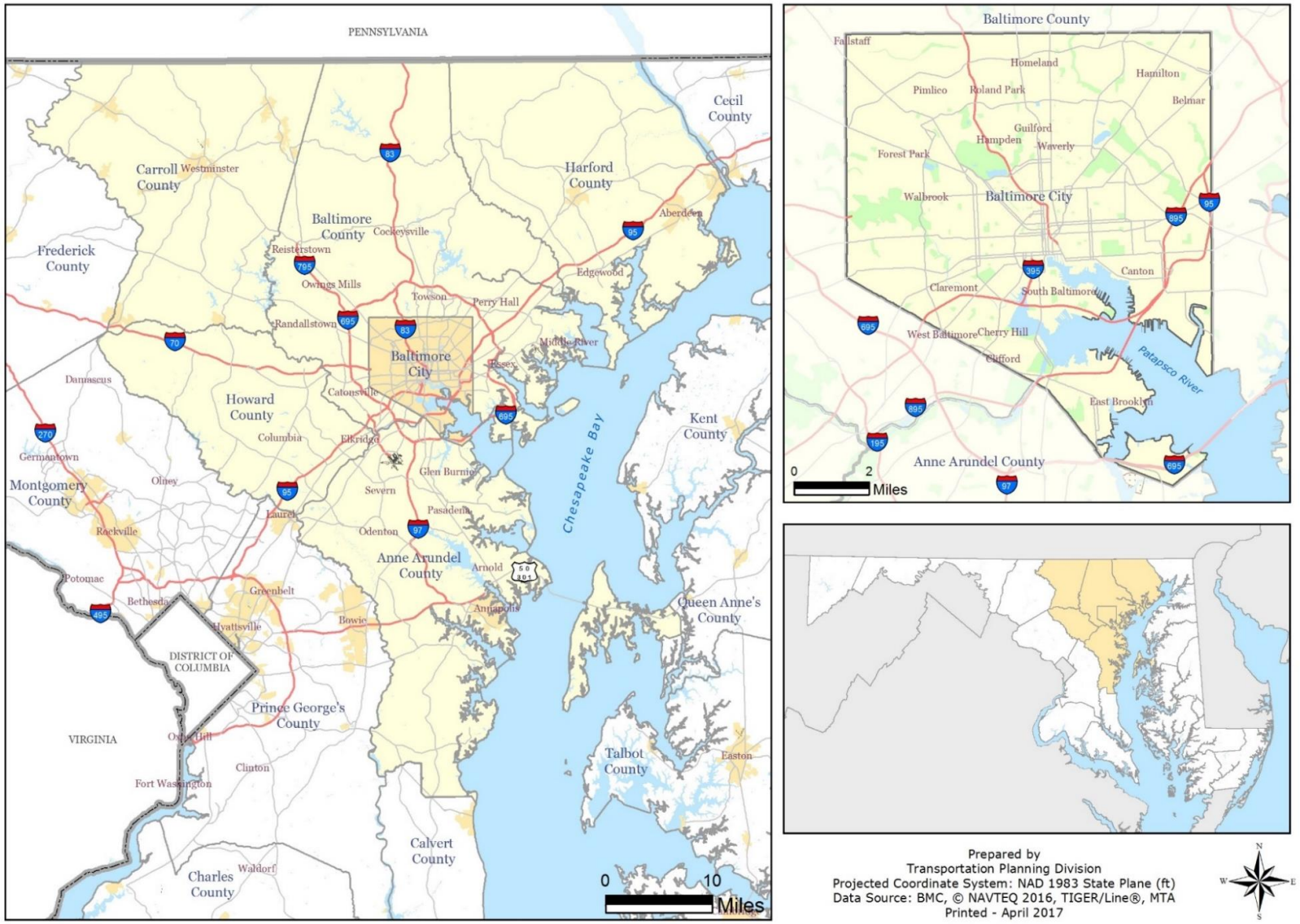
Baltimore Region



The Baltimore region is the nation's 19th largest market, with over 2.8 million people. The market also ranks among the top 20 in the number of households, total effective buying income and retail sales.

County	2020 Census	2010 Census	Change	Area
Anne Arundel	588,261	537,656	+9.41%	414.90 sq mi
Baltimore City	585,708	620,961	−5.68%	80.94 sq mi
Baltimore	854,535	805,029	+6.15%	598.30 sq mi
Carroll	172,891	167,134	+3.44%	447.59 sq mi
Harford	260,924	244,826	+6.58%	437.09 sq mi
Howard	332,317	287,085	+15.76%	250.74 sq mi
Queen Anne's	49,874	47,798	+4.34%	371.91 sq mi
Total	2,844,510	2,710,489	+4.94%	2,601.47 sq mi

Baltimore 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

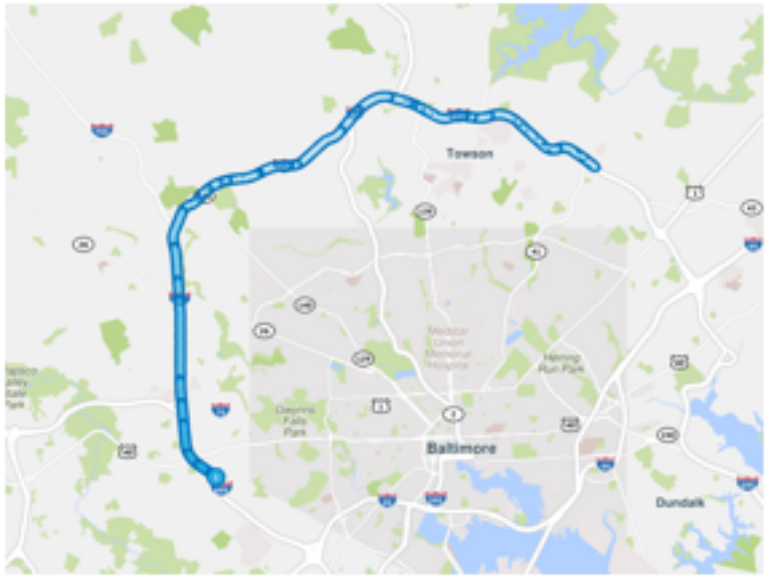
Bottleneck Analytics

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.
- **Previous Quarter Ranking** - Bottleneck ranking from the previous report if the bottleneck was in the Top 10.
- **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.
- **Volume Estimate** - AADT weighted by queue length.
- **Total Delay** - Raw Speed drop weighted by VMT Factor (in millions).

Rank	Location	Previous Quarter Ranking	Avg. Max. Length (mi)	Avg. Daily Duration	Volume Estimate (AADT)	Total Delay (Millions)
1	I-695 OL @MD-26/LIBERTY RD/EXIT 18	1	1.88	2 h 6 m	98,434	82.4
2	I-95 N @ MD-152/MOUNTAIN RD/EXIT 74	3	7.18	40 m	85,463	67.0
3	I-695 IL @ MD-372/WILKENS AVE/EXIT 12	5	2.00	1 h 45 m	98,964	63.7
4	I-95 N @ MD-100/EXIT 43				103,385	60.9
5	I-95 S @ MD-24/EXIT 77				58,863	43.9
6	I-695 OL @ PROVIDENCE RD/EXIT 28		3.72	38 m	78,288	37.1
7	I-97 S @ MD-178/EXIT 5		2.27	1 h 45 m	58,228	35.6
8	I-695 OL @ I-83/MD-25/EXIT 23		3.50	51 m	93,455	34.6
9	I-695 IL @ MD-22/SECURITY BLVD/EXIT 17		2.18	1 h 15 m	102,889	34.2
10	MD-295 N @ CANINE RD		2.48	1 h 18 m	49,927	31.4

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 2024

Top 10 Bottlenecks in the Region

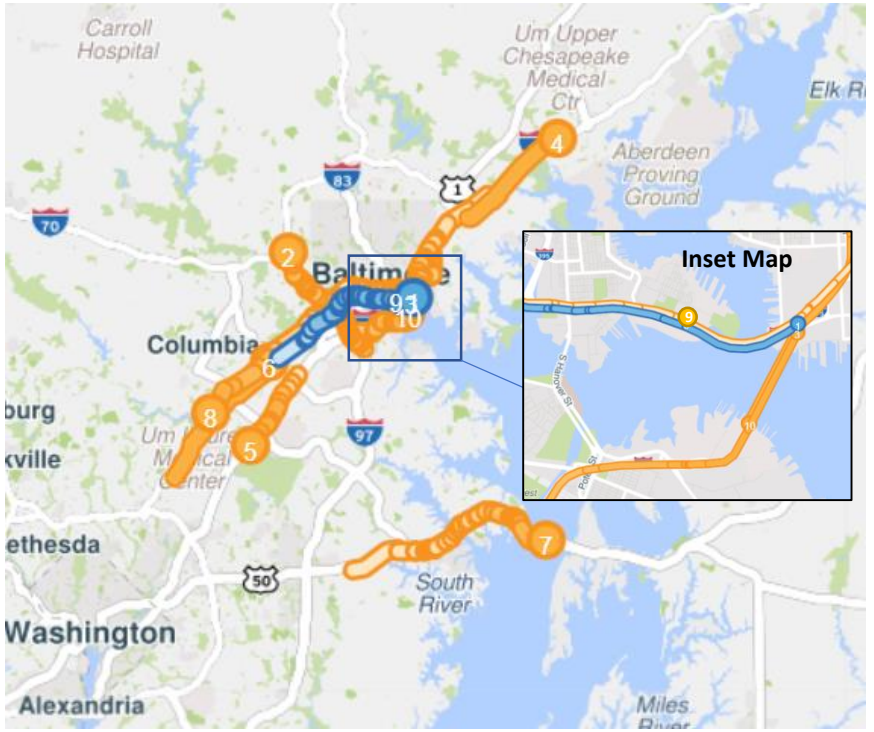
Q2 2024

Rank	Location	Previous Quarter Ranking	Avg. Max. Length (miles)	Avg. Daily Duration	Volume Estimate (AADT)	Total Delay (Millions)
1	I-95 N @ FORT MCHENRY TUNNEL		6.33	3 h 00 m	82,358	**343.1**
2	I-695 IL @ SECURITY BLVD/EXIT 17	8	4.13	2 h 46 m	100,421	195.9
3	I-895 N @ HARBOR TUNNEL THWY (NORTH)		2.83	**6 h 12 m**	33,250	187.9
4	I-95 N @ MD-152/EXIT 74	**1**	**6.75**	2 h 43 m	83,538	181.0
5	MD-295 S @ MD-198	4	3.29	5 h 56 m	47,393	130.7
6	I-95 N @ MD-100/EXIT 43	3	3.89	3 h 25 m	**102,763**	128.9
7	US-50 E @ BAY BRIDGE	9	5.42	2 h 29 m	39,016	127.5
8	I-95 S @ MD-216/EXIT 35	5	4.96	1 h 52 m	100,306	101.2
9	I-95 S @ FORT MCHENRY TUNNEL		3.92	1 h 44 m	63,546	98.5
10	I-895 S @ HARBOR TUNNEL THWY (SOUTH)		3.42	3 h 38 m	31,017	92.8

IL = Inner Loop OL = Outer Loop

Red #s = highest value for that metric

Total Delay = Raw Speed drop weighted by VMT Factor (in millions)



*Bottlenecks are ranked by **Base Impact** – the sum of queue lengths over the duration of the bottleneck and weighted by speed differential, congestion and **total delay**.*

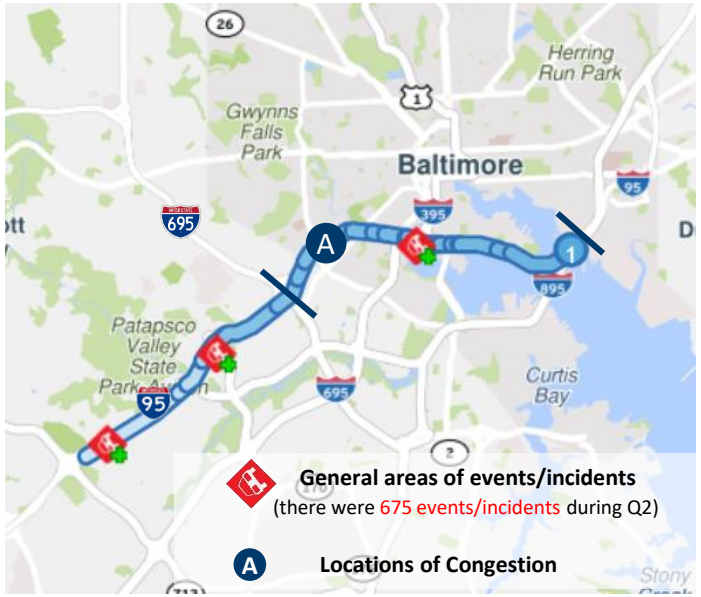
Top 10 Bottleneck Rankings in the Baltimore Region – 2nd Quarter 2024 by Location

Includes:

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

1 I-95 N @ FORT MCHENRY TUNNEL

Quarterly Bottleneck Evaluation Summary Q2 2024



With the loss of the Key Bridge on 3/26 travel times in this corridor have doubled in the afternoon rush from I-895 northbound to the Fort McHenry Toll Plaza.

PK. AVG. SPEED

AM Peak | 8:40AM
52.7 mph
(24% slower than free flow)

PM Peak | 4:50 PM
24.4 mph
(63% slower than free flow)

PK. TRAVEL TIME

AM Peak |8:40AM
14.5 min

PM Peak |4:50 PM
31.2 min

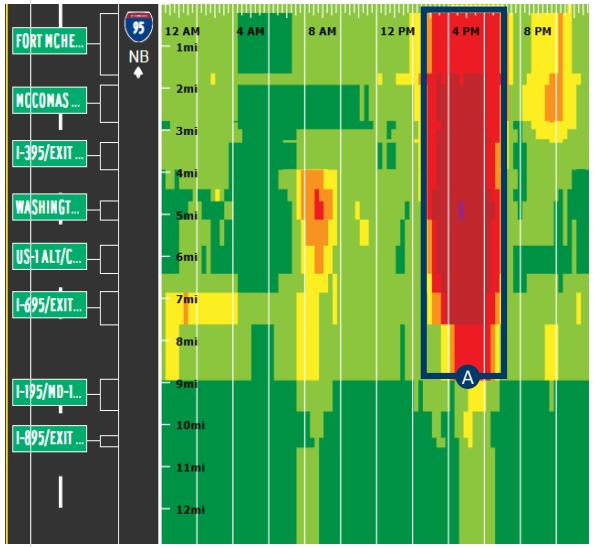
Q2 DELAY COST

Delay Cost
$17.053 M

Veh-hrs. of Delay
407,601 h

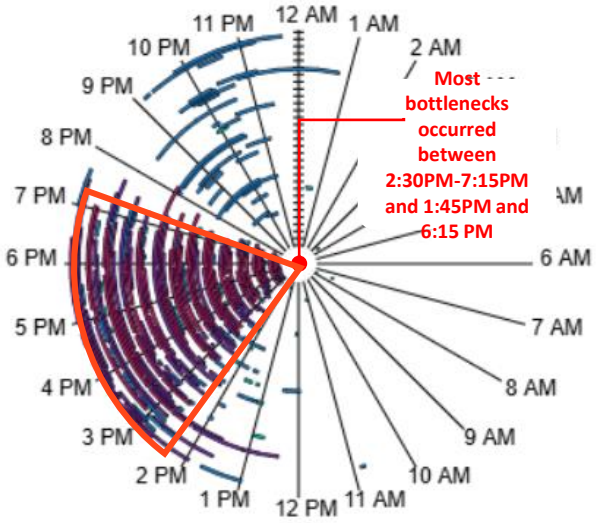
Congested Locations

A **2:30PM – 7:15PM** I-695/Exit 49 to Fort McHenry Tunnel



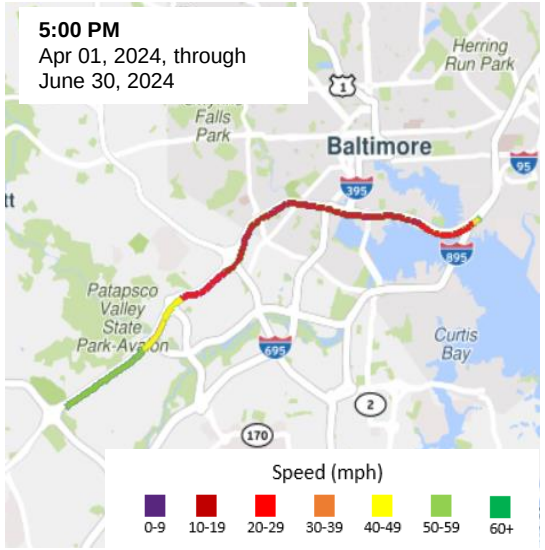
Bottleneck Occurrences

The center represents the beginning **of 04.01.24** and the outer edge the end of **06.30.24**



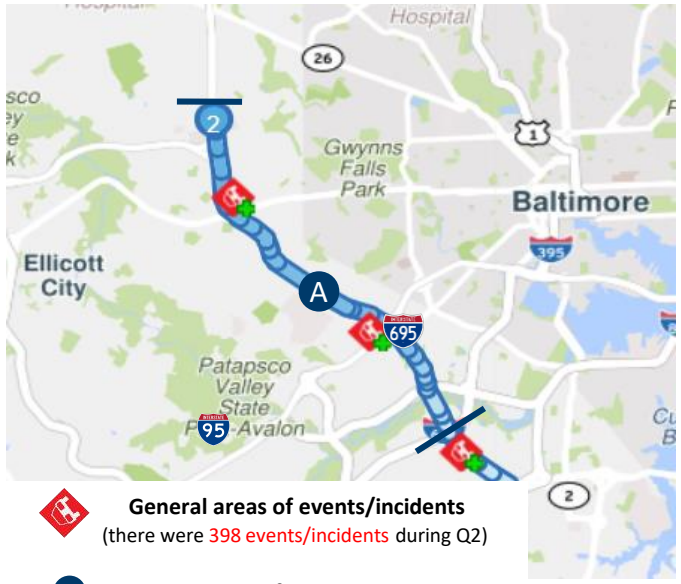
Corridor Speeds Over Time

For animated playback of corridor speeds over time, click anywhere on the map below



2 I-695 IL @ MD-122/SECURITY BLVD /EXIT 17

Quarterly Bottleneck Evaluation Summary Q2 2024



General areas of events/incidents
(there were 398 events/incidents during Q2)

A **Locations of Congestion**

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.

PK. AVG. SPEED

AM Peak | 7:50 AM
48.3 mph
(28% slower than free flow)

PM Peak | 4:55 PM
26.9 mph
(59% slower than free flow)

PK. TRAVEL TIME

AM Peak | 7:50 AM
12.8 min

PM Peak | 4:50 PM
23.0 min

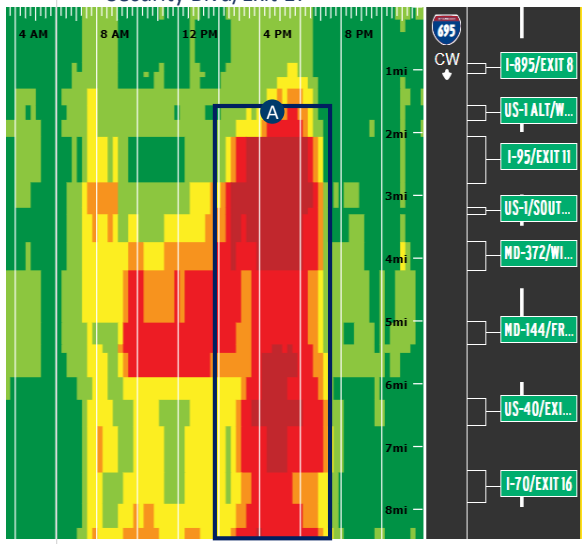
Q2 DELAY COST

Delay Cost
$17.741 M

Veh-hrs. of Delay
424,050 h

Congested Locations

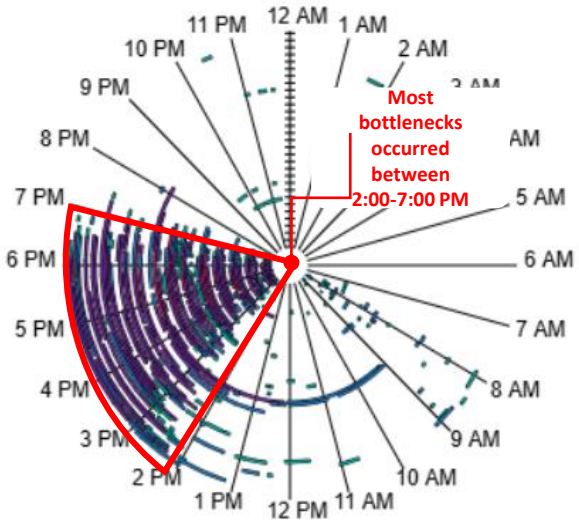
A **2:00PM – 7:00PM** US-1 ALT/Exit 10 to Security Blvd/Exit 17



Speed (mph)
0-9 10-19 20-29 30-39 40-49 50-59 60+

Bottleneck Occurrences

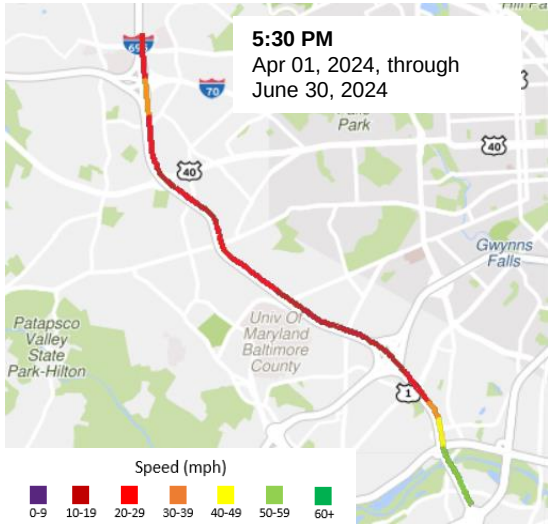
The center represents the beginning **of 04.01.24** and the outer edge the end of **06.30.24**



Max Queue Length (miles)
0-1.9 2-4.9 5-7.9 8+

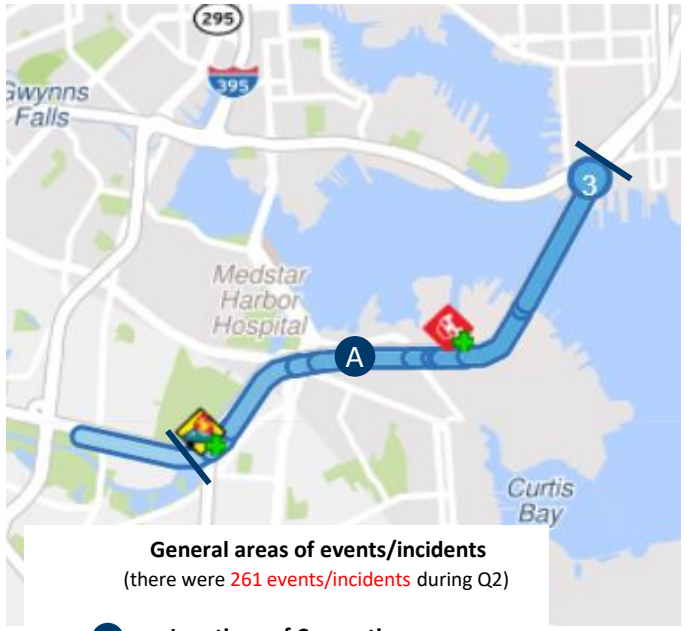
Corridor Speeds Over Time

For animated playback of corridor speeds over time, click anywhere on the map below



3 I-895 N @ Harbor Tunnel Thwy

Quarterly Bottleneck Evaluation Summary Q2 2024



General areas of events/incidents
(there were 261 events/incidents during Q2)

A **Locations of Congestion**

With the loss of the Key Bridge on 3/26 travel times in this corridor have doubled in the afternoon rush from MD-295 northbound to the exit to the Harbor Tunnel.

PK. AVG. SPEED

AM Peak | 7:55 AM
36.8 mph
(36% slower than free flow)

PM Peak | 5:00 PM
15.1 mph
(71% slower than free flow)

PK. TRAVEL TIME

AM Peak | 7:55 AM
9.0 min

PM Peak |5:00 PM
22.0 min

Q2 DELAY COST

Delay Cost
$7.679 M

Veh-hrs. of Delay
183,535 h

Congested Locations

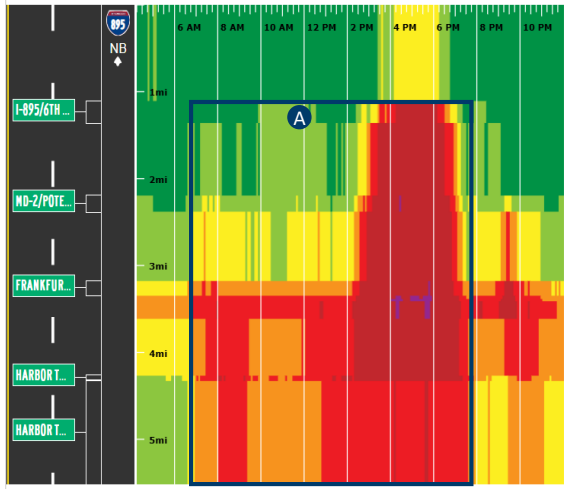
A **7AM – 7:30PM** I-895/6th Ave/Exit 6 to Harbor Tunnel Thwy

Bottleneck Occurrences

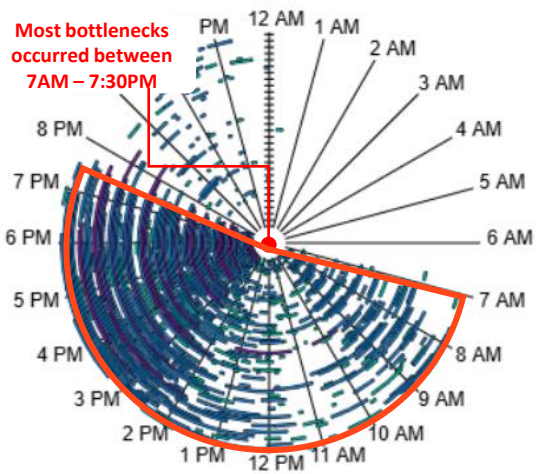
The center represents the beginning **of 04.01.24** and the outer edge the end of **06.30.24**

Corridor Speeds Over Time

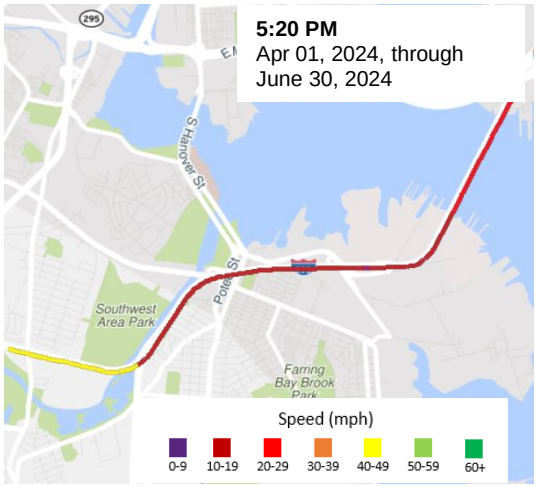
For animated playback of corridor speeds over time, click anywhere on the map below



Speed (mph)
0-9 | 10-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60+

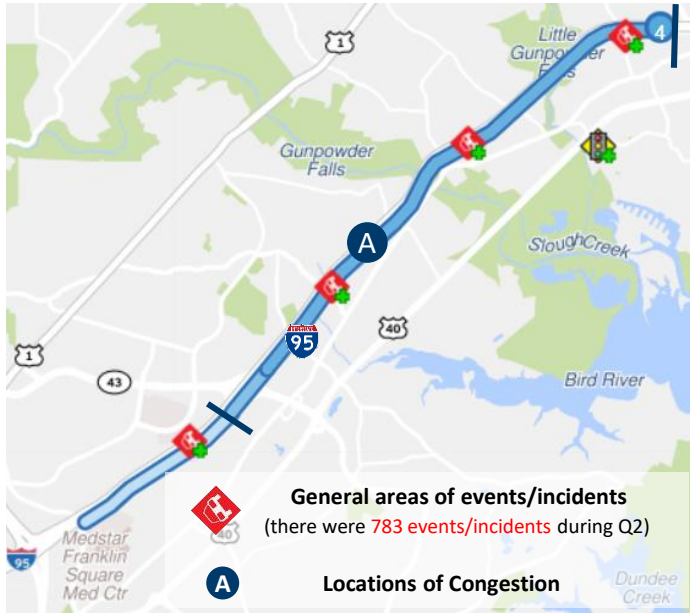


Max Queue Length (miles)
0-1.9 | 2-4.9 | 5-7.9 | 8+



4 I-95 N @ MD-152/EXIT 74

Quarterly Bottleneck Evaluation Summary Q2 2024



PK. AVG. SPEED

AM Peak | 6:55 AM
47.5 mph
(33% slower than free flow)

PM Peak | 12:00 PM
41.4 mph
(40% slower than free flow)

PK. TRAVEL TIME

AM Peak | 6:55 AM
11.8 min

PM Peak |12:00 PM
13.5 min

Q2 DELAY COST

Delay Cost
$9.439 M

Veh-hrs. of Delay
225,603 h

Congested Locations

A **6:45AM – 5:00PM** MD-43/White Marsh Blvd/Exit 67 to MD-152/Mountain Rd/Exit 74

Bottleneck Occurrences

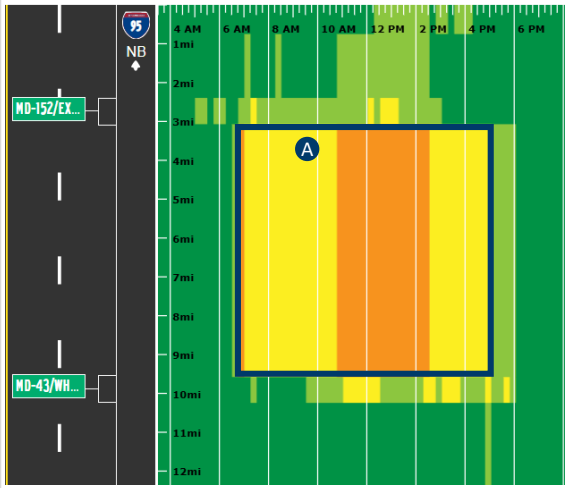
The center represents the beginning **of 04.01.24** and the outer edge the end of **06.30.24**

Corridor Speeds Over Time

For animated playback of corridor speeds over time, click anywhere on the map below

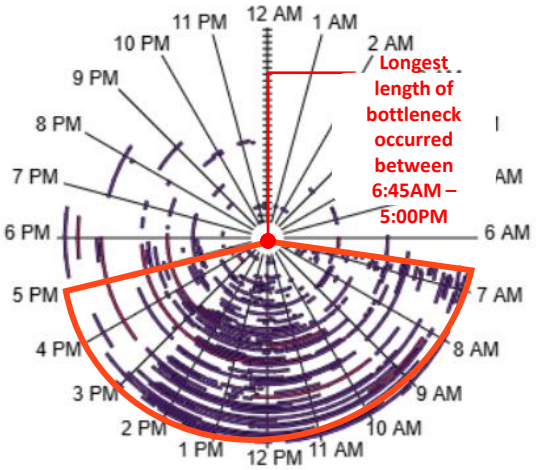
I-95 Express Toll Lanes Northbound Extension From MD-43 to MD-152 is responsible for shoulder and lane closures primarily in the afternoon hours with occasional overnight work.

The extension is expected to be open to traffic by the end of 2024 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 and off peak shoulder and lane closures.



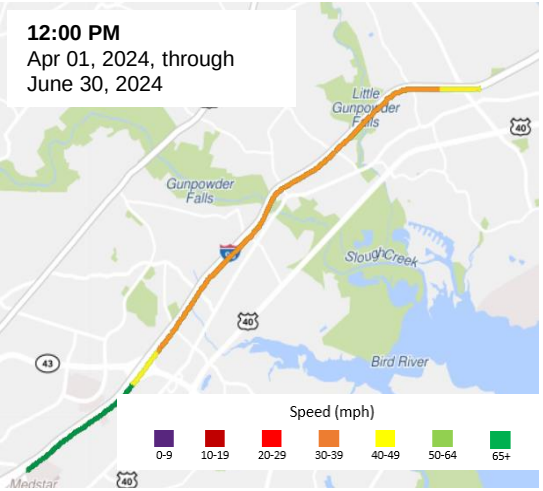
Speed (mph)

0-9 10-19 20-29 30-39 40-49 50-64 65+



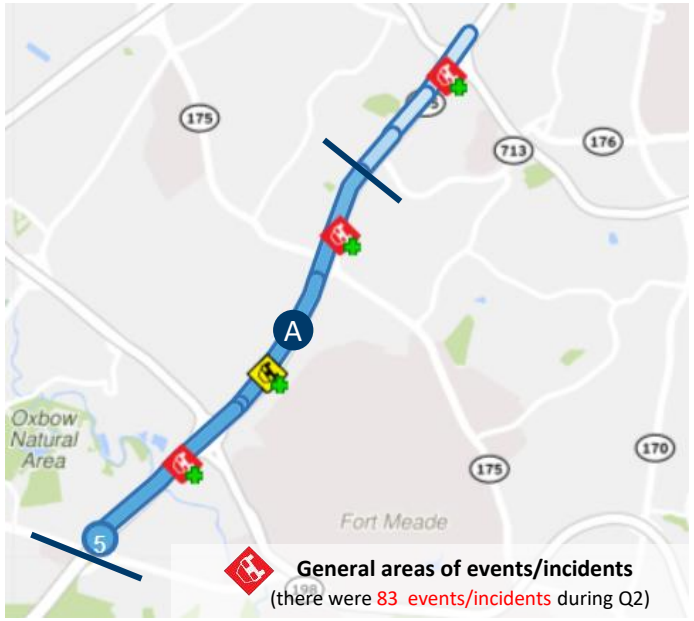
Max Queue Length (miles)

0-1.9 2-4.9 5-7.9 8+



5 MD-295 S @ MD-198

Quarterly Bottleneck Evaluation Summary Q2 2024



General areas of events/incidents
(there were 83 events/incidents during Q2)

A **Locations of Congestion**

Southbound PM congestion starting at MD-198 extending into the southern portion of the Baltimore region near Fort Meade occurring primarily during the afternoon peak period.

Volume related delays are most likely caused by factors such as Baltimore commuters traveling to DC and Fort Meade and the MD-295 merge with the heavily congested Capital Beltway.

PK. AVG. SPEED

AM Peak |7:50 AM
38.8 mph
(43% slower than free flow)

PM Peak |4:55 PM
26.1 mph
(57% slower than free flow)

PK. TRAVEL TIME

AM Peak | 7:50 AM
10.2 min

PM Peak | 4:55 PM
15.2 min

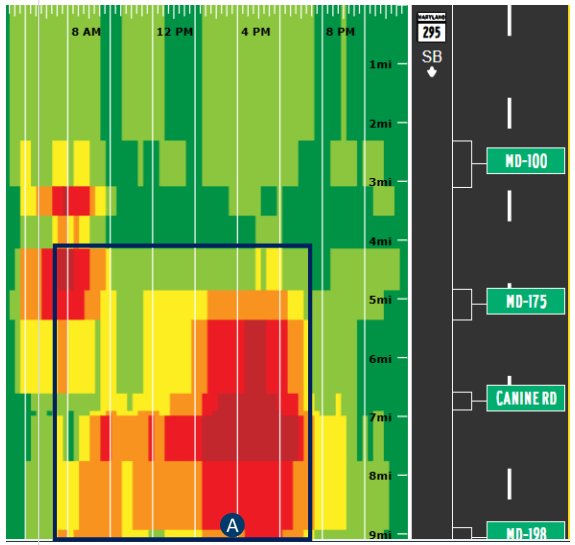
Q2 DELAY COST

Delay Cost
$11.035 M

Veh-hrs. of Delay
263,762 h

Congested Locations

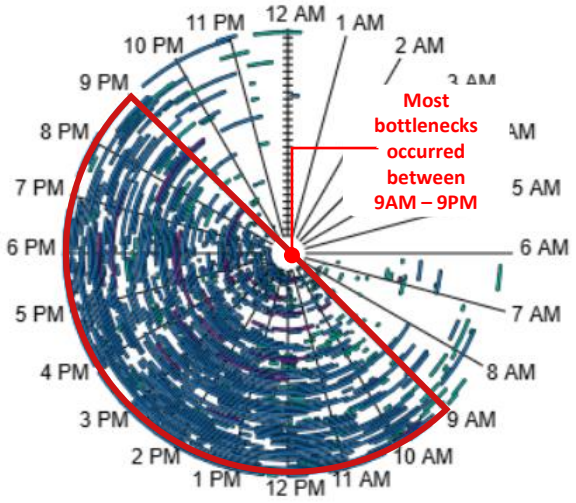
A **7:15AM –7:30PM** MD-175 to MD-198



Speed (mph)
0-9 10-19 20-29 30-39 40-49 50-59 60+

Bottleneck Occurrences

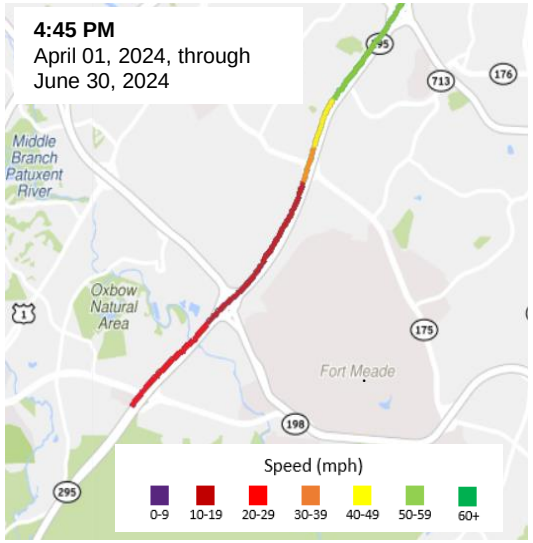
The center represents the beginning **of 04.01.24** and the outer edge the end of **06.30.24.**



Max Queue Length (miles)
0-1.9 2-4.9 5-7.9 8+

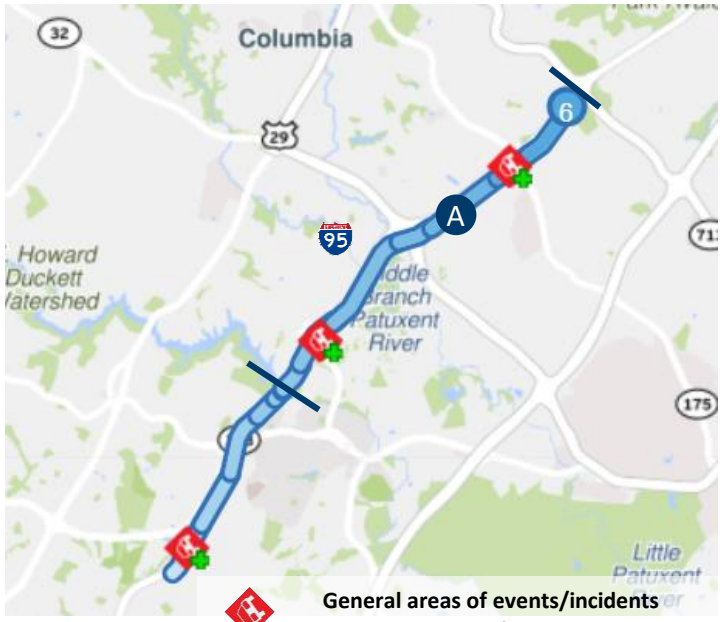
Corridor Speeds Over Time

For animated playback of corridor speeds over time, click anywhere on the map below



6 I-95 N @ MD-100/EXIT 43

Quarterly Bottleneck Evaluation Summary Q2 2024



General areas of events/incidents
(there were 528 events/incidents during Q2)

A **Locations of Congestion**

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.

PK. AVG. SPEED

AM Peak | 7:50 AM
48.3 mph
(32% slower than free flow)

PM Peak |3:45 PM
38.8 mph
(43% slower than free flow)

PK. TRAVEL TIME

AM Peak |7:50 AM
14.9 min

PM Peak |3:45 PM
18.5 min

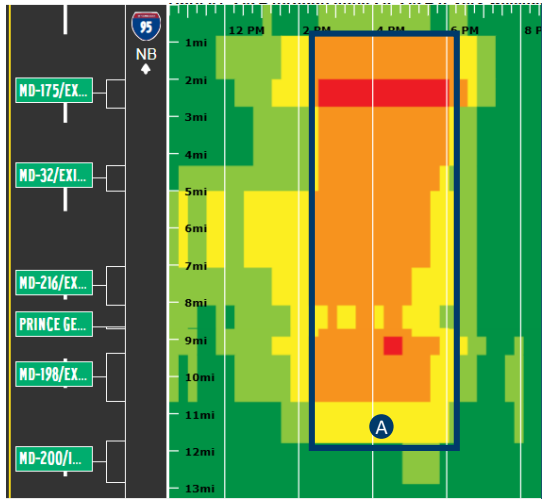
Q2 DELAY COST

Delay Cost
$16.041 M

Veh-hrs. of Delay
383,408 h

Congested Locations

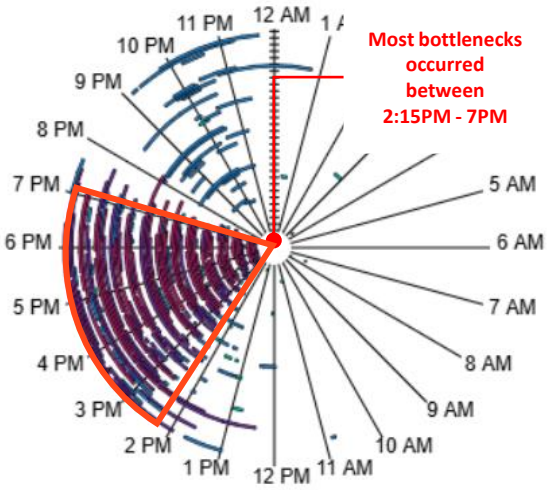
A **2:15PM – 6:15PM** Prince George's/Anne Arundel Line to MD-100/Exit 43



Speed (mph)
0-9 10-19 20-29 30-39 40-49 50-59 60+

Bottleneck Occurrences

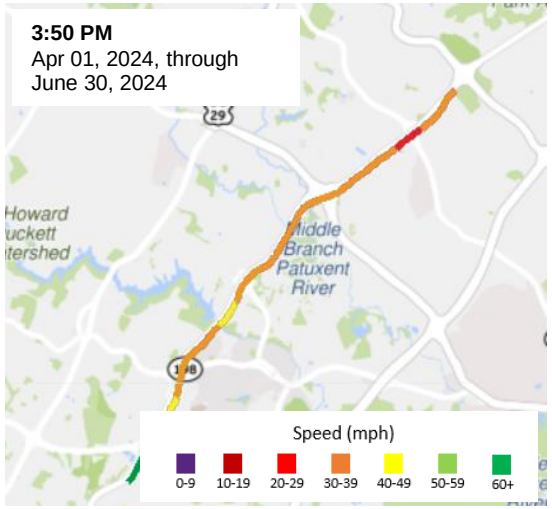
The center represents the beginning **of 04.01.24** and the outer edge the end of **06.30.24**



Max Queue Length (miles)
0-1.9 2-4.9 5-7.9 8+

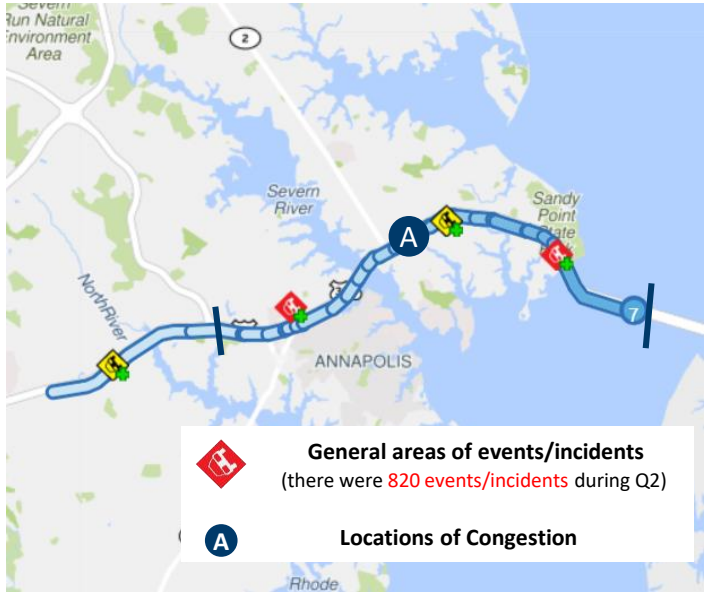
Corridor Speeds Over Time

For animated playback of corridor speeds over time, click anywhere on the map below



7 US-50 E @ BAY BRIDGE

Quarterly Bottleneck Evaluation Summary Q2 2024



Eastbound William Preston Lane, Jr. Memorial (Bay) Bridge. Ongoing system preservation and maintenance on both spans on select dates. Off-peak, lane, shoulder and bridge closures .

PK. AVG. SPEED

AM Peak | 9:15 AM
53.9 mph
(19% slower than free flow)

PM Peak |3:45 PM
34.7 mph
(47% slower than free flow)

PK. TRAVEL TIME

AM Peak |9:15 AM
21.3 min

PM Peak |3:45 PM
19.8 min

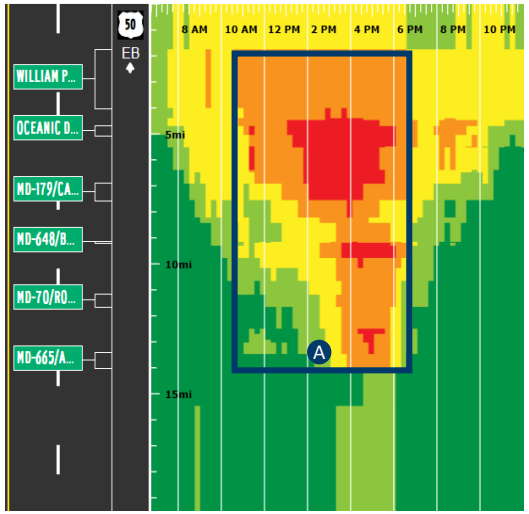
Q2 DELAY COST

Delay Cost
$12.735 M

Veh-hrs. of Delay
496,148 h

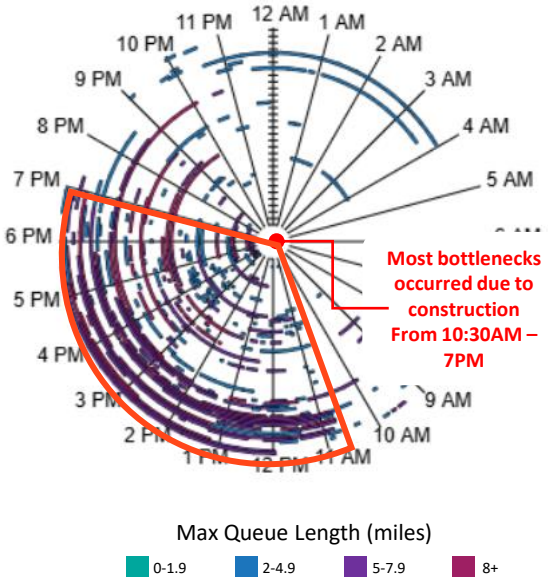
Congested Locations

A **10:30AM – 6:30PM** MD-665/Aris T Allen Blvd/Exit 21-22 to Bay Bridge



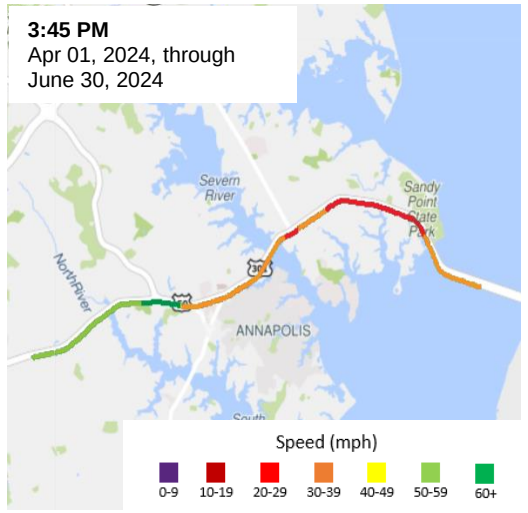
Bottleneck Occurrences

The center represents the beginning **of 04.01.24** and the outer edge the end of **06.30.24**



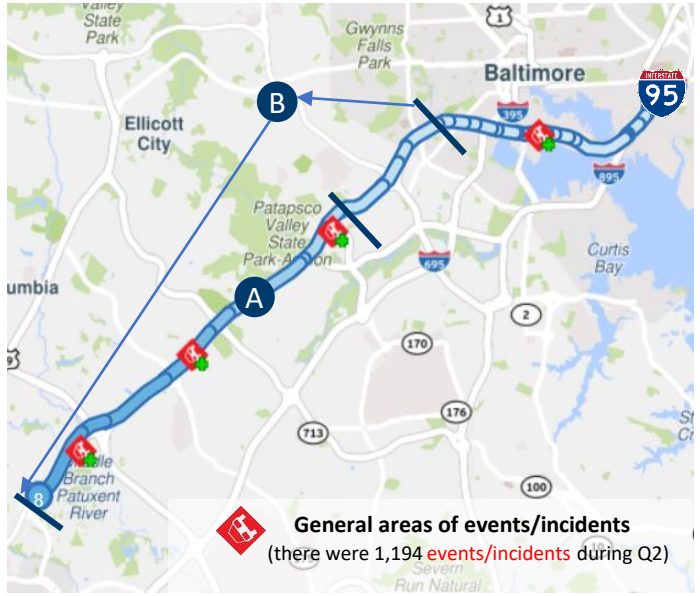
Corridor Speeds Over Time

For animated playback of corridor speeds over time, click anywhere on the map below



8 I-95 S @ MD-216/EXIT 35

Quarterly Bottleneck Evaluation Summary Q2 2024



General areas of events/incidents
(there were 1,194 events/incidents during Q2)

A B Locations of Congestion

High traffic volume corridor primarily in the afternoon with three major merge areas at MD-216, MD-32 and MD-175 near Columbia, MD.

PK. AVG. SPEED

AM Peak | 7:55 AM
42.7 mph
(37% slower than free flow)

PM Peak | 5:20 PM
39.3 mph
(41% slower than free flow)

PK. TRAVEL TIME

AM Peak | 7:55 AM
30.1 min

PM Peak |5:20 PM
32.7 min

Q2 DELAY COST

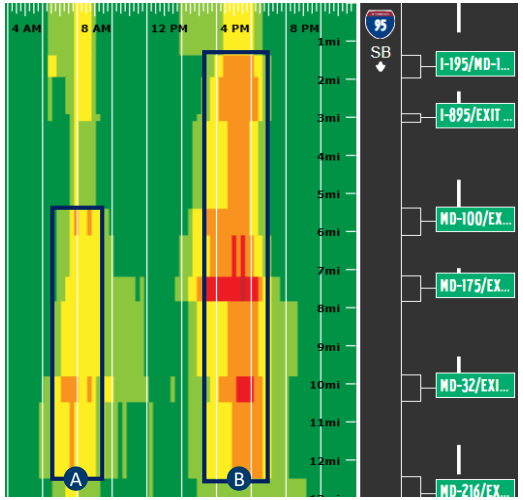
Delay Cost
$17.887 M

Veh-hrs. of Delay
427,531 h

Congested Locations

A **6:30AM – 9:15AM** MD-100/Exit 43 to MD-216/Exit 35

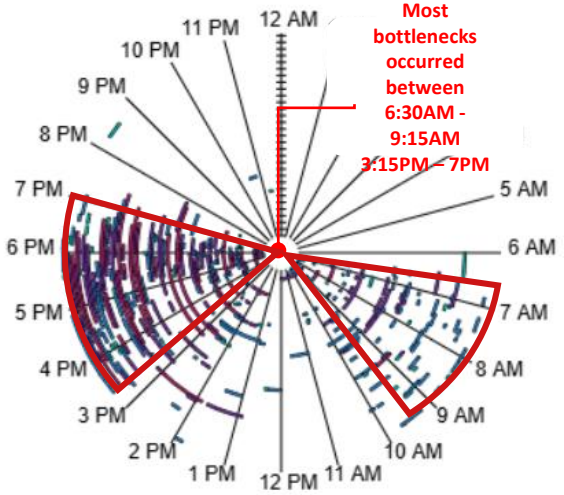
B **3:15PM – 7PM** I-195/MD-166/Exit 47 to MD-216/Exit 35



Speed (mph)
0-9 10-19 20-29 30-39 40-49 50-59 60+

Bottleneck Occurrences

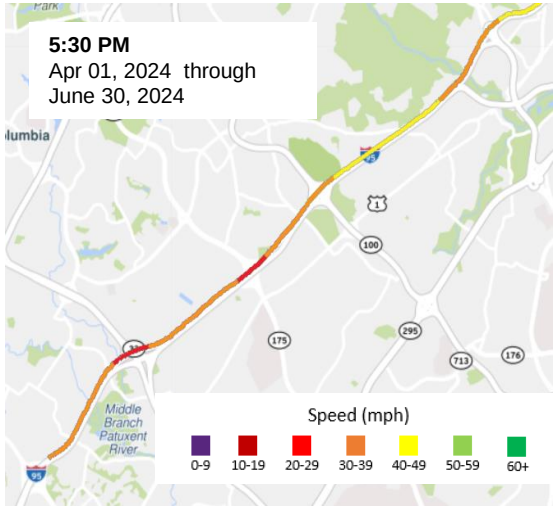
The center represents the beginning **of 04.01.24** and the outer edge the end of **06.30.24**



Max Queue Length (miles)
0-1.9 2-4.9 5-7.9 8+

Corridor Speeds Over Time

For animated playback of corridor speeds over time, click anywhere on the map below



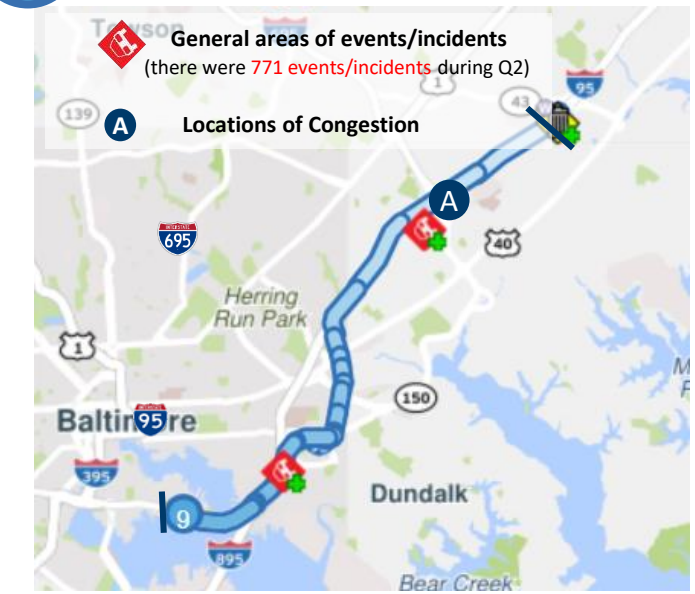
BRTB Baltimore Regional Transportation Board

BALTIMORE METROPOLITAN COUNCIL

9 I-95 S @ FORT MCHENRY TUNNEL

Quarterly Bottleneck Evaluation Summary

Q2 2024



PK. AVG. SPEED

AM Peak | 8:05AM
32.0 mph
(53% slower than free flow)

PM Peak | 4:25 PM
54.1 mph
(19% slower than free flow)

PK. TRAVEL TIME

AM Peak |8:05AM
22.7 min

PM Peak |4:25 PM
13.5 min

Q2 DELAY COST

Delay Cost
$8.629 M

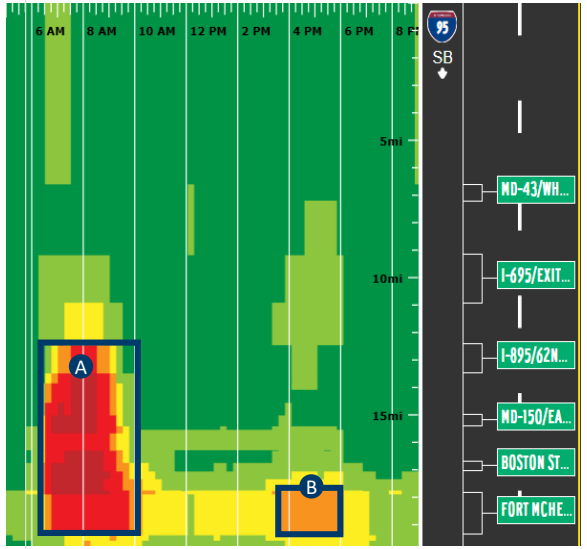
Veh-hrs. of Delay
206,238 h

With the loss of the Key Bridge on 3/26 travel times in this corridor have doubled in the morning rush from I-895 northbound to the Fort McHenry Toll Plaza.

Congested Locations

A **6:15AM – 10:15AM** I-695/Exit 49 to Fort McHenry Tunnel

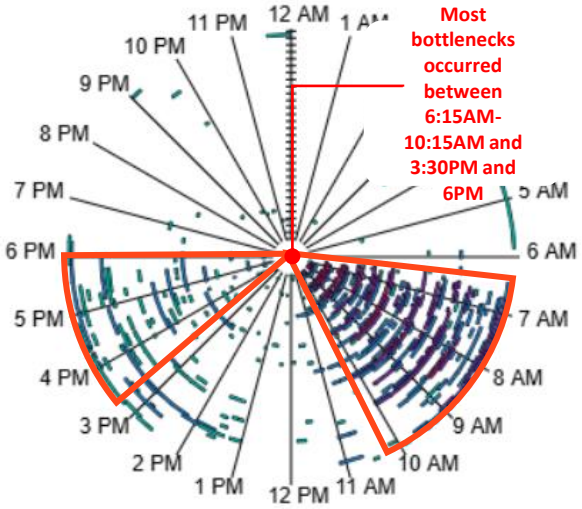
B **3:30PM – 6PM** Keith Ave/Exit 56 to Fort McHenry Tunnel



Speed (mph)
0-9 10-19 20-29 30-39 40-49 50-59 60+

Bottleneck Occurrences

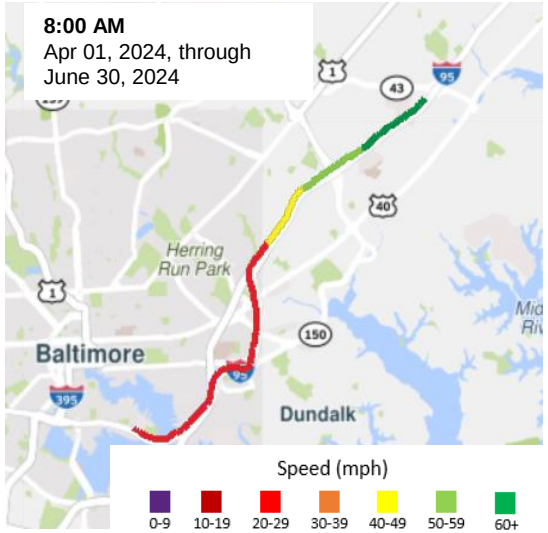
The center represents the beginning **of 04.01.24** and the outer edge the end of **06.30.24**



Max Queue Length (miles)
0-1.9 2-4.9 5-7.9 8+

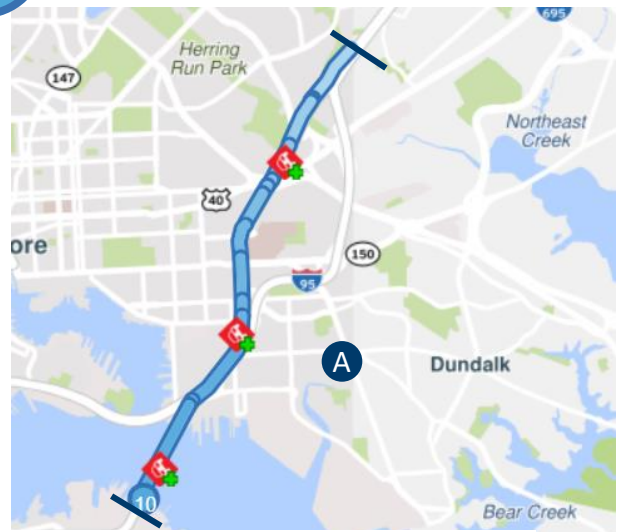
Corridor Speeds Over Time

For animated playback of corridor speeds over time, click anywhere on the map below



10 I-895 S @ Harbor Tunnel Thwy

Quarterly Bottleneck Evaluation Summary Q2 2024



General areas of events/incidents
(there were 248 events/incidents during Q2)

A **Locations of Congestion**

With the loss of the Key Bridge on 3/26 travel times in this corridor have doubled in the afternoon rush from I-95/895 split southbound to the exit to the Harbor Tunnel Toll Plaza.

PK. AVG. SPEED

AM Peak | 7:55 AM
20.5 mph
(67% slower than free flow)

PM Peak | 4:55 PM
28.2 mph
(53% slower than free flow)

PK. TRAVEL TIME

AM Peak | 7:55 AM
17.4 min

PM Peak |4:55 PM
12.7 min

Q2 DELAY COST

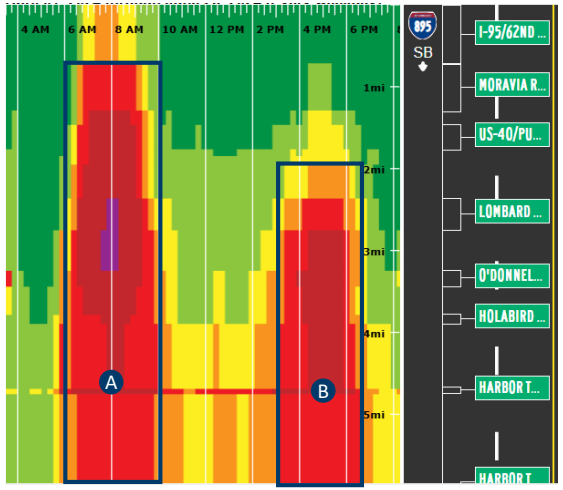
Delay Cost
$4.663 M

Veh-hrs. of Delay
111,455 h

Congested Locations

A **7AM – 7:30PM** I-895/6th Ave/Exit 6 to Harbor Tunnel Thwy

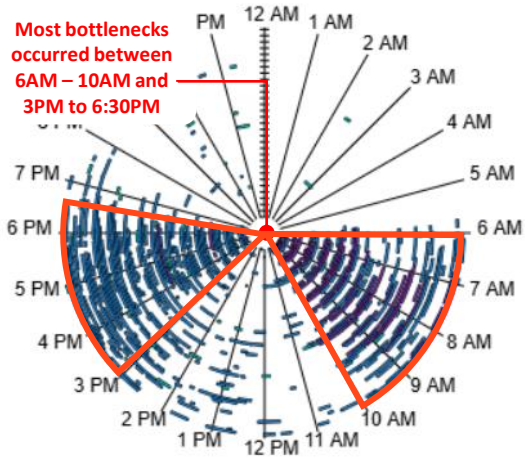
B **3PM – 6:30PM** Lombard St/Exit 12 to Harbor Tunnel Thwy



Speed (mph)
0-9 | 10-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60+

Bottleneck Occurrences

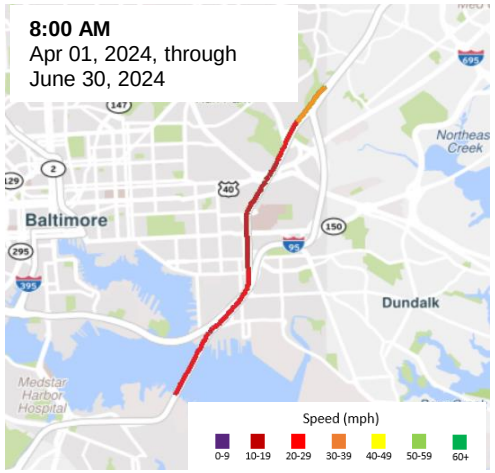
The center represents the beginning **of 04.01.24** and the outer edge the end of **06.30.24**



Max Queue Length (miles)
0-1.9 | 2-4.9 | 5-7.9 | 8+

Corridor Speeds Over Time

For animated playback of corridor speeds over time, click anywhere on the map below



Top 10 Bottlenecks on Non-Limited Access Roads

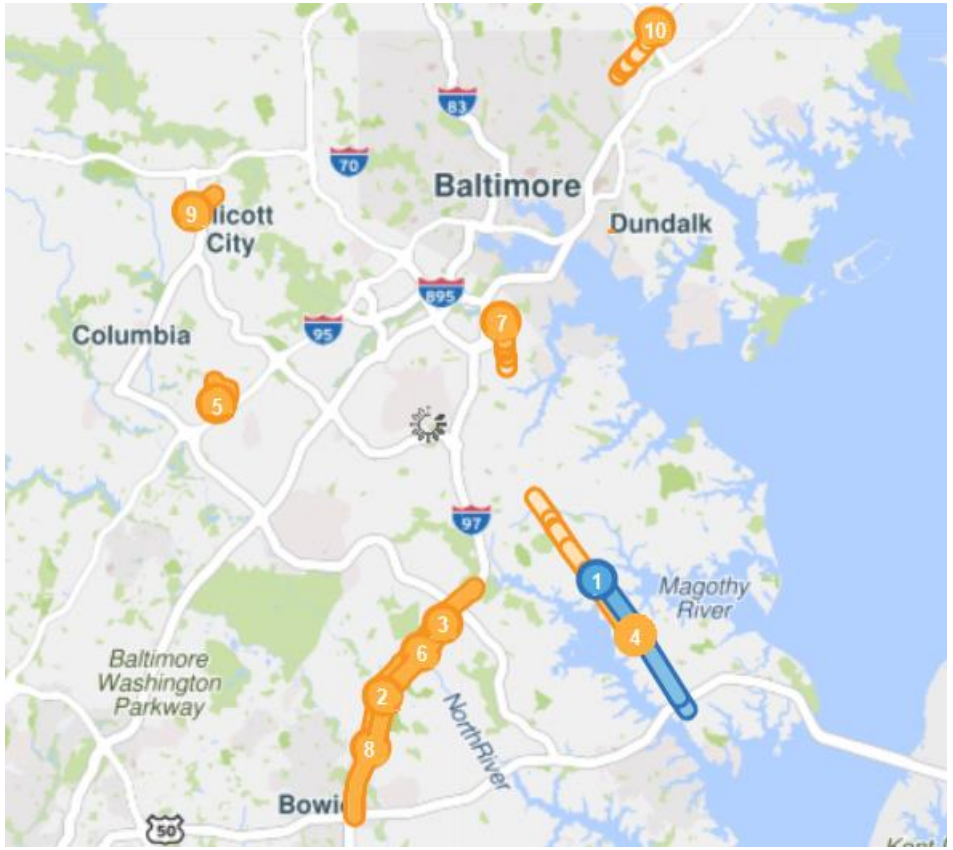
Top 10 Bottlenecks in the Region – Non Limited Access Roads

Q2 2024

Rank	Location	Avg. Max. Length (miles)	Avg. Daily Duration	Volume Estimate (AADT)	Total Delay (Millions)
1	MD-2 N @ ROBINSON RD	3.57	2h 01m	28,022	26.9
2	MD-3 N @ MD-424/CONWAY RD/DAVIDSONVILLE RD	2.39	2h 16m	34,615	20.9
3	MD-3 N @ MD-175/MILLERSVILLE RD/ANNAPOLIS RD	2.28	1h 08m	33,787	12.9
4	MD-2 S @ COLLEGE PKWY	2.90	1h 07m	29,932	11.8
5	COLUMBIA GATEWAY DR S @ ROBERT FULTON DR	1.25	2h 43m	21,278	10.7
6	MD-3 N @ SAINT STEPHENS CHURCH RD	0.85	1h 46m	33,275	10.0
7	MD-2 N @ MD-171/CHURCH ST	0.47	3h 12m	21,237	8.6
8	MD-3 S @ MD-450/DEFENSE HWY	2.58	47m	35,017	7.6
9	US-40 W @ ST JOHNS LN	0.17	11h 10m	25,348	7.2
10	US-1 N @ ROSSVILLE BLVD	0.26	7h 42m	22,175	6.5

Red #s = highest value for that metric

Total Delay = Raw Speed drop weighted by VMT Factor (in millions)



*Bottlenecks are ranked by **Base Impact** – the sum of queue lengths over the duration of the bottleneck and weighted by speed differential, congestion and **total delay**.*

Ranked Bottleneck Lists by Jurisdiction

Top 20 Bottlenecks in Local Jurisdictions- 2nd Quarter 2024

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	MD-295 S @ MD-198
2	US-50 E @ BAY BRIDGE
3	I-97 S @ MD-178/EXIT 5
4	MD-295 N @ MD-175
5	I-695 OL @ MD-170/CAMP MEADE RD/EXIT 6
6	US-50 E @ BAY DALE DR/FERGUSON RD/EXIT 28
7	MD-2 N @ ROBINSON RD
8	MD-295 S @ ARUNDEL--PRINCE GEORGE'S COUNTY BORDER
9	MD-295 N @ CANINE RD
10	US-50 W @ BAY BRIDGE
11	MD-295 N @ MD-100
12	MD-3 N @ MD-424/CONWAY RD/DAVIDSONVILLE RD
13	MD-295 N @ PRINCE GEORGE'S/ARUNDEL CO LINE
14	US-50 E @ MD-648/BALTIMORE ANNAPOLIS BLVD
15	MD-295 S @ CANINE RD
16	I-97 S @ MD-3 BUS/NEW CUT RD/EXIT 12
17	I-97 S @ US-301/US-50
18	MD-100 E @ MD-170/TELEGRAPH RD/EXIT 11
19	MD-295 S @ MD-175
20	MD-32 E @ I-97

Baltimore City

Rank	Location
1	I-95 N @ FORT MCHENRY TUNNEL
2	I-895 N @ HARBOR TUNNEL THWY (NORTH)
3	I-95 S @ FORT MCHENRY TUNNEL
4	I-895 S @ HARBOR TUNNEL THWY (SOUTH)
5	MD-295 N @ I-95/MONROE ST
6	I-95 N @ I-95 (BALTIMORE)/FORT MCHENRY TUNNEL(EAST)
7	I-895 S @ HARBOR TUNNEL THWY (NORTH)
8	I-95 S @ I-95 (BALTIMORE)/FORT MCHENRY TUNNEL(WEST)
9	I-95 N @ MD-295/BALTIMORE WASHINGTON PKWY/EXIT 52
10	I-95 S @ I-895/62ND ST/EXIT 62
11	I-895 N @ HARBOR TUNNEL THWY (SOUTH)
12	I-95 S @ I-95 (WEST)
13	I-95 S @ US-1 ALT/CATON AVE/EXIT 50
14	I-95 N @ MCCOMAS ST/EXIT 55 NORTH
15	I-83 S @ COLD SPRING LN/EXIT 9
16	I-95 S @ MD-295/BALTIMORE WASHINGTON PKWY/EXIT 52
17	US-40 E @ MORAVIA RD
18	I-95 S @ WASHINGTON BLVD/EXIT 51
19	I-395 S @ I-95
20	I-895 N @ CHILDS ST/EXIT 9

IL = Inner Loop

OL = Outer Loop

Top 20 Bottlenecks in Local Jurisdictions- 2nd Quarter 2024

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 @ SECURITY BLVD/EXIT 17
2	I-95 N @ MD-152/EXIT 74
3	I-695 OL @ MD-26/EXIT 18
4	I-695 IL @ EDMONDSON AVE/EXIT 14
5	I-695 OL @ I-795/EXIT 19
6	I-70 E @ I-695/EXIT 91
7	I-695 IL @ MD-542/LOCH RAVEN BLVD/EXIT 29
8	I-95 S @ MD-43/WHITE MARSH BLVD/EXIT 67
9	I-83 S @ I-695
10	I-695 OL @ I-83/MD-25/EXIT 23
11	I-695 IL @ PROVIDENCE RD/EXIT 28
12	I-695 IL @ MD-147/HARFORD RD/EXIT 31
13	I-695 OL @ I-70/EXIT 16
14	I-695 IL @ I-83/MD-25/EXIT 23
15	I-695 OL @ GREENSPRING AVE/EXIT 22
16	I-695 IL @ PENINSULA EXPY/EXIT 43
17	I-695 IL @ I-70/EXIT 16
18	I-695 OL @ MD-139/CHARLES ST/EXIT 25
19	I-695 IL @ MD-144/FREDERICK RD/EXIT 13
20	I-695 IL @ MD-372/WILKENS AVE/EXIT 12

Carroll County

Rank	Location
1	MD-30 S @ MD-27/MANCHESTER RD
2	MD-30 N @ MD-27/MANCHESTER RD
3	MD-32 W @ MD-26/LIBERTY RD
4	MD-97 N @ MD-496/BACHMANS VALLEY RD
5	MD-97 N @ HOOK RD
6	MD-97 S @ MD-496/BACHMANS VALLEY RD
7	MD-32 E @ E MAIN ST
8	MD-32 W @ UNIONTOWN RD
9	MD-97 N @ MAGNA WAY/AIRPORT DR
10	MD-32 W @ RAINCLIFFE RD/SANDOSKY RD
11	MD-140 W @ MD-91/EMORY RD/GAMBER RD
12	MD-140 W @ MD-194/YORK ST/FREDERICK ST
13	MD-140 W @ MD-27/MANCHESTER RD
14	MD-97 S @ MD-140/COLLEGE VIEW BLVD
15	MD-140 E @ MD-91/EMORY RD/GAMBER RD
16	MD-482 W @ MD-27/MANCHESTER RD
17	MD-97 S @ MD-32/SYKESVILLE RD
18	MD-26 E @ MD-32/SYKESVILLE RD
19	MD-144 W @ MD-27/RIDGE RD
20	MD-27 N @ MD-482/HAMPSTEAD MEXICO RD

IL = Inner Loop

OL = Outer Loop

Top 20 Bottlenecks in Local Jurisdictions- 2nd Quarter 2024

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 S @ MD-152/EXIT 74
2	I-95 N @ MD-24/EXIT 77
3	I-95 S @ MARYLAND HOUSE
4	I-95 N @ MD-152/EXIT 74
5	I-95 S @ MD-543/EXIT 80
6	I-95 S @ MD-24/EXIT 77
7	MD-152 N @ OLD JOPPA RD
8	I-95 N @ MD-155/EXIT 89
9	MD-22 E @ MD-136/PRIESTFORD RD/CALVARY RD
10	I-95 N @ MD-22/EXIT 85
11	MD-24 N @ I-95/JOHN F KENNEDY MEMORIAL HWY
12	US-40 E @ MD-152
13	US-40 E @ THOMAS J HATEM MEMORIAL BRIDGE (EAST)
14	MD-924 N @ MD-24/VIETNAM VETERANS MEMORIAL HWY
15	I-95 N @ MILLARD E TYDINGS MEMORIAL BRIDGE
16	US-40 E @ JOPPA RD
17	US-1-BR S @ MD-24/VIETNAM VETERANS MEMORIAL HWY
18	US-1-BR N @ US-1/HICKORY BYP
19	MD-24 N @ PLUMTREE RD
20	MD-924 S @ MD-24/VIETNAM VETERANS MEMORIAL HWY

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	MD-32 W @ I-95
6	I-95 S @ PRINCE GEORGE'S/HOWARD CO LINE
7	I-95 S @ MD-100/EXIT 43
8	MD-100 W @ MARC DORSEY STATION ACCESS RD/EXIT 7
9	I-95 S @ I-895/EXIT 46
10	I-70 W @ US-29/EXIT 87
11	I-95 N @ MD-216/EXIT 35
12	I-95 N @ MD-175/EXIT 41
13	MD-100 W @ US-29
14	MD-32 E @ I-95
15	I-95 N @ I-895/EXIT 46
16	COLUMBIA GATEWAY DR S @ ROBERT FULTON DR
17	I-95 N @ PRINCE GEORGE'S/HOWARD CO LINE
18	I-95 S @ MD-32/EXIT 38
19	US-40 W @ ST JOHNS LN
20	MD-144 W @ ELLICOTT MILLS DR

Top 20 Bottlenecks in Local Jurisdictions- 2nd Quarter 2024

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 E @ BAY BRIDGE
2	US-50 W @ BAY BRIDGE
3	US-50 E @ DOMINION RD/EXIT 39B
4	US-50 W @ US-301/BLUE STAR MEMORIAL HWY
5	US-50 W @ THOMPSON CREEK RD/DUKE ST
6	US-50 E @ MD-18/MAIN ST/EXIT 42
7	US-301 S @ US-50
8	US-50 W @ MD-8/EXIT 37
9	US-50 W @ MD-213/CENTREVILLE RD
10	US-50 E @ PINEY RD/S PINEY RD/EXIT 40A
11	US-50 W @ NESBIT RD/EXIT 45B
12	US-50 W @ MD-404/QUEEN ANNE HWY
13	US-50 W @ MD-456/DEL RHODES AVE
14	US-50 E @ MD-456/DEL RHODES AVE
15	US-50 E @ MD-8/EXIT 37
16	US-50 E @ MD-404/QUEEN ANNE HWY
17	US-50 E @ MD-662/WYE MILLS RD
18	US-50 E @ US-301/BLUE STAR MEML HWY
19	US-50 E @ MD-213/CENTREVILLE RD
20	US-50 E @ DUNDEE AVE/EXIT 40B

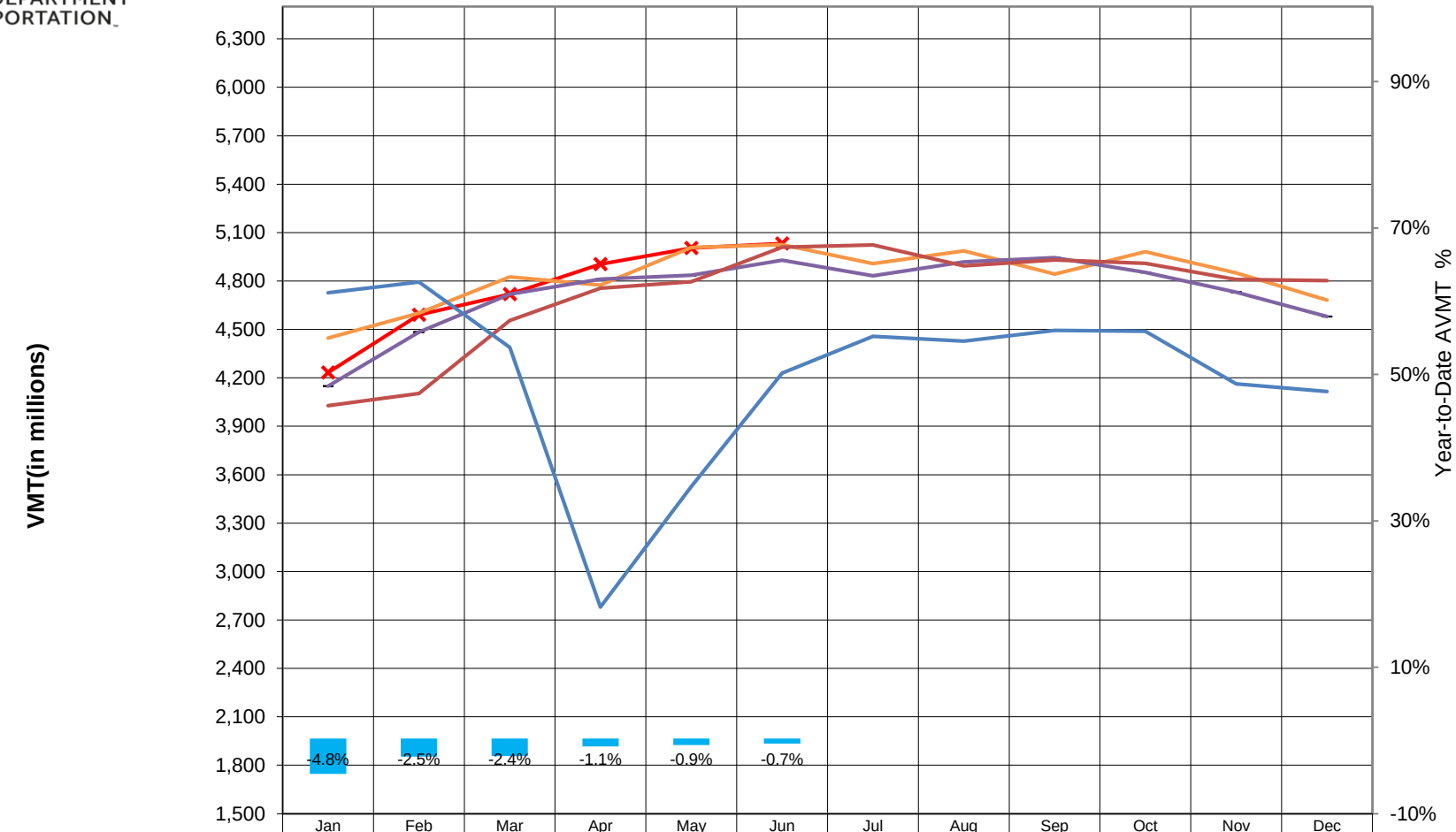
Vehicle Miles Traveled (VMT) Trend Graphs

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

Estimated Monthly Distribution of Annual (VMT) Vehicle Miles of Travel for : Jun-2024										
Jun	2020 VMT (Millions)	2021 VMT (Millions)	2022 VMT (Millions)	**2023 VMT* (Millions)- Estimated**	**2024 VMT* (Millions)- Estimated**	Percent Change 2020-2021	Percent Change 2021-2022	Percent Change 2022-2023	Percent Change 2023-2024	Cumulative Year-to-Date Change 2023-2024
Jan	4728	4028	4149	4446	4232	-14.8%	3.0%	7.2%	-4.8%	-4.8%
Feb	4794	4104	4483	4601	4591	-14.4%	9.2%	2.6%	-0.2%	-2.5%
Mar	4389	4556	4718	4825	4719	3.8%	3.6%	2.3%	-2.2%	-2.4%
Apr	2779	4755	4811	4774	4904	71.1%	1.2%	-0.8%	2.7%	-1.1%
May	3527	4795	4835	5007	5004	36.0%	0.8%	3.6%	-0.1%	-0.9%
Jun	4229	5009	4929	5025	5032	18.4%	-1.6%	1.9%	0.1%	-0.7%
Jul	4458	5023	4832	4907		12.7%	-3.8%	1.6%		
Aug	4427	4894	4918	4986		10.5%	0.5%	1.4%		
Sep	4494	4930	4945	4843		9.7%	0.3%	-2.1%		
Oct	4488	4910	4854	4982		9.4%	-1.1%	2.6%		
Nov	4163	4810	4730	4850		15.5%	-1.7%	2.5%		
Dec	4116	4802	4580	4681		16.7%	-4.6%	2.2%		
TOTAL	**50,592**	**56,616**	**56,784**	**57,927**		**11.9%**	**0.3%**	**2.0%**		
Note										
1	The Jun-2024 Monthly AVMT is up compared to Jun-2023 by 0.1%									
2	The Cumulative Year-to-Date AVMT till Jun 2024 is down compared to same time last year 2023 by -0.7%									
3	* Preliminary 2024 VMT Estimates based on 2023 Estimated VMT.									
Data Source:Based on data collected at 50+ continuous count stations by SHA's Data Services Division in Office Of Planning & Preliminary Engineering										
	Report Updated on :11/20/2024									

MARYLAND DEPARTMENT OF TRANSPORTATION

Estimated Monthly Distribution of Annual (VMT) Vehicle Miles of Travel for : Jun-2024



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cumulative Year-to-Date Change 2023-2024	-4.8%	-2.5%	-2.4%	-1.1%	-0.9%	-0.7%						
2024 VMT* (Millions)-Estimated	4232	4591	4719	4904	5004	5032						
2023 VMT* (Millions)-Estimated	4446	4601	4825	4774	5007	5025	4907	4986	4843	4982	4850	4681
2022 VMT (Millions)	4149	4483	4718	4811	4835	4929	4832	4918	4945	4854	4730	4580
2021 VMT (Millions)	4028	4104	4556	4755	4795	5009	5023	4894	4930	4910	4810	4802
2020 VMT (Millions)	4728	4794	4389	2779	3527	4229	4458	4427	4494	4488	4163	4116

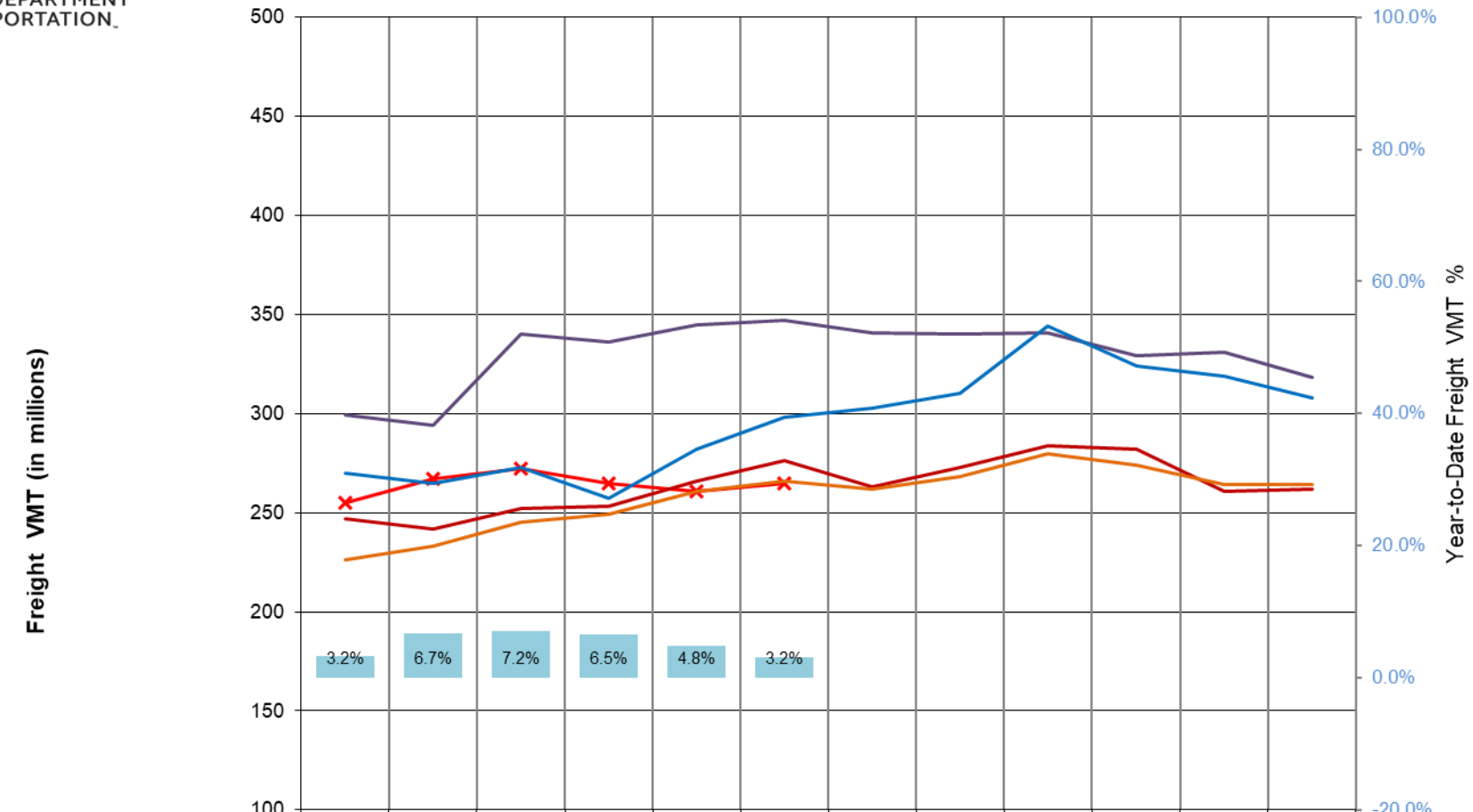
NOTE: This chart displays estimated monthly Vehicle Miles of Travel compared with the previous year based on data collected at approximately 50+ continuous count stations throughout the State.

Report Updated on :11/20/2024

Estimated Monthly Distribution of Freight Vehicle Miles of Travel for : Jun-2024										
Jun	2020 Freight VMT (Millions)	2021 Freight VMT (Millions)	2022 Freight VMT (Millions)	2023 Freight VMT (Millions)* Estimated	2024 Freight VMT (Millions)* Estimated	Percent Change 2020-2021 Freight VMT	Percent Change 2021-2022 Freight VMT	Percent Change 2022-2023 Freight VMT	Percent Change 2023-2024 Freight VMT	Cumulative Year-to-Date Freight VMT 2023-2024
Jan	270	299	226	247	255	10.7%	-24.4%	9.3%	3.2%	3.2%
Feb	265	294	233	242	267	10.9%	-20.7%	3.9%	10.3%	6.7%
Mar	273	340	245	252	272	24.5%	-27.9%	2.9%	7.9%	7.2%
Apr	257	336	249	253	265	30.7%	-25.9%	1.6%	4.7%	6.5%
May	282	345	261	266	261	22.3%	-24.3%	1.9%	-1.9%	4.8%
Jun	298	347	266	276	265	16.4%	-23.3%	3.8%	-4.0%	3.2%
Jul	303	341	262	263		12.5%	-23.2%	0.4%		
Aug	310	340	268	273		9.7%	-21.2%	1.9%		
Sep	344	341	280	284		-0.9%	-17.9%	1.4%		
Oct	324	329	274	282		1.5%	-16.7%	2.9%		
Nov	319	331	264	261		3.8%	-20.2%	-1.1%		
Dec	308	318	264	262		3.2%	-17.0%	-0.8%		
TOTAL	**3553**	**3961**	**3092**	**3161**		**11.48%**	**-21.94%**	**2.23%**		
Note										
1	The Jun-2024 Monthly Freight VMT is down compared to Jun-2023 by -4%									
2	The Cumulative Year-to-Date Freight VMT till Jun 2024 is up compared to same time last year 2023 by 3.2%									
3	* Preliminary 2023 Freight VMT Estimates based on 2023 Freight Estimated VMT and 2022 HPMS Vehicle Class Summary .									
4	** VEHICLE CLASS software updated in 2022									
5	Freight VMT = Vehicle Class 5-13									
	Data Source:Based on data collected at approximately 20+ class continuous count stations maintained by SHA's Data Services Division in OPPE									
Report Updated on :11/20/2024										

MARYLAND DEPARTMENT OF TRANSPORTATION

Estimated Monthly Distribution of Freight Vehicle Miles of Travel for : Jun-2024



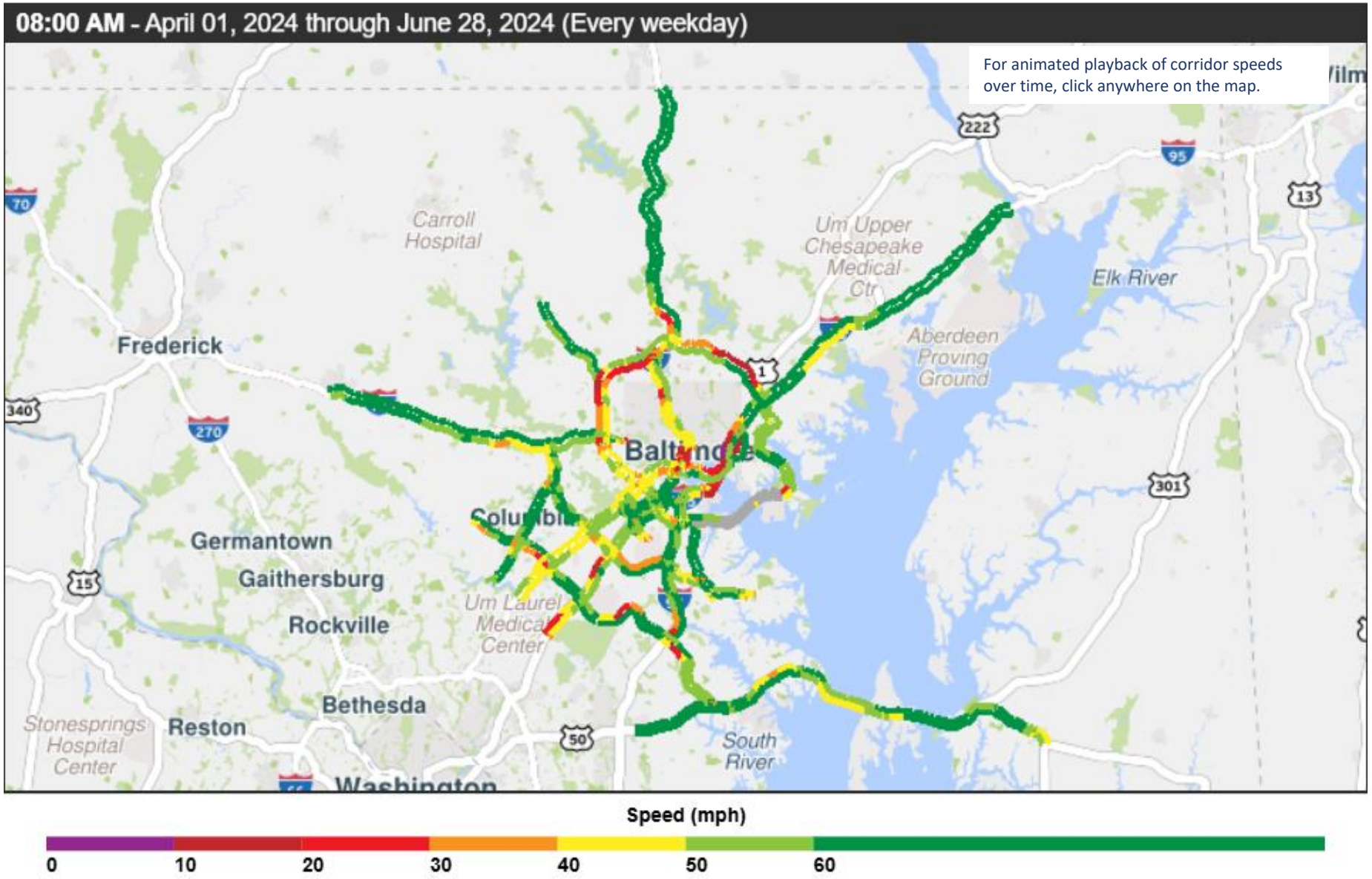
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cumulative Year-to-Date Freight VMT 2023-2024	3.2%	6.7%	7.2%	6.5%	4.8%	3.2%						
2024 Freight VMT (Millions)* Estimated	255	267	272	265	261	265						
2023 Freight VMT (Millions)* Estimated	247	242	252	253	266	276	263	273	284	282	261	262
2022 Freight VMT (Millions)	226	233	245	249	261	266	262	268	280	274	264	264
2021 Freight VMT (Millions)	299	294	340	336	345	347	341	340	341	329	331	318
2020 Freight VMT (Millions)	270	265	273	257	282	298	303	310	344	324	319	308

NOTE: This chart displays estimated monthly Freight Vehicle Miles of Travel compared with the previous year based on data collected at approximately 20+ continuous count stations throughout the State.

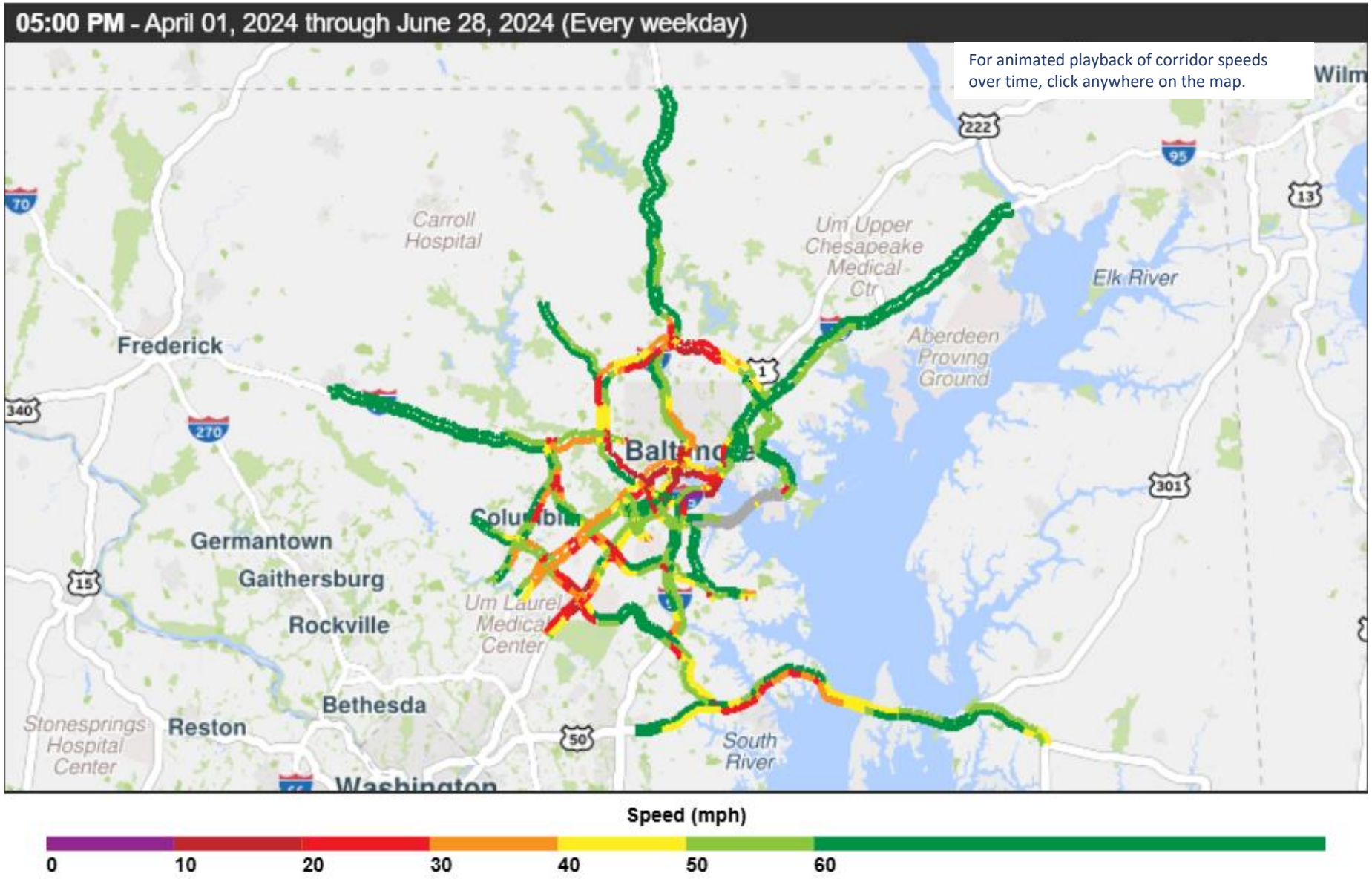
Report Updated on :11/20/2024

Regional Speed Maps

AM Peak Period Rush Hour: 2nd Quarter 2024



PM Peak Period Rush Hour: 2nd Quarter 2024



System Reliability Performance Measures

Percent of reliable person-miles traveled on the Interstate

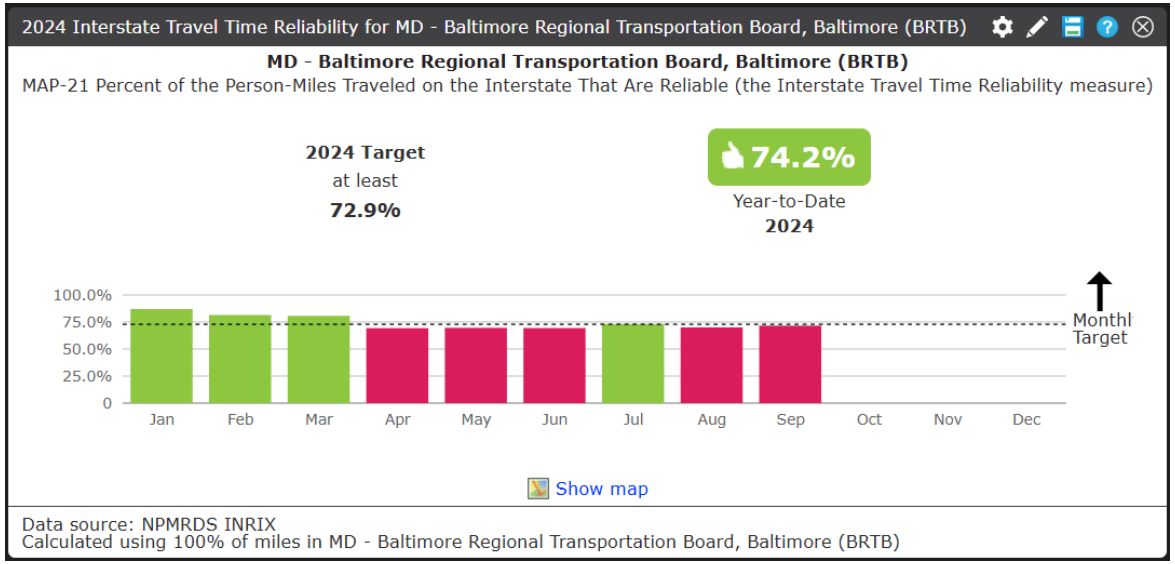
Percent of reliable person-miles traveled on the Non-Interstate NHS

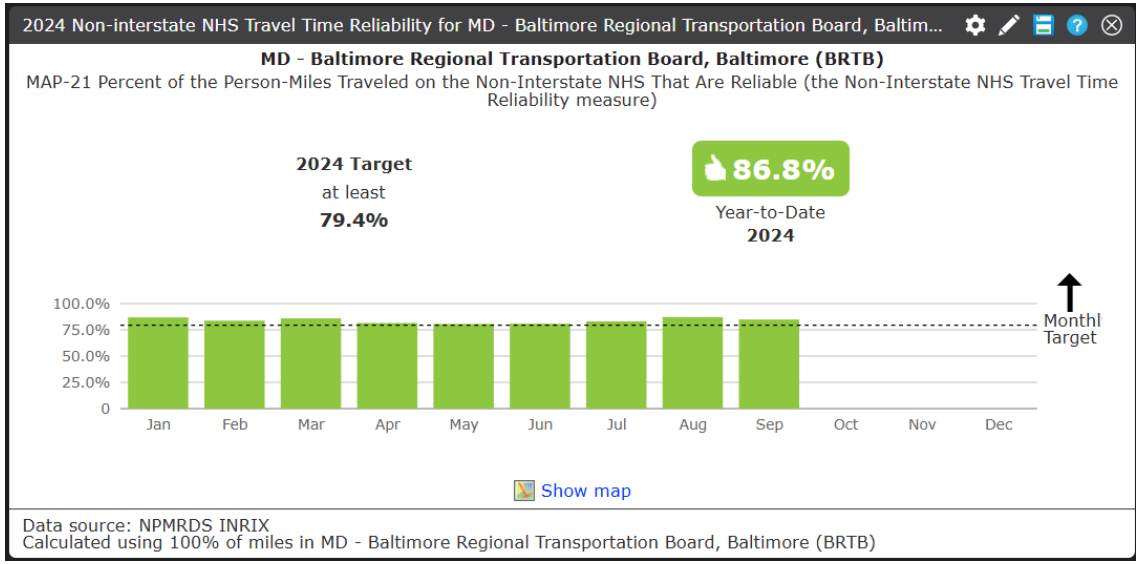
Percentage of Interstate system mileage providing for reliable truck travel time (Truck Travel Time Reliability Index)

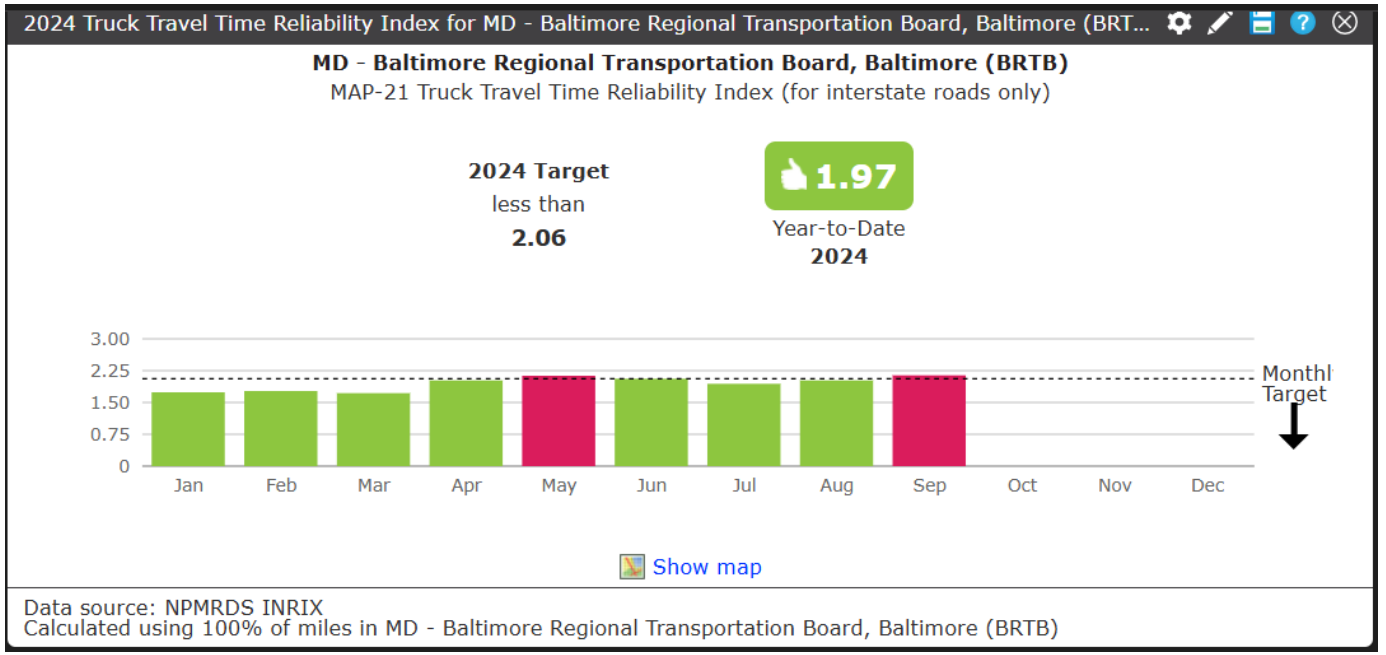
* Each state must establish statewide targets and report findings to the Federal Highway Administration. Metropolitan Planning Organizations must either support the established state targets or develop regional targets of their own.

Level of Travel Time Reliability: Interstates, Non-Interstates and Trucks

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

			2023-2024											
Jul	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Q2 Rank**	**Q2 Locations**
								10	1	1	1	1	I-95 N @ FORT MCHENRY TUNNEL
			18	16	10	8	8	8	3	2	5	2	I-695 IL @ SECURITY BLVD/EXIT 17
9	10	19	10		17		18	4	2	4	10	3	I-895 N @ HARBOR TUNNEL THWY (NORTH)
	3	7		1	1	9	1	1	7	3	2	4	I-95 N @ MD-152/EXIT 74
1		1		4	5	3	7		9	6	6	5	MD-295 S @ MD-198
3	5		3	2	4	5	3	3	6	5	8	6	I-95 N @ MD-100/EXIT 43
11	13			5	8	13	10		15	7	3	7	US-50 E @ BAY BRIDGE
6	12	13	15	3	3	4	6	5	10	8	9	8	I-95 S @ MD-216/EXIT 35
									5		12	9	I-95 S @ FORT MCHENRY TUNNEL
									8	11	10	10	I-895 S @ HARBOR TUNNEL THWY (SOUTH)
	11			7			4	7	13	10		11	I-97 S @ MD-178/EXIT 5
4	18	5			9	1		9	11	14		12	I-95 N @ MD-32/EXIT 38
	16	12	5					18	14	19	15	13	I-695 OL @ MD-26/EXIT 18
8	17	20	8	8	7	15				16	11	14	I-95 S @ MD-175/EXIT 41
7	7		13				5	17	16	15		15	I-695 IL @ EDMONDSON AVE/EXIT 14
		10	19	14		20			17	18	19	16	I-695 OL @ I-795/EXIT 19
										20		17	MD-295 N @ I-95/MONROE ST
						19						18	I-70 E @ I-695/EXIT 91
19	20	8	11						18			19	I-695 IL @ MD-542/LOCH RAVEN BLVD/EXIT 29
14			17	19	11	12		13	20		16	20	MD-295 N @ MD-175

Conclusions/Observations: The June-2024 Monthly Average Vehicle Miles Traveled AVMT is up compared to March-2023 by 0.1%. The cumulative Year to Date change through June 2024 AMVT is down compared to last year 2023 by -0.7%. I-95 N @ MD 152/Mountain Rd was the region's top bottleneck - up one spot from the final quarter of 2023. With the March 26th collapse of the Francis Scott Key Bridge the major harbor crossings saw a spike in the Top 20 rankings. I-95 N from the beltway to the Fort McHenry Tunnel toll plaza went from not being in the top 20 at all to the #1 bottleneck in the region.

Inner Loop (IL)
Outer Loop (OL)

Credits


THE EASTERN
TRANSPORTATION
COALITION


CATT
LABORATORY


MDOT
MARYLAND DEPARTMENT
OF TRANSPORTATION
STATE HIGHWAY
ADMINISTRATION


INRIX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