Quarterly Congestion Analysis Report

Top 10 Bottlenecks in the Baltimore Region

3rd Quarter 2024

BRTB Baltimore Regional Transportation Board

Report created December 2024

BALTIMORE METROPOLITAN COUNCIL

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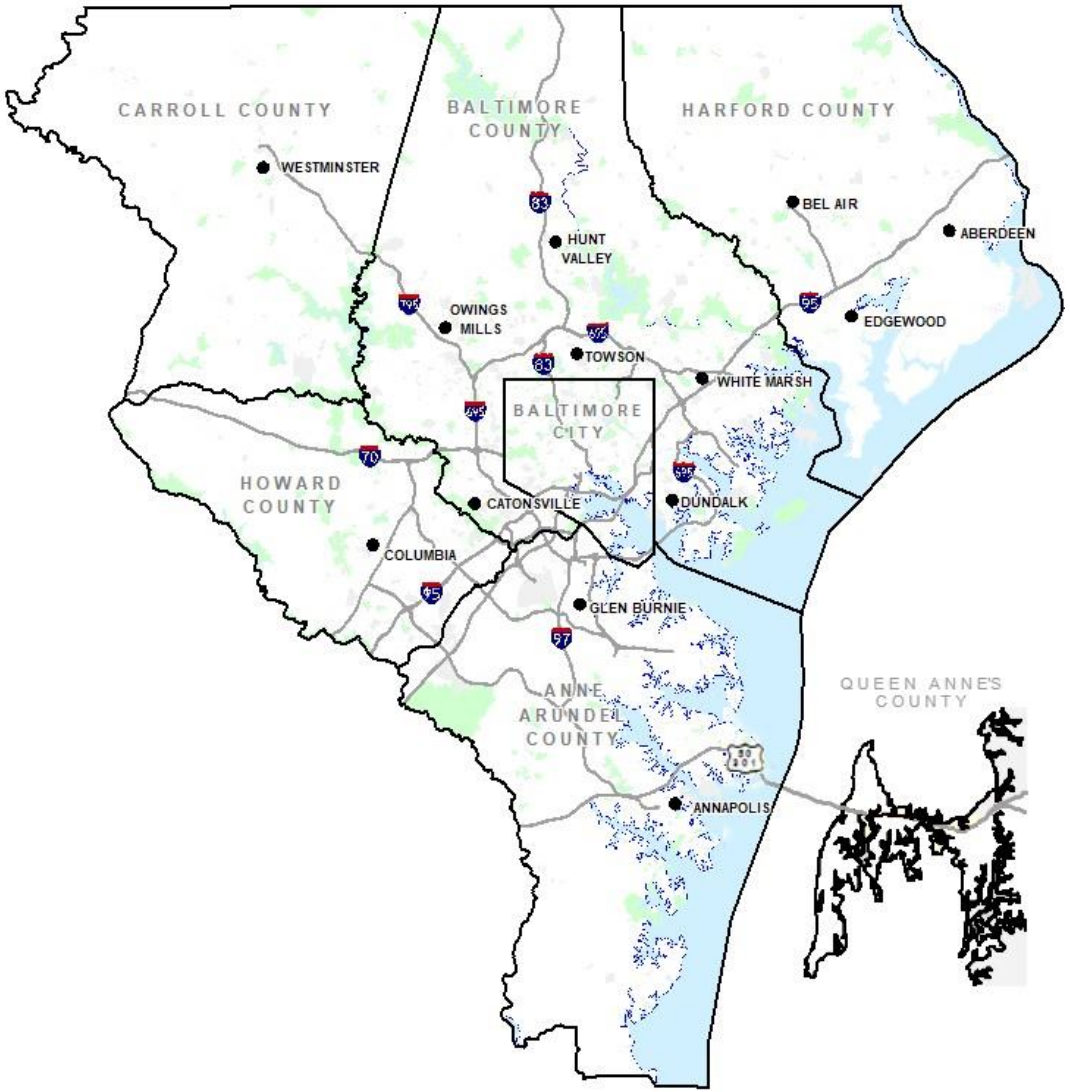
About the Region

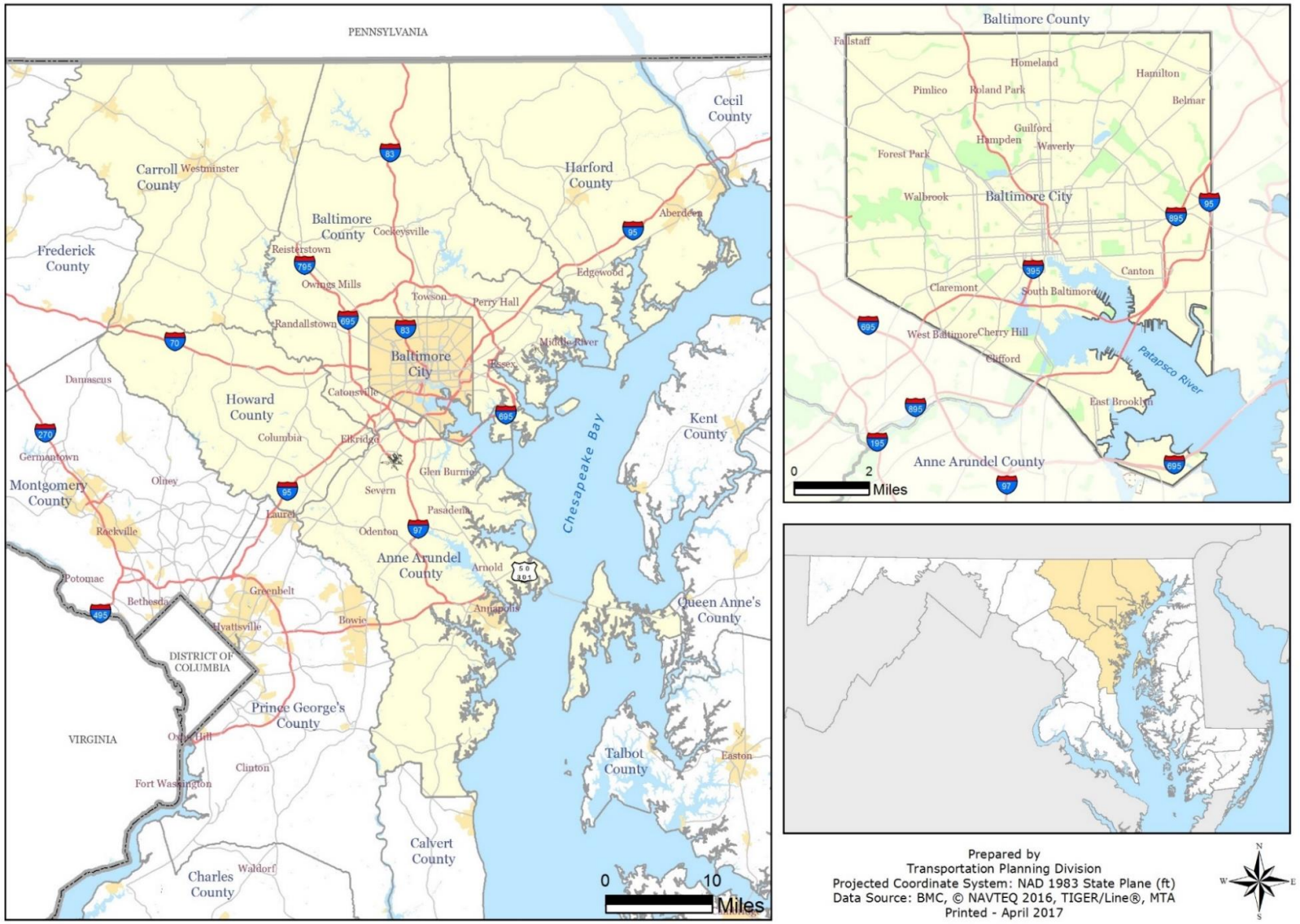
Baltimore Region



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

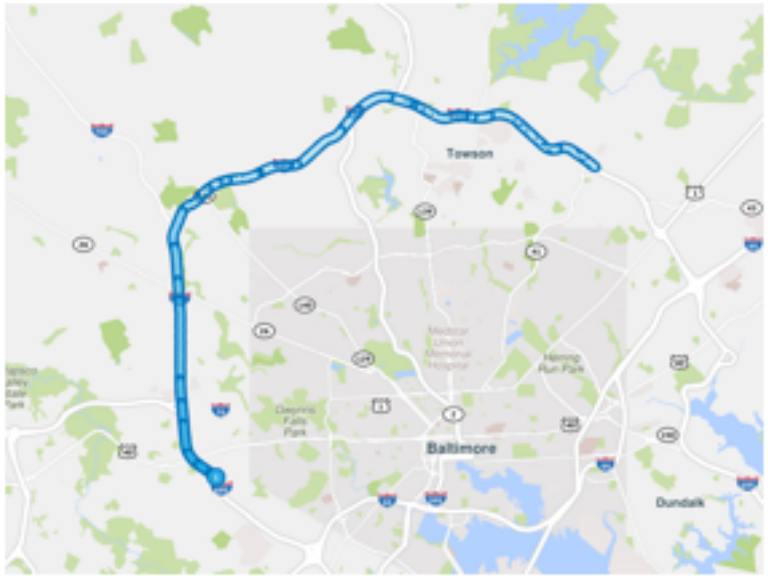
Bottleneck Analytics

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 – 3rd Quarter 2024

Top 10 Bottlenecks in the Region

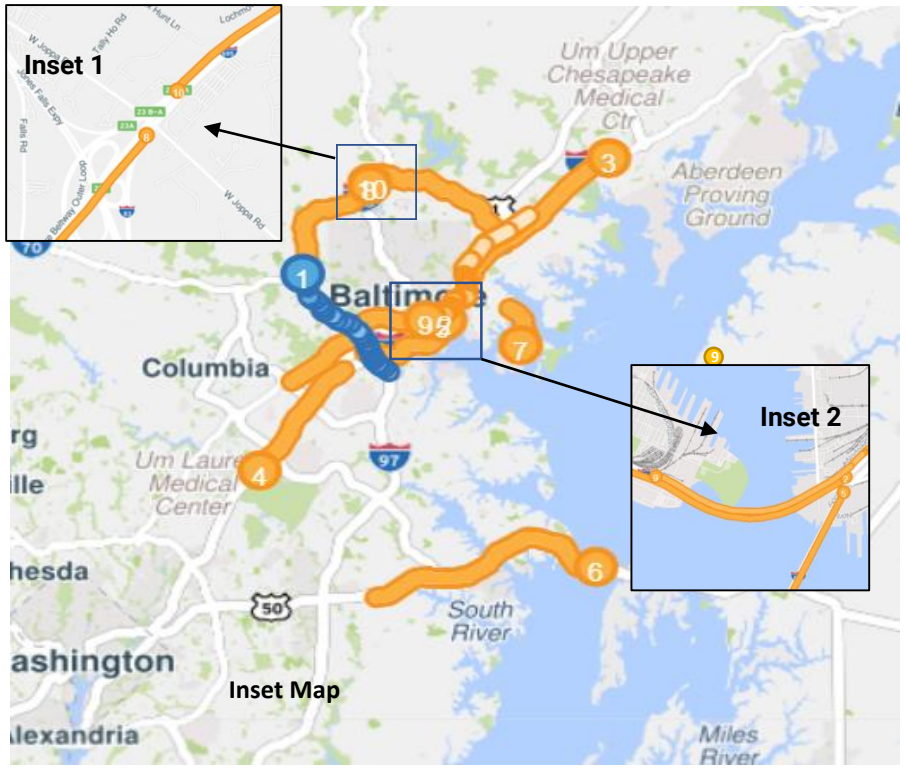
Q3 2024

Rank	Location	Previous Quarter Ranking	Avg. Max. Length (miles)	Avg. Daily Duration	Volume Estimate (AADT)	Total Delay (Millions)
1	I-695 IL @ SECURITY BLVD/EXIT 17	2	3.16	3 h 53 m	100,576	242.8
2	I-95 N @ FORT MCHENRY TUNNEL	1	5.71	2 h 03 m	80,877	194.2
3	I-95 N @ MD-152/EXIT 74	4	6.77	2 h 04 m	85,081	158.8
4	MD-295 S @ MD-198	5	3.19	6 h 23 m	47,651	148.3
5	I-895 N @ HARBOR TUNNEL THWY (NORTH)	3	3.00	4 h 04 m	33,551	133.6
6	US-50 E @ BAY BRIDGE	7	5.13	3 h 00 m	38,392	127.8
7	I-695 IL @ PENINSULA EXPY/EXIT 43		1.20	20 h 17 m	10,651	104.5
8	I-695 IL @ I-83/MD-25/EXIT 23		3.21	2 h 15 m	97,148	92.7
9	I-95 S @ FORT MCHENRY TUNNEL	9	3.37	1 h 50 m	63,781	84.9
10	I-695 OL @ I-83/MD-25/EXIT 23		3.94	1 h 10 m	91,124	69.9

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**.*

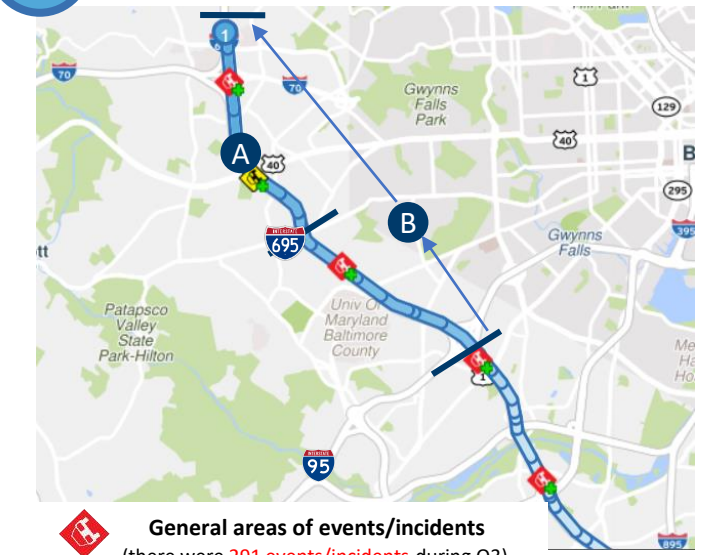
Top 10 Bottleneck Rankings in the Baltimore Region – 3rd Quarter 2024 by Location

Includes:

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

1 I-695 IL @ SECURITY BLVD /EXIT 17

Quarterly Bottleneck Evaluation Summary Q3 2024



General areas of events/incidents
(there were 291 events/incidents during Q3)

A **B** **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 | 8:00 AM
46.2 mph
(32% slower than free flow)

PM Peak | 5:20 PM
26.9 mph
(59% slower than free flow)

PK. TRAVEL TIME

AM Peak | 8:00 AM
13.4 min

PM Peak | 5:20 PM
23.0 min

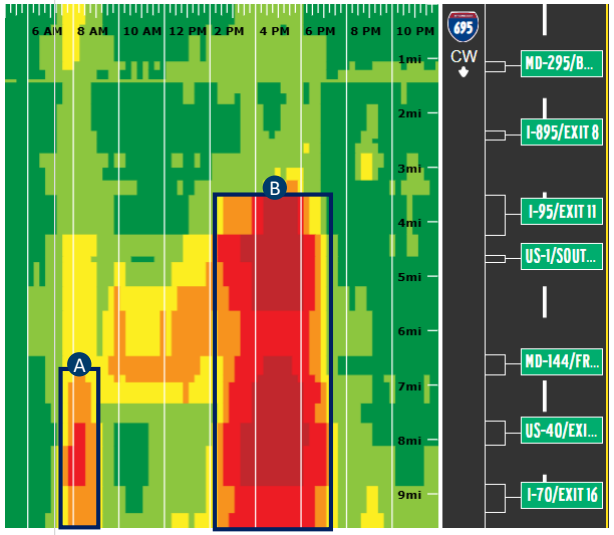
Q3 DELAY COST

Delay Cost
$16.604 M

Veh-hrs. of Delay
396,861 h

Congested Locations

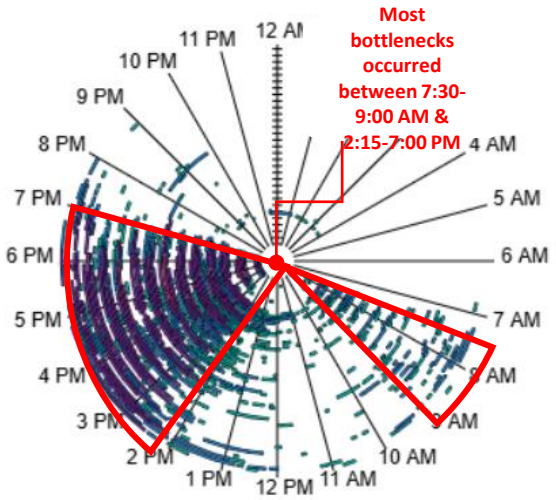
A **7:30AM – 9:00AM** MD-144/Exit 13 to Security Blvd/Exit 17
B **2:15PM – 7:00PM** I-95/Exit 11 to Security Blvd/Exit 17



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

Bottleneck Occurrences

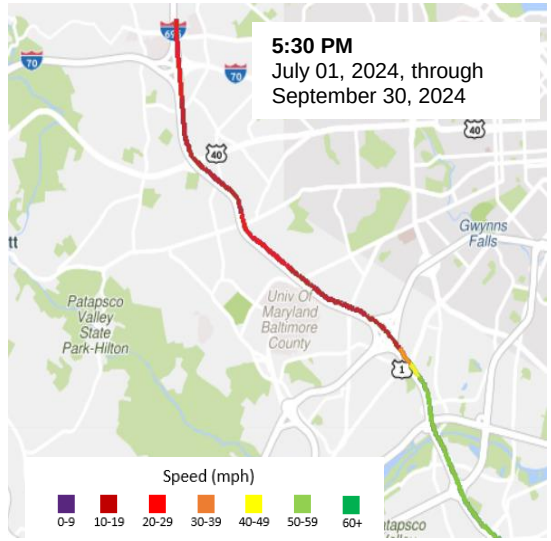
The center represents the beginning **of 07.01.24** and the outer edge the end of **09.30.24**



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



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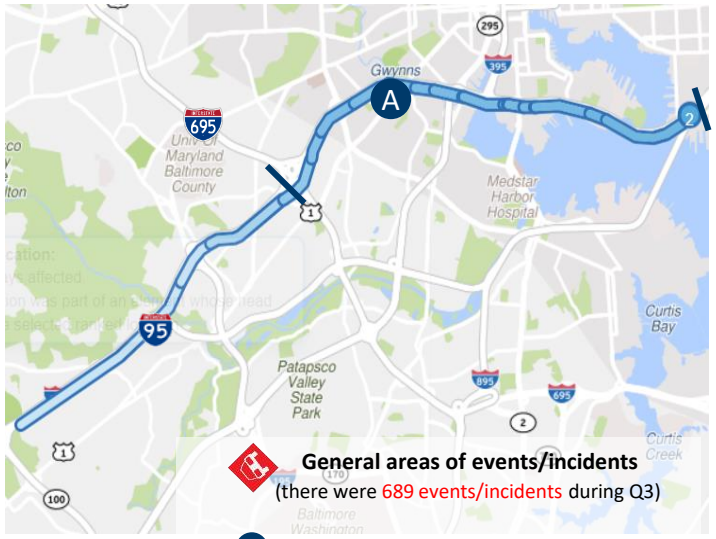
2 I-95 N @ FORT MCHENRY TUNNEL

Quarterly Bottleneck Evaluation Summary

Q3 2024



General areas of events/incidents
(there were 689 events/incidents during Q3)

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-895 northbound to the Fort McHenry Toll Plaza.

PK. AVG. SPEED

AM Peak | 8:40AM
55.5 mph
(20% slower than free flow)

PM Peak | 4:50 PM
29.0 mph
(57% slower than free flow)

PK. TRAVEL TIME

AM Peak |8:40AM
13.7 min

PM Peak |4:50 PM
26.3 min

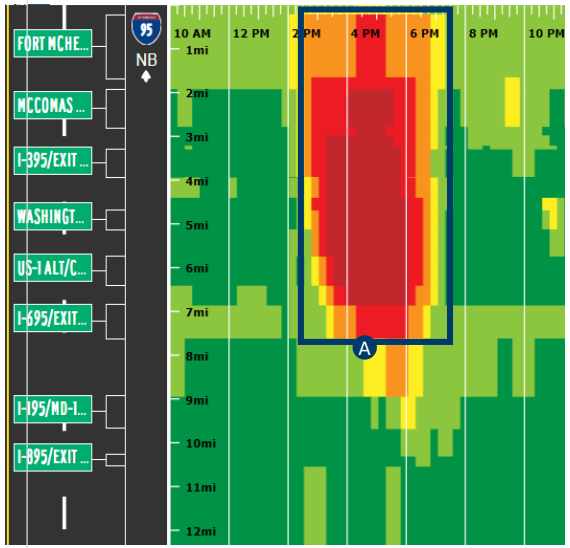
Q3 DELAY COST

Delay Cost
$12.965 M

Veh-hrs. of Delay
303,431 h

Congested Locations

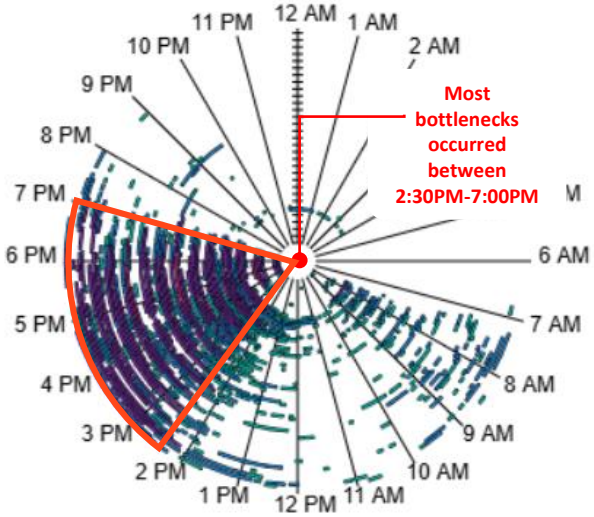
A **2:30PM – 7:00PM** I-695/Exit 49 to Fort McHenry Tunnel



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

Bottleneck Occurrences

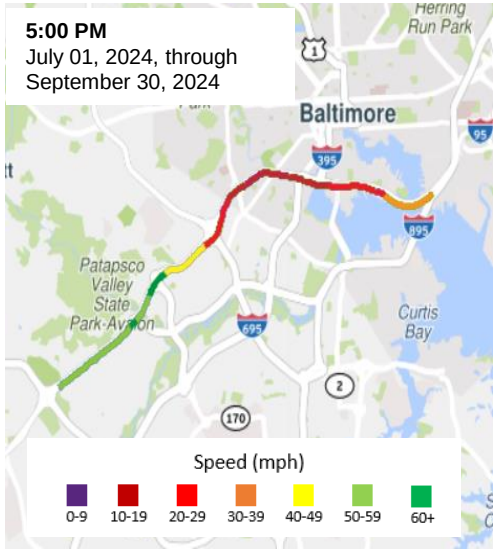
The center represents the beginning **of 07.01.24** and the outer edge the end of **09.30.24**



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

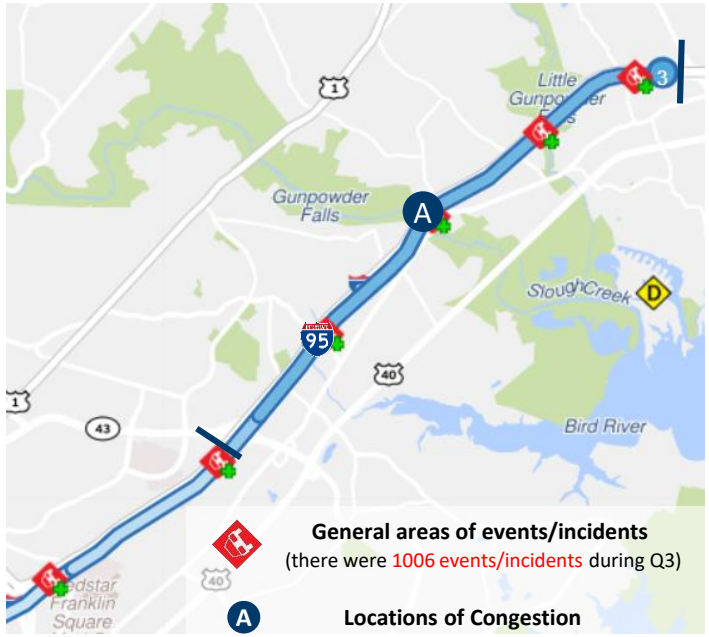
Corridor Speeds Over Time

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



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

Quarterly Bottleneck Evaluation Summary Q3 2024



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.

PK. AVG. SPEED

AM Peak | 6:50 AM
55.1 mph
(22% slower than free flow)

PM Peak | 12:55 PM
51.6 mph
(25% slower than free flow)

PK. TRAVEL TIME

AM Peak | 6:50 AM
14.6 min

PM Peak |12:55 PM
15.6 min

Q3 DELAY COST

Delay Cost
$6.716 M

Veh-hrs. of Delay
303,431 h

Congested Locations

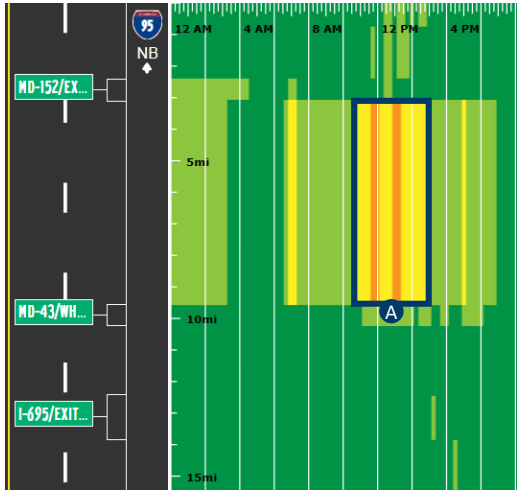
A **10:45AM – 2:45PM** MD-43/White Marsh Blvd/Exit 67 to MD-152/Mountain Rd/Exit 74

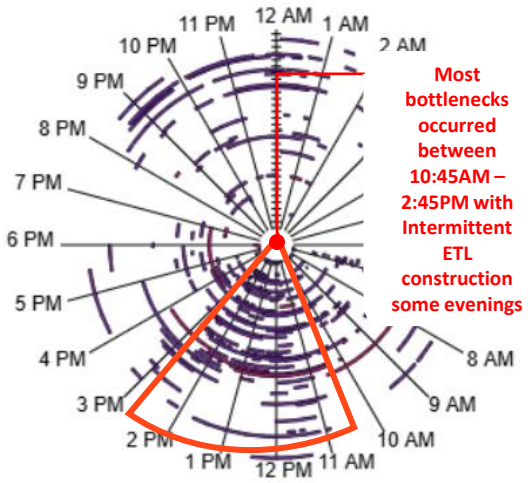
Bottleneck Occurrences

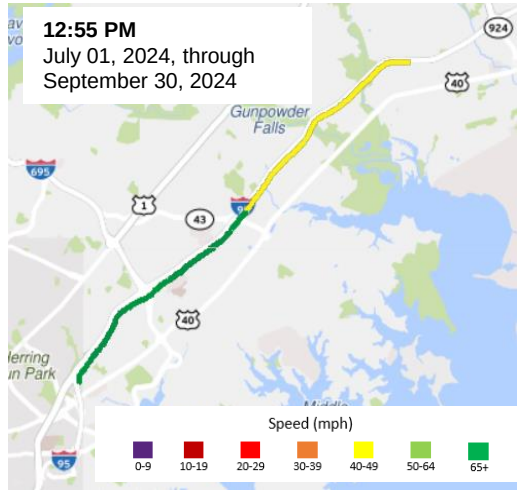
The center represents the beginning **of 07.01.24** and the outer edge the end of **09.30.24**

Corridor Speeds Over Time

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

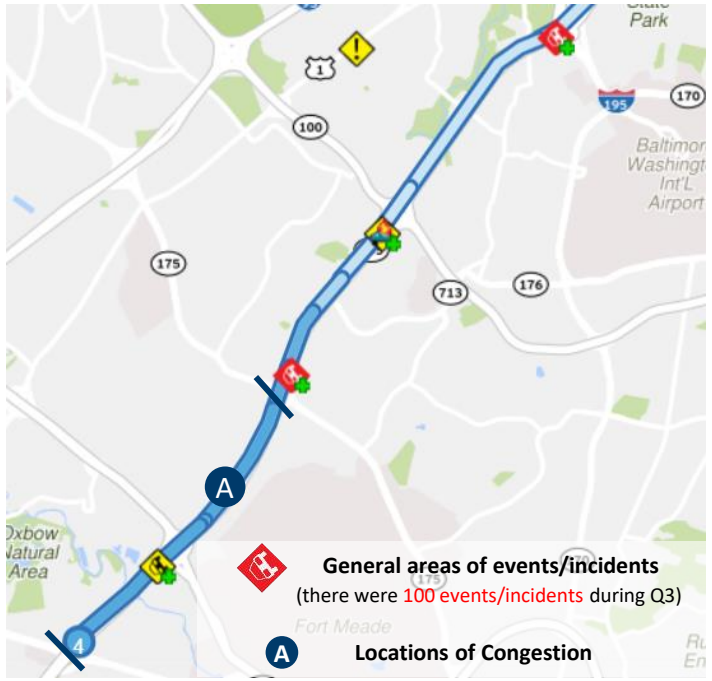






4 MD-295 S @ MD-198

Quarterly Bottleneck Evaluation Summary Q3 2024



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
41.0 mph
(39% slower than free flow)

PM Peak |5:30 PM
29.5 mph
(51% slower than free flow)

PK. TRAVEL TIME

AM Peak | 7:50 AM
14.1 min

PM Peak | 5:30 PM
19.6 min

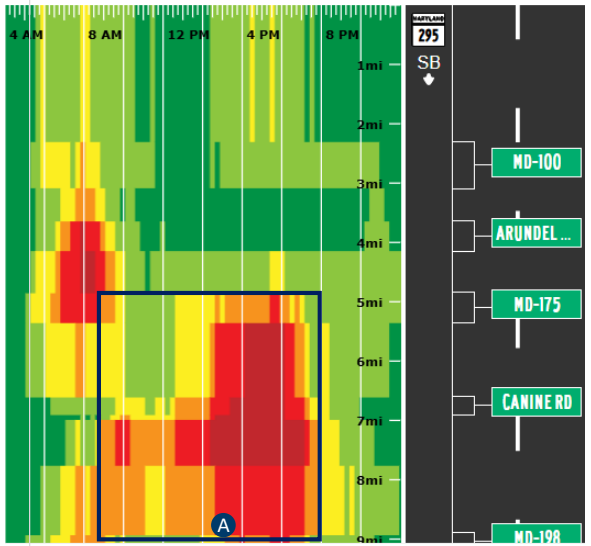
Q3 DELAY COST

Delay Cost
$12.014 M

Veh-hrs. of Delay
287,151 h

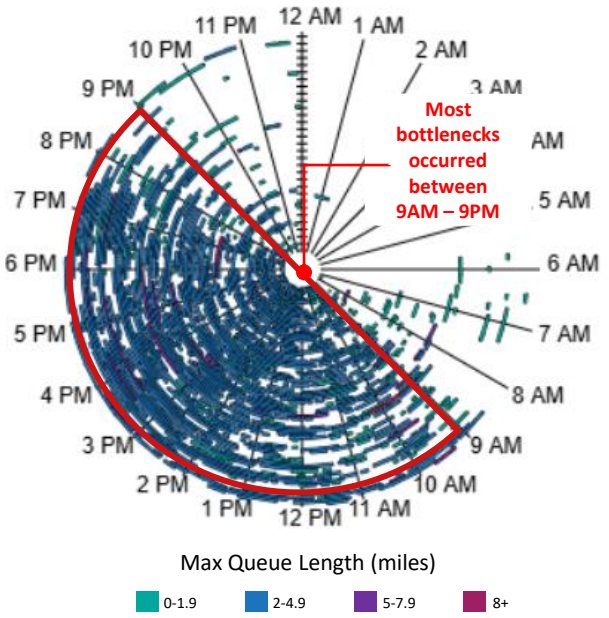
Congested Locations

A **7:15AM –7:45PM** MD-175 to MD-198



Bottleneck Occurrences

The center represents the beginning **of 07.01.24** and the outer edge the end of **09.30.24.**



Corridor Speeds Over Time

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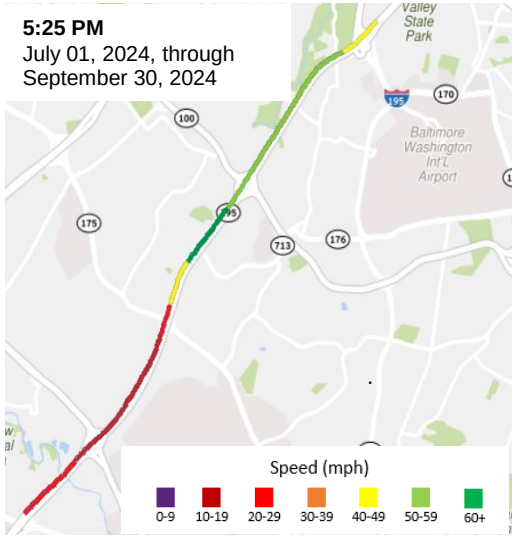
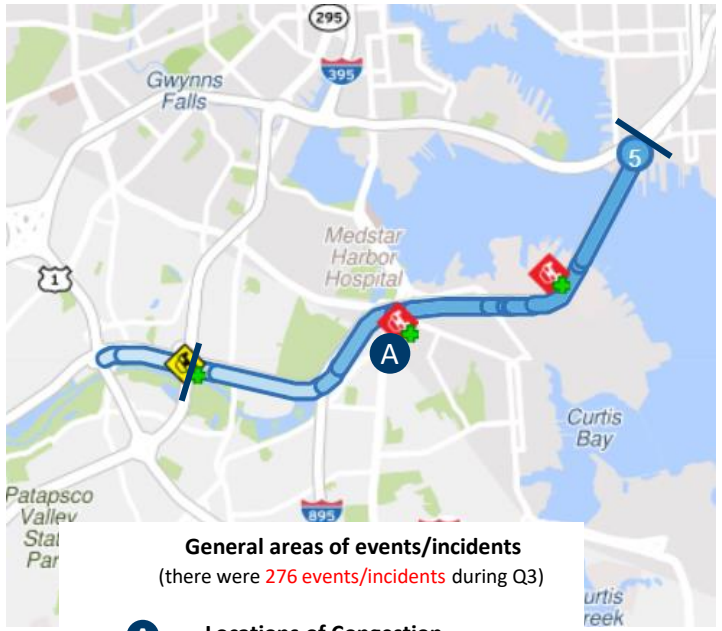


5 I-895 N @ Harbor Tunnel Thwy

Quarterly Bottleneck Evaluation Summary Q3 2024



General areas of events/incidents
(there were 276 events/incidents during Q3)

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 | 8:05 AM
40.5 mph
(34% slower than free flow)

PM Peak | 4:50 PM
18.1 mph
(67% slower than free flow)

PK. TRAVEL TIME

AM Peak | 8:05 AM
9.9 min

PM Peak |4:50 PM
22.2 min

Q3 DELAY COST

Delay Cost
$6.128 M

Veh-hrs. of Delay
146,476 h

Congested Locations

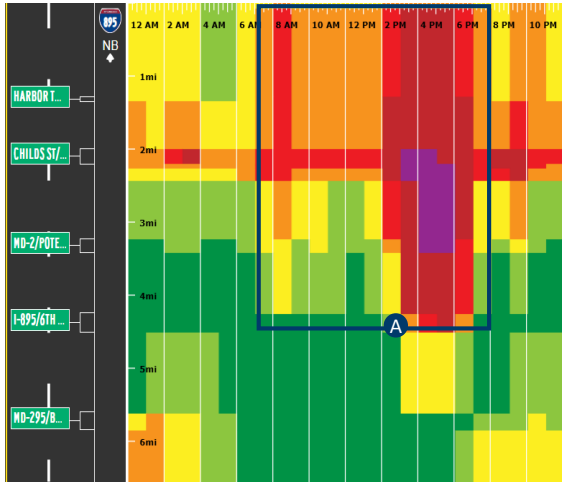
A **7AM – 7:45PM** I-895/6th Ave/Exit 6 to Harbor Tunnel Thwy

Bottleneck Occurrences

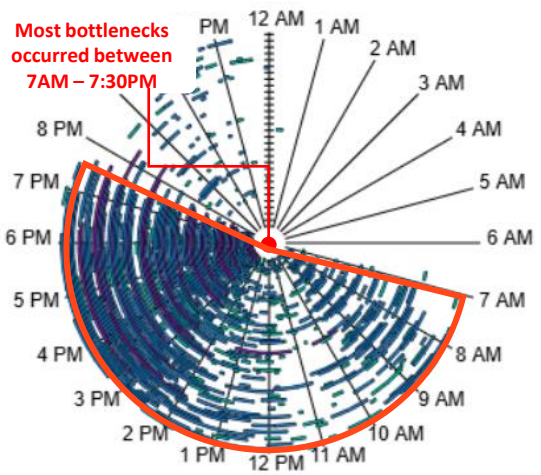
The center represents the beginning **of 07.01.24** and the outer edge the end of **09.30.24**

Corridor Speeds Over Time

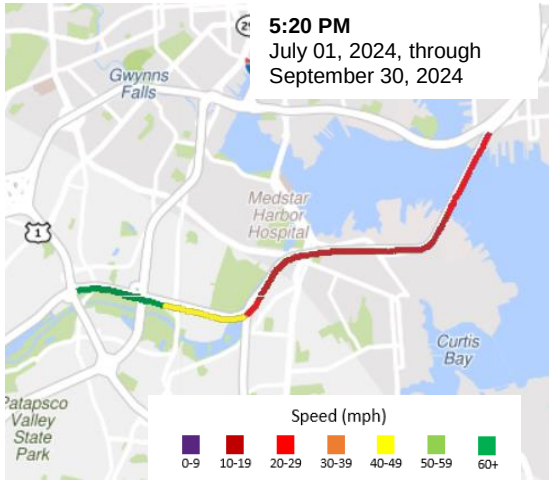
For animated playback of corridor speeds over time, click anywhere on the map below



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+



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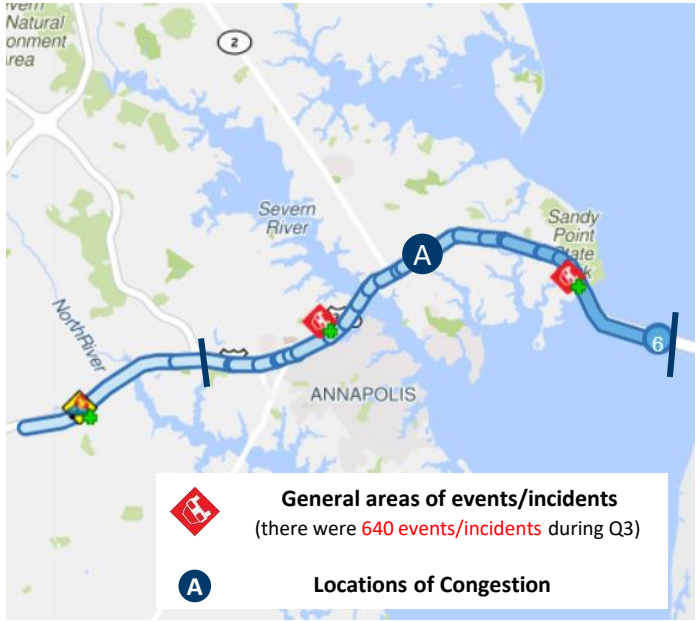
6 US-50 E @ BAY BRIDGE

Quarterly Bottleneck Evaluation Summary Q3 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 | 8:55 AM
58.6 mph
(12% slower than free flow)

PM Peak |3:55 PM
37.6 mph
(43% slower than free flow)

PK. TRAVEL TIME

AM Peak |8:55 AM
18.2 min

PM Peak |3:55 PM
28.4 min

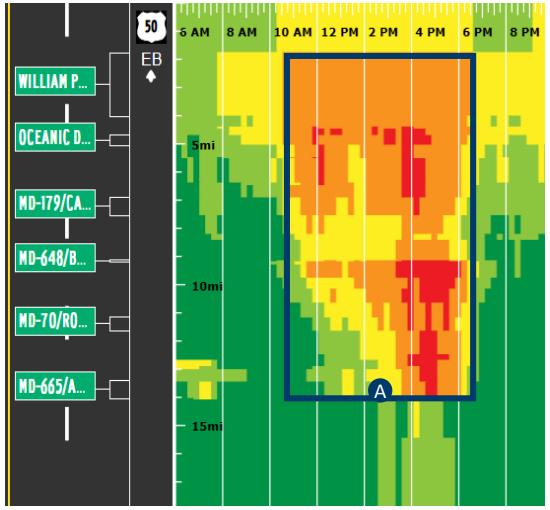
Q3 DELAY COST

Delay Cost
$12.145 M

Veh-hrs. of Delay
290,308 h

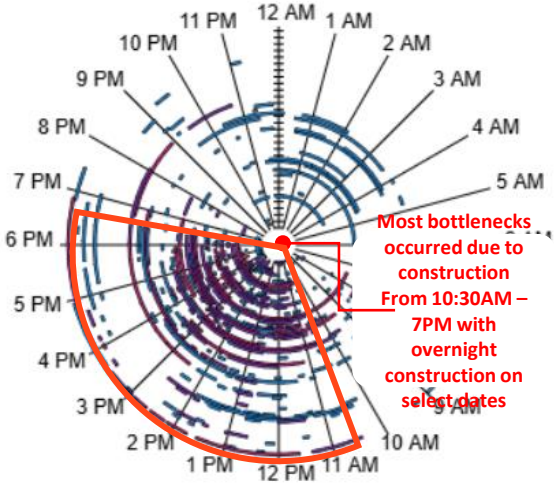
Congested Locations

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



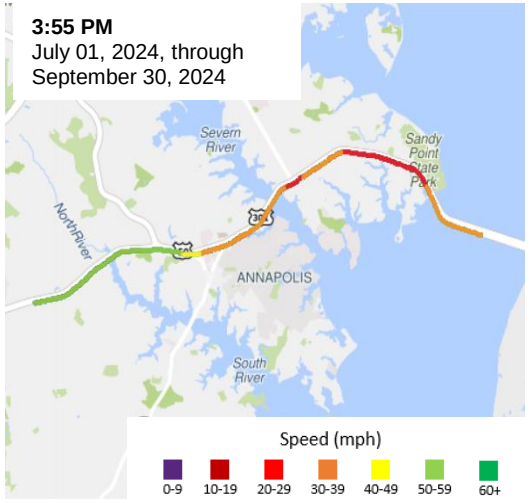
Bottleneck Occurrences

The center represents the beginning **of 07.01.24** and the outer edge the end of **09.30.24**



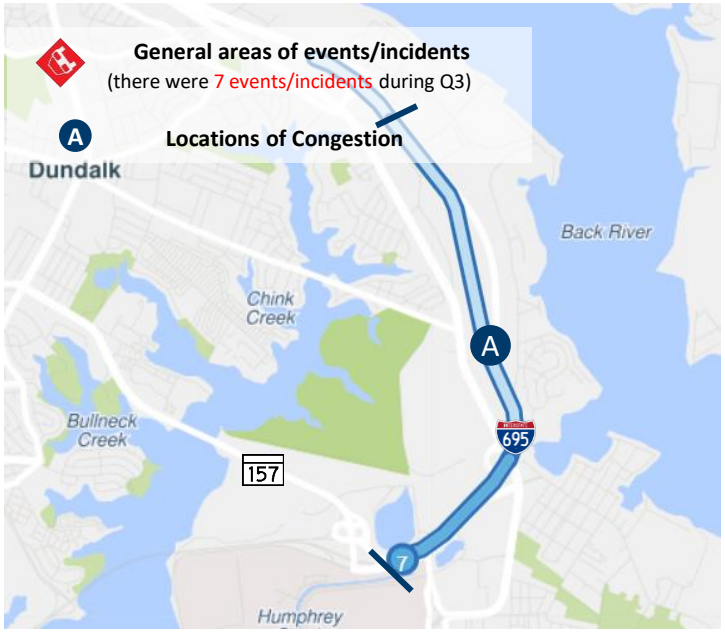
Corridor Speeds Over Time

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



7 I-695 IL @ PENINSULA EXPY/EXIT 43

Quarterly Bottleneck Evaluation Summary Q3 2024



I-695 at Exit 43 at Maryland Route 157, or the Peninsula Expressway, is now closed. Drivers on the inner loop must reroute at Exit 42, which takes them to MD-151 or North Point Boulevard, near its intersection with MD 158, or Bethlehem Boulevard.

Traffic bound for the I-695 outer loop can take eastbound MD-158 or Bethlehem while traffic exiting the I-695 inner loop wishing to return to the I-695 outer loop can follow Exit 42 toward MD-151 to Cove Road, the transportation authority said.

The closure for construction was planned before the Key Bridge collapsed on March 26th.

PK. AVG. SPEED

AM Peak | 9:20 AM
24.1 mph
(61% slower than free flow)

PM Peak |5:00 PM
26.5 mph
(59% slower than free flow)

PK. TRAVEL TIME

AM Peak |9:20 AM
9.1 min

PM Peak |5:00PM
16.1 min

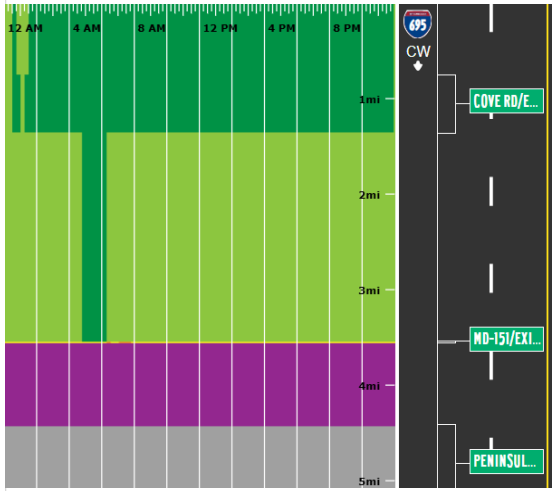
Q3 DELAY COST

Delay Cost
N/A

Veh-hrs. of Delay
N/A

Congested Locations

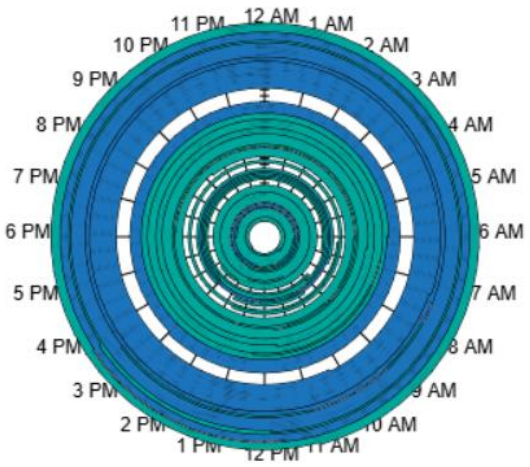
A **2:15PM – 6:15PM** Cove Rd/Exit 41 to MD-151/North Point Blvd/Exit 42



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

Bottleneck Occurrences

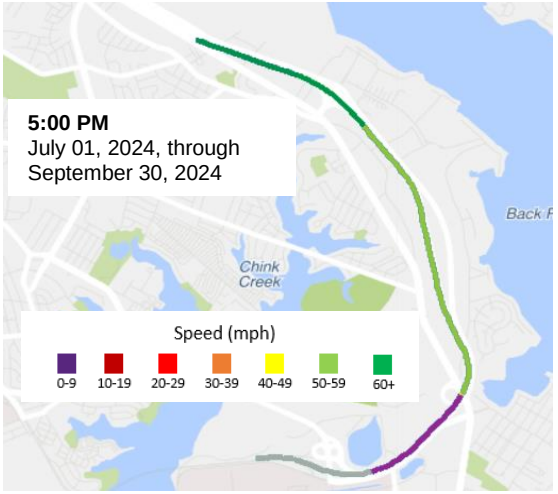
The center represents the beginning **of 07.01.24** and the outer edge the end of **09.30.24**



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

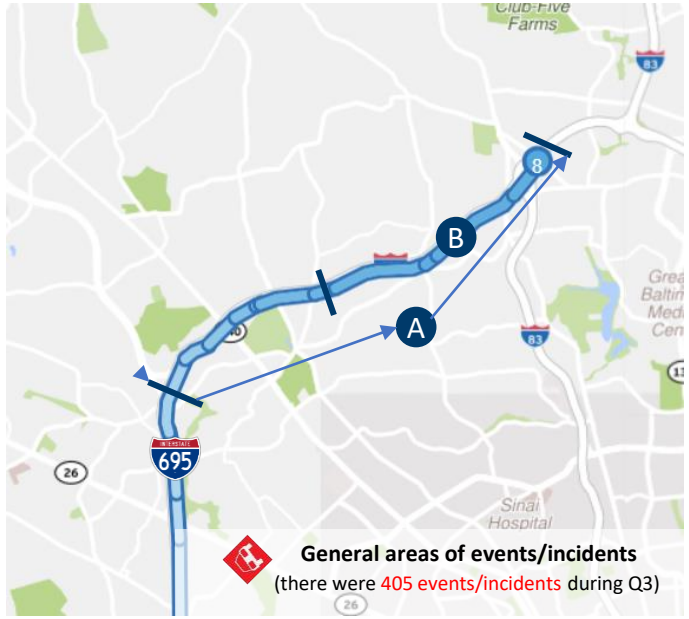
Corridor Speeds Over Time

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



8 I-695 IL @ I-83/MD-25/EXIT 23

Quarterly Bottleneck Evaluation Summary Q3 2024



A B **Locations of Congestion**

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

TSMO Construction project is underway in this stretch of I-695 from I-70 to MD-43.

PK. AVG. SPEED

AM Peak | 8:25AM
39.2 mph
(43% slower than free flow)

PM Peak | 4:50 PM
33.6 mph
(49% slower than free flow)

PK. TRAVEL TIME

AM Peak |8:25AM
21.4 min

PM Peak |4:50 PM
24.9 min

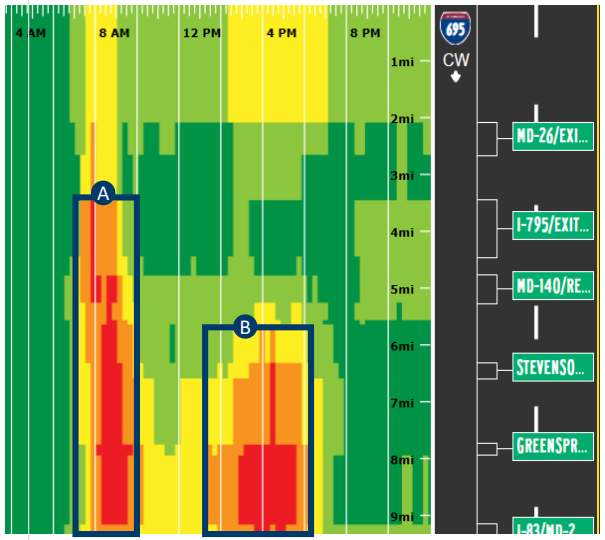
Q3 DELAY COST

Delay Cost
$22.279 M

Veh-hrs. of Delay
532,506 h

Congested Locations

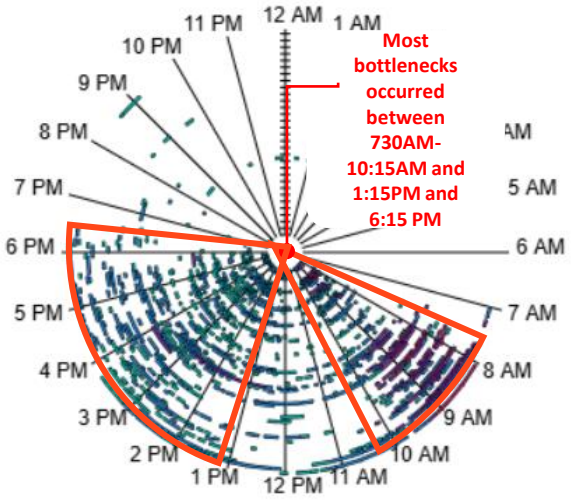
A **7:30AM – 10:15AM** I-795/Exit 19 to I-83/MD-25/Exit 25
B **1:15PM – 6:15PM** I-795/Exit 19 to Stevenson Rd/Exit 21



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

Bottleneck Occurrences

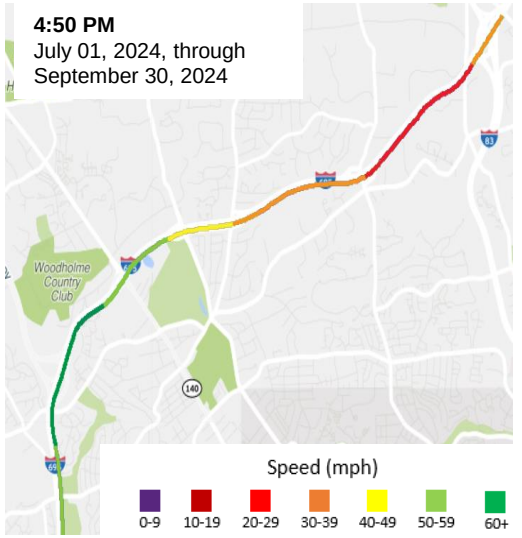
The center represents the beginning **of 07.01.24** and the outer edge the end of **09.30.24**



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

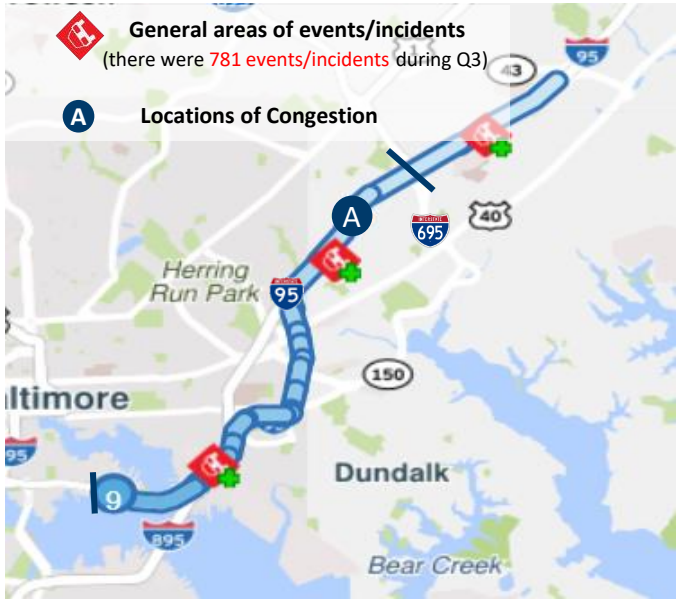
Corridor Speeds Over Time

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



9 I-95 S @ FORT MCHENRY TUNNEL

Quarterly Bottleneck Evaluation Summary Q3 2024



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.

PK. AVG. SPEED

AM Peak | 8:00AM
36.4 mph
(47% slower than free flow)

PM Peak | 4:55 PM
57.1 mph
(15% slower than free flow)

PK. TRAVEL TIME

AM Peak |8:00AM
20.0 min

PM Peak |4:55 PM
12.7 min

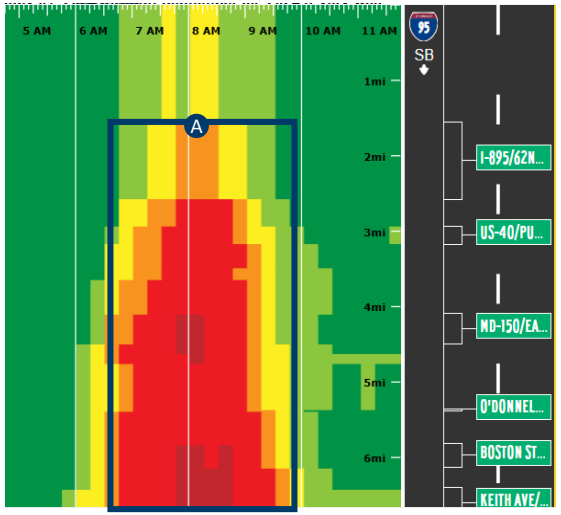
Q3 DELAY COST

Delay Cost
$5.585 M

Veh-hrs. of Delay
133,498 h

Congested Locations

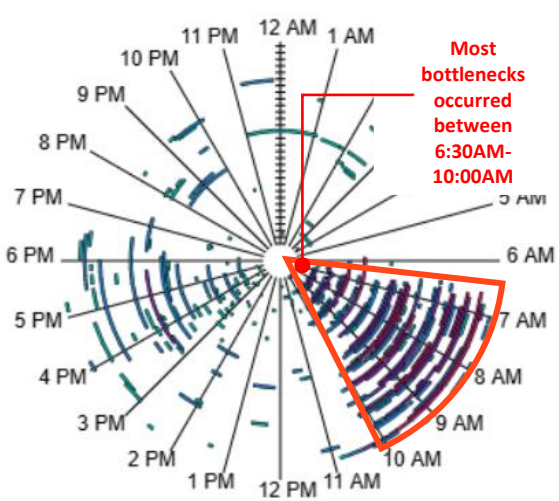
A **6:30AM – 10:00AM** I-895/62nd St/Exit 62 to Fort McHenry Tunnel



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

Bottleneck Occurrences

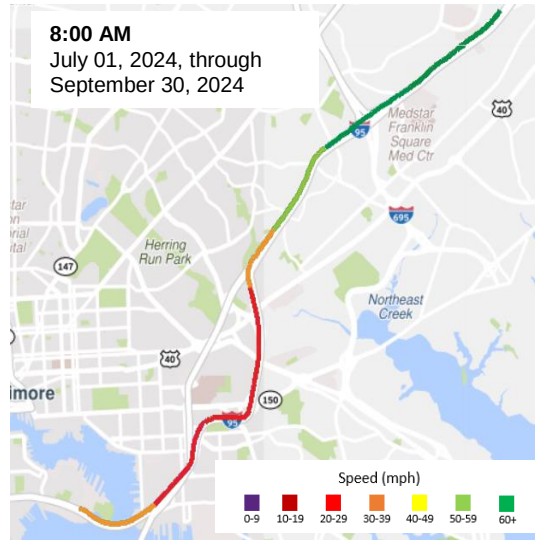
The center represents the beginning **of 07.01.24** and the outer edge the end of **09.30.24**



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

Corridor Speeds Over Time

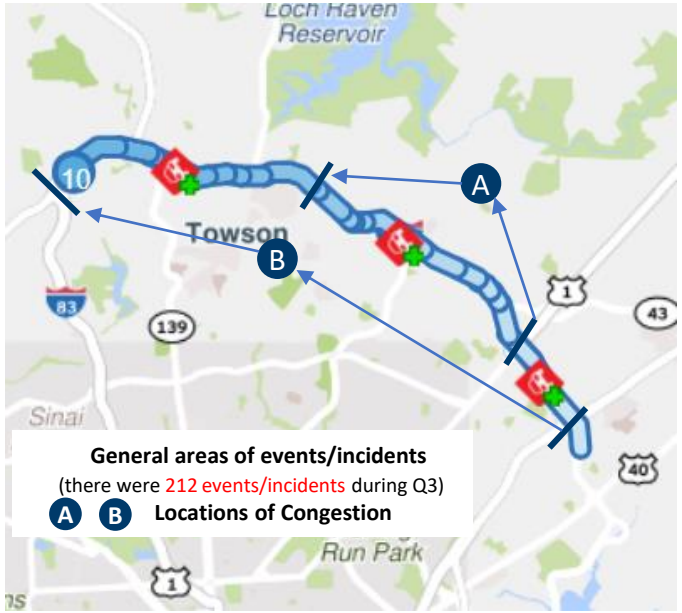
For animated playback of corridor speeds over time, click anywhere on the map below



10 I-695 OL @ I-83/MD-25/EXIT 23

Quarterly Bottleneck Evaluation Summary

Q3 2024



General areas of events/incidents
(there were 212 events/incidents during Q3)
A B **Locations of Congestion**

Historically long term rush hour delays in both the AM and PM rush. Road geometry, traffic volume and the amount of exits and merges close together contribute to delays. Morning congestion is of a shorter extent only appearing primarily from US-1 westbound to Providence Rd/Exit 28 which doesn't appear in the "Bottleneck Occurrences" pinwheel graphic.

A Transportation Systems Management and Operations (TSMO) project is being developed to reduce congestion and delay and increase reliability of travel within the project area from I-70 to MD-43.

PK. AVG. SPEED

AM Peak | 7:50 AM
33.5 mph
(51% slower than free flow)

PM Peak | 4:30 PM
35.1 mph
(46% slower than free flow)

PK. TRAVEL TIME

AM Peak | 7:50 AM
20.5 min

PM Peak |4:30 PM
19.6 min

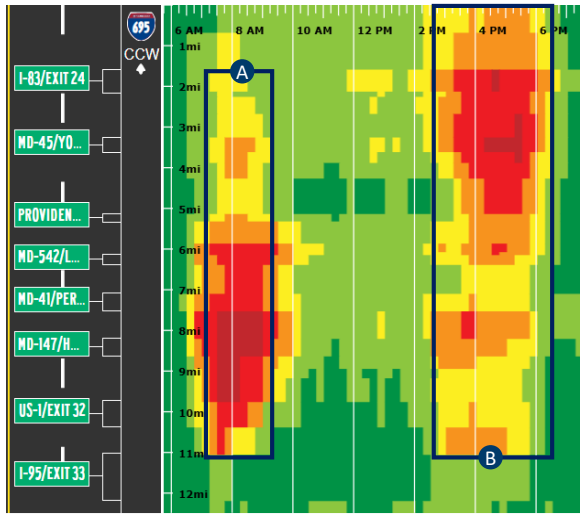
Q3 DELAY COST

Delay Cost
$12.157 M

Veh-hrs. of Delay
290,337 h

Congested Locations

A **6:45AM – 10AM** US-1/Exit 32 to I-83/MD-25/Exit 23
B **2:30PM – 6:30PM** US-1/Exit 32 to I-83/MD-25/Exit 23



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

Bottleneck Occurrences

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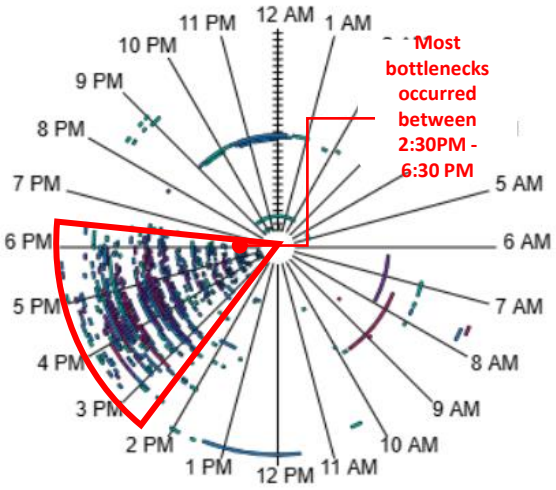
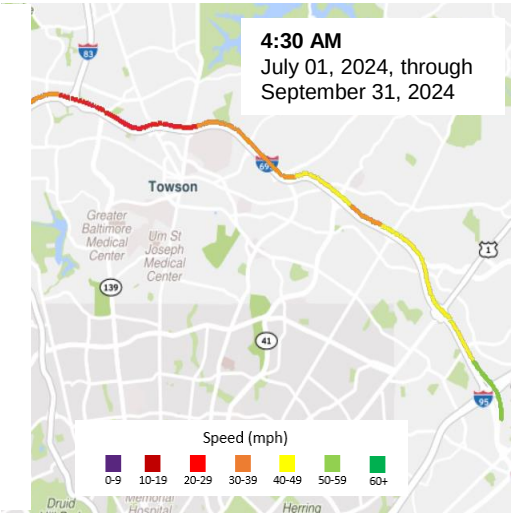


Max Queue Length (miles)
0-1.9 2-4.9 5-7.9 8+

Corridor Speeds Over Time

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



BRTB Baltimore Regional Transportation Board

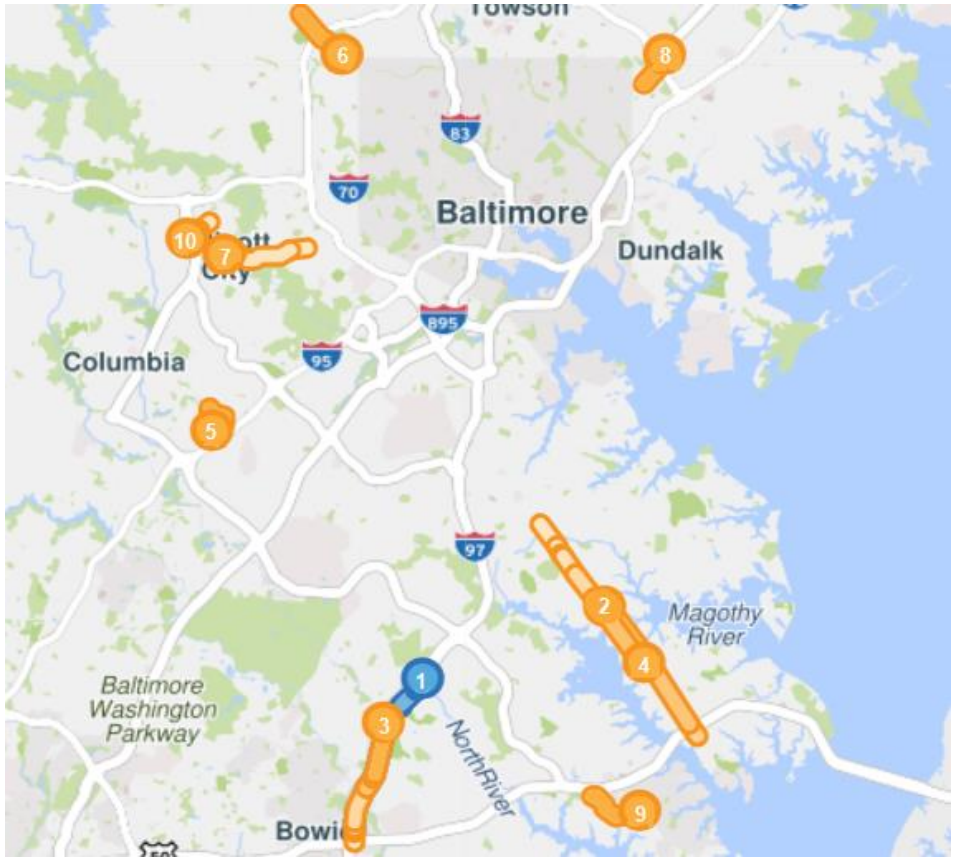
BALTIMORE METROPOLITAN COUNCIL

Top 10 Bottlenecks on Non-Limited Access Roads

Top 10 Bottlenecks in the Region – Non Limited Access Roads

Q3 2024

Rank	Location	Avg. Max. Length (miles)	Avg. Daily Duration	Volume Estimate (AADT)	Total Delay (Millions)
1	MD-3 N @ SAINT STEPHENS CHURCH RD	0.83	3h 20m	33,611	**21.4**
2	MD-2 N @ ROBINSON RD	**3.51**	1h 30m	28,466	17.6
3	MD-3 N @ MD-424/CONWAY RD/DAVIDSONVILLE RD	2.27	1h 30m	**34,584**	13.4
4	MD-2 S @ COLLEGE PKWY	3.06	56m	29,677	11.0
5	COLUMBIA GATEWAY DR S @ ROBERT FULTON DR	1.13	3h 01m	20,553	10.2
6	MD-140 E @ SUDBROOK LN	0.48	7h 26m	14,619	7.8
7	MD-144 W @ ELLICOTT MILLS DR	0.50	8h 45m	9,750	7.6
8	US-1 N @ ROSSVILLE BLVD	0.25	8h 24m	22,097	7.2
9	MD-665 S @ CHINQUAPIN ROUND RD	0.14	4h 31m	31,433	7.1
10	US-40 W @ ST JOHNS LN	0.15	**11h 38m**	25,430	6.9



*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**.*

Red #s = highest value for that metric

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

BRTB Baltimore Regional Transportation Board

BALTIMORE METROPOLITAN COUNCIL

Ranked Bottleneck Lists by Jurisdiction

Top 20 Bottlenecks in Local Jurisdictions- 3rd 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	US-50 W @ BAY BRIDGE
5	MD-295 N @ MD-175
6	I-97 N @ BENFIELD BLVD/EXIT 10
7	US-50 E @ BAY DALE DR/FERGUSON RD/EXIT 28
8	MD-295 S @ ARUNDEL--PRINCE GEORGE'S COUNTY BORDER
9	MD-3 N @ SAINT STEPHENS CHURCH RD
10	MD-295 S @ CANINE RD
11	MD-295 N @ CANINE RD
12	US-50 E @ MD-648/BALTIMORE ANNAPOLIS BLVD
13	MD-295 N @ MD-100
14	MD-2 N @ ROBINSON RD
15	I-97 N @ MD-3 BUS/NEW CUT RD/EXIT 12
16	MD-295 N @ PRINCE GEORGE'S/ARUNDEL CO LINE
17	I-695 OL @ MD-170/CAMP MEADE RD/EXIT 6
18	MD-295 N @ I-195
19	MD-3 N @ MD-424/CONWAY RD/DAVIDSONVILLE RD
20	MD-295 S @ MD-175

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	MD-295 N @ I-95/MONROE ST
5	I-95 N @ I-95 (BALTIMORE)/FORT MCHENRY TUNNEL(EAST)
6	I-895 S @ HARBOR TUNNEL THWY (SOUTH)
7	I-95 S @ I-95 (BALTIMORE)/FORT MCHENRY TUNNEL(WEST)
8	I-895 N @ CHILDS ST/EXIT 9
9	I-95 N @ MD-295/BALTIMORE WASHINGTON PKWY/EXIT 52
10	I-95 S @ WASHINGTON BLVD/EXIT 51
11	I-83 S @ MD-25/FALLS RD/EXIT 8
12	I-895 S @ HARBOR TUNNEL THWY (NORTH)
13	I-83 S @ COLD SPRING LN/EXIT 9
14	I-95 S @ I-95 (WEST)
15	S MARTIN L KING JR BLVD S @ WASHINGTON BLVD
16	I-395 N @ W CONWAY ST
17	I-95 S @ I-395/EXIT 53
18	FOREST PARK AVE N @ WINDSOR MILL RD
19	I-95 N @ MCCOMAS ST/EXIT 55 SOUTH
20	I-95 S @ US-1 ALT/CATON AVE/EXIT 50

IL = Inner Loop

OL = Outer Loop

Top 20 Bottlenecks in Local Jurisdictions- 3rd 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 IL @ PENINSULA EXPY/EXIT 43
4	I-695 IL @ I-83/MD-25/EXIT 23
5	I-695 OL @ I-83/MD-25/EXIT 23
6	I-695 OL @ MD-26/EXIT 18
7	I-695 OL @ I-795/EXIT 19
8	I-95 S @ MD-43/WHITEMARSH BLVD/EXIT 67
9	I-83 S @ I-695
10	I-695 OL @ I-70/EXIT 16
11	I-70 E @ I-695/EXIT 91
12	I-695 IL @ MD-542/LOCH RAVEN BLVD/EXIT 29
13	I-695 IL @ PROVIDENCE RD/EXIT 28
14	I-695 IL @ EDMONDSON AVE/EXIT 14
15	I-695 IL @ MD-147/HARFORD RD/EXIT 31
16	I-695 OL @ GREENSPRING AVE/EXIT 22
17	I-695 IL @ I-83/EXIT 24
18	I-95 S @ I-695/EXIT 49
19	I-695 OL @ MD-41/PERRING PKWY/EXIT 30
20	I-695 IL @ I-70/EXIT 16

Carroll County

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

IL = Inner Loop

OL = Outer Loop

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

Howard County

Rank	Location
1	I-95 S @ MD-216/EXIT 35
2	I-95 S @ MD-175/EXIT 41
3	I-95 S @ MD-100/EXIT 43
4	MD-32 W @ I-95
5	I-95 N @ MD-32/EXIT 38
6	I-95 N @ I-895/EXIT 46
7	I-70 W @ US-29/EXIT 87
8	I-95 S @ MD-32/EXIT 38
9	MD-100 W @ MARC DORSEY STATION ACCESS RD/EXIT 7
10	MD-100 W @ I-95/EXIT 5
11	COLUMBIA GATEWAY DR S @ ROBERT FULTON DR
12	I-95 N @ PRINCE GEORGE'S/HOWARD CO LINE
13	MD-32 E @ I-95
14	I-70 E @ US-29/EXIT 87
15	I-95 S @ I-895/EXIT 46
16	MD-144 W @ ELLICOTT MILLS DR
17	US-40 W @ ST JOHNS LN
18	I-95 N @ MD-175/EXIT 41
19	I-95 S @ PRINCE GEORGE'S/HOWARD CO LINE
20	MD-100 W @ US-29

Top 20 Bottlenecks in Local Jurisdictions- 3rd 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 W @ BAY BRIDGE
2	US-50 E @ BAY BRIDGE
3	US-50 W @ MD-8/EXIT 37
4	US-50 W @ US-301/BLUE STAR MEMORIAL HWY
5	US-50 E @ MD-213/CENTREVILLE RD
6	US-301 S @ US-50
7	US-50 W @ MD-213/CENTREVILLE RD
8	US-50 E @ MD-8/EXIT 37
9	US-50 W @ MD-662/WYE MILLS RD
10	US-50 E @ US-301/BLUE STAR MEML HWY
11	US-50 W @ MD-18/MAIN ST/EXIT 38
12	US-50 W @ MD-456/DEL RHODES AVE
13	US-50 E @ MD-404/QUEEN ANNE HWY
14	US-50 W @ MD-404/QUEEN ANNE HWY
15	US-50 E @ MD-456/DEL RHODES AVE
16	US-50 E @ BEGIN FREEWAY
17	US-50 W @ DOMINION RD/EXIT 39B
18	US-50 W @ MD-18/MAIN ST/EXIT 41
19	US-50 W @ PINEY RD/S PINEY RD/EXIT 40A
20	US-50 W @ CASTLE MARINA RD/EXIT 39A

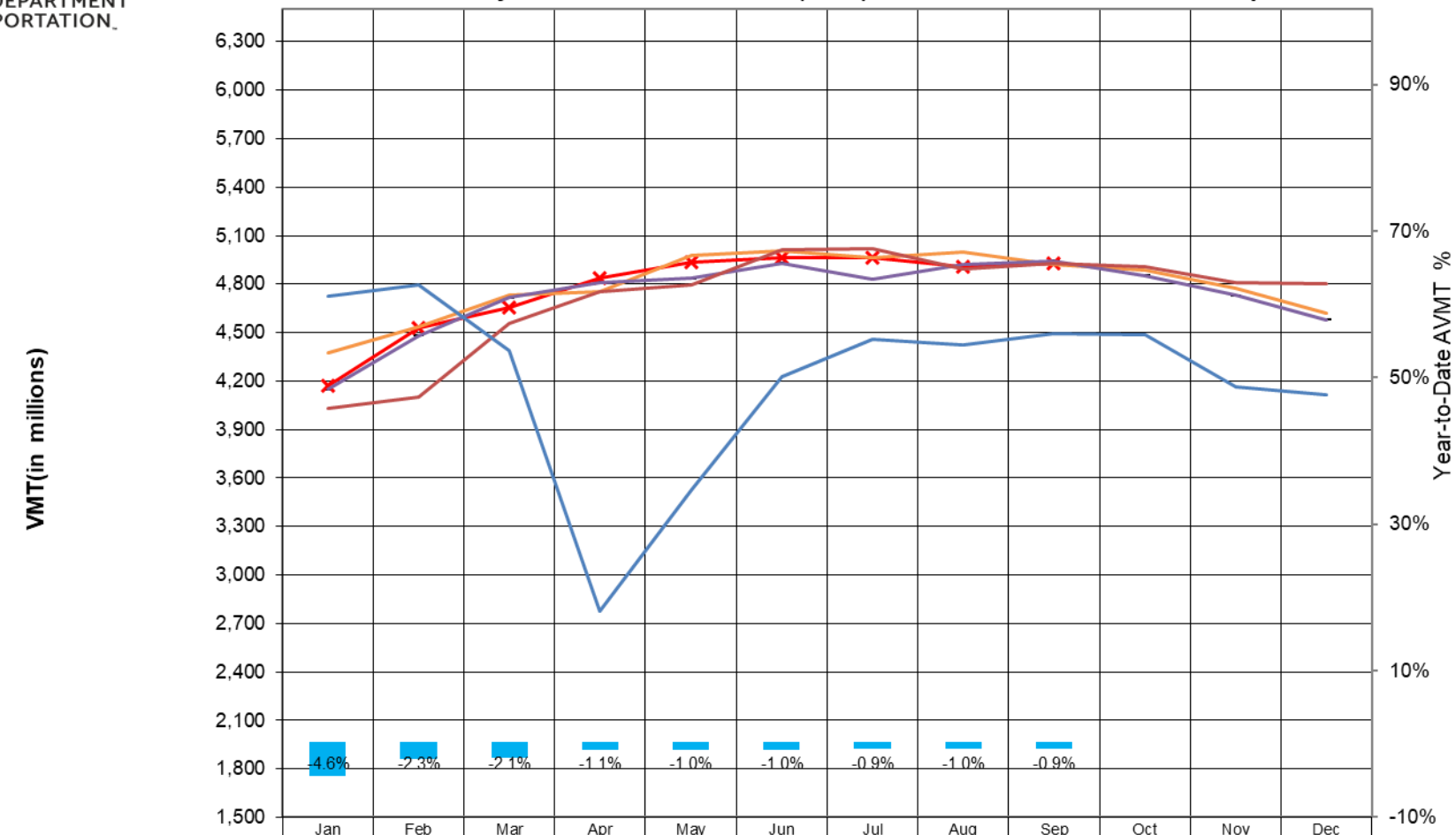
Vehicle Miles Traveled (VMT) Trend Graphs

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

Estimated Monthly Distribution of Annual (VMT) Vehicle Miles of Travel for : Sep-2024										
Sep	2020 VMT (Millions)	2021 VMT (Millions)	2022 VMT (Millions)	2023 VMT (Millions)	**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	4374	4173	-14.8%	3.0%	5.4%	-4.6%	-4.6%
Feb	4794	4104	4483	4533	4527	-14.4%	9.2%	1.1%	-0.1%	-2.3%
Mar	4389	4556	4718	4735	4654	3.8%	3.6%	0.4%	-1.7%	-2.1%
Apr	2779	4755	4811	4750	4836	71.1%	1.2%	-1.3%	1.8%	-1.1%
May	3527	4795	4835	4978	4937	36.0%	0.8%	3.0%	-0.8%	-1.0%
Jun	4229	5009	4929	5005	4966	18.4%	-1.6%	1.5%	-0.8%	-1.0%
Jul	4458	5023	4832	4963	4960	12.7%	-3.8%	2.7%	-0.1%	-0.9%
Aug	4427	4894	4918	4995	4908	10.5%	0.5%	1.6%	-1.7%	-1.0%
Sep	4494	4930	4945	4921	4925	9.7%	0.3%	-0.5%	0.1%	-0.9%
Oct	4488	4910	4854	4884		9.4%	-1.1%	0.6%		
Nov	4163	4810	4730	4776		15.5%	-1.7%	1.0%		
Dec	4116	4802	4580	4623		16.7%	-4.6%	0.9%		
TOTAL	**50,592**	**56,616**	**56,784**	**57,537**		**11.9%**	**0.3%**	**1.3%**		
Note										
1	The Sep-2024 Monthly AVMT is up compared to Sep-2023 by 0.1%									
2	The Cumulative Year-to-Date AVMT till Sep 2024 is down compared to same time last year 2023 by -0.9%									
3	* Preliminary 2024 VMT Estimates based on 2023 Final 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 :12/17/2024									

MARYLAND DEPARTMENT OF TRANSPORTATION

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



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cumulative Year-to-Date Change 2023-2024	-4.6%	-2.3%	-2.1%	-1.1%	-1.0%	-1.0%	-0.9%	-1.0%	-0.9%			
2024 VMT* (Millions)-Estimated	4173	4527	4654	4836	4937	4966	4960	4908	4925			
2023 VMT (Millions)	4374	4533	4735	4750	4978	5005	4963	4995	4921	4884	4776	4623
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

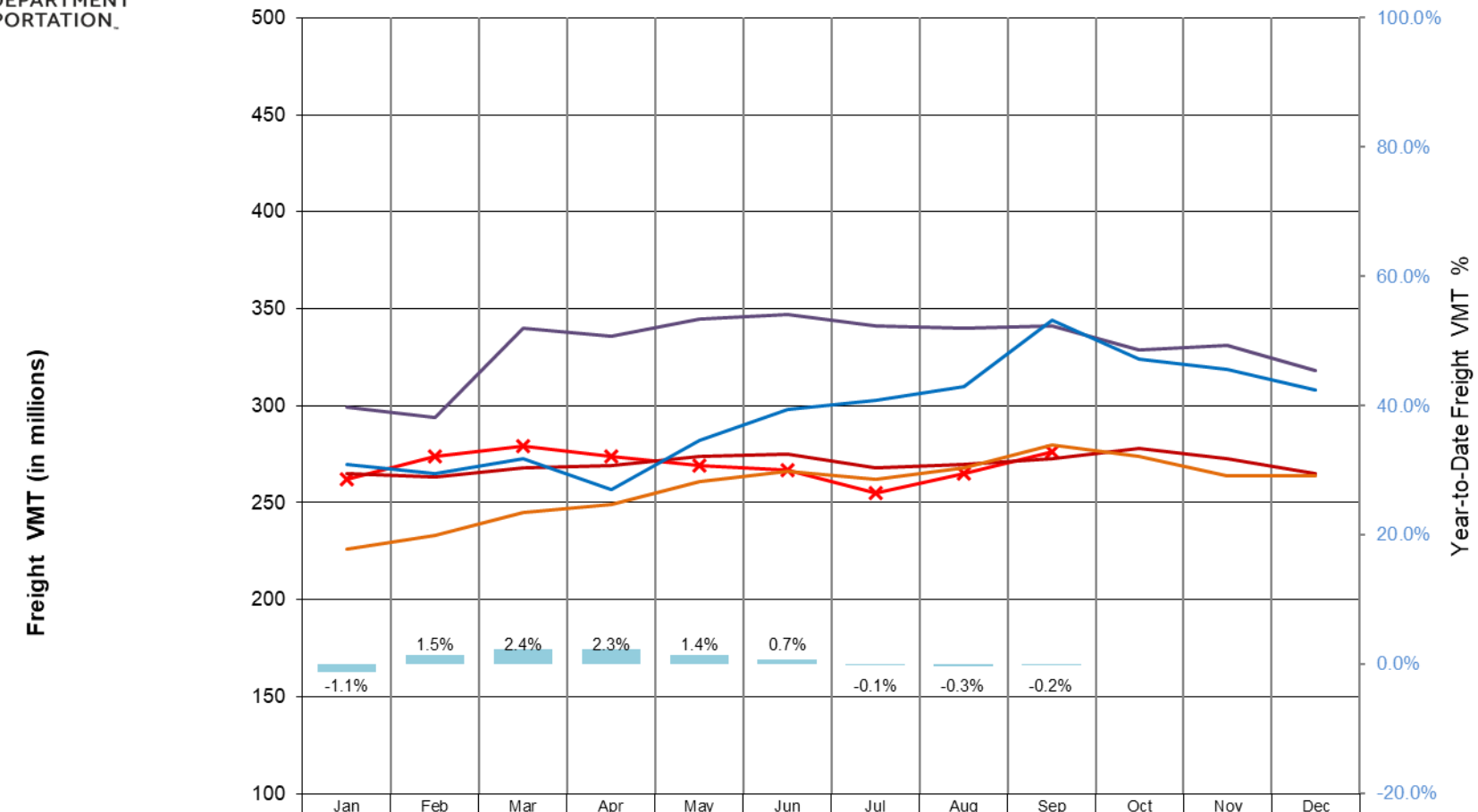
NOTE: This chart displays estimated monthly Vehicle Miles of Travel compared with the previous year based on data collected at approximately 50+ continuous count stations throughout the State.

Report Updated on :12/17/2024

Estimated Monthly Distribution of Freight Vehicle Miles of Travel for : Sep-2024										
Sep	2020 Freight VMT (Millions)	2021 Freight VMT (Millions)	2022 Freight VMT (Millions)	2023 Freight VMT (Millions)	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	265	262	10.7%	-24.4%	17.3%	-1.1%	-1.1%
Feb	265	294	233	263	274	10.9%	-20.7%	12.9%	4.2%	1.5%
Mar	273	340	245	268	279	24.5%	-27.9%	9.4%	4.1%	2.4%
Apr	257	336	249	269	274	30.7%	-25.9%	8.0%	1.9%	2.3%
May	282	345	261	274	269	22.3%	-24.3%	5.0%	-1.8%	1.4%
Jun	298	347	266	275	267	16.4%	-23.3%	3.4%	-2.9%	0.7%
Jul	303	341	262	268	255	12.5%	-23.2%	2.3%	-4.9%	-0.1%
Aug	310	340	268	270	265	9.7%	-21.2%	0.7%	-1.9%	-0.3%
Sep	344	341	280	273	276	-0.9%	-17.9%	-2.5%	1.1%	-0.2%
Oct	324	329	274	278		1.5%	-16.7%	1.5%		
Nov	319	331	264	273		3.8%	-20.2%	3.4%		
Dec	308	318	264	265		3.2%	-17.0%	0.4%		
TOTAL	**3553**	**3961**	**3092**	**3241**		**11.48%**	**-21.94%**	**4.82%**		
Note										
1	The Sep-2024 Monthly Freight VMT is up compared to Sep-2023 by 1.1%									
2	The Cumulative Year-to-Date Freight VMT till Sep 2024 is down compared to same time last year 2023 by -0.2%									
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 :12/17/2024										

MARYLAND DEPARTMENT OF TRANSPORTATION

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



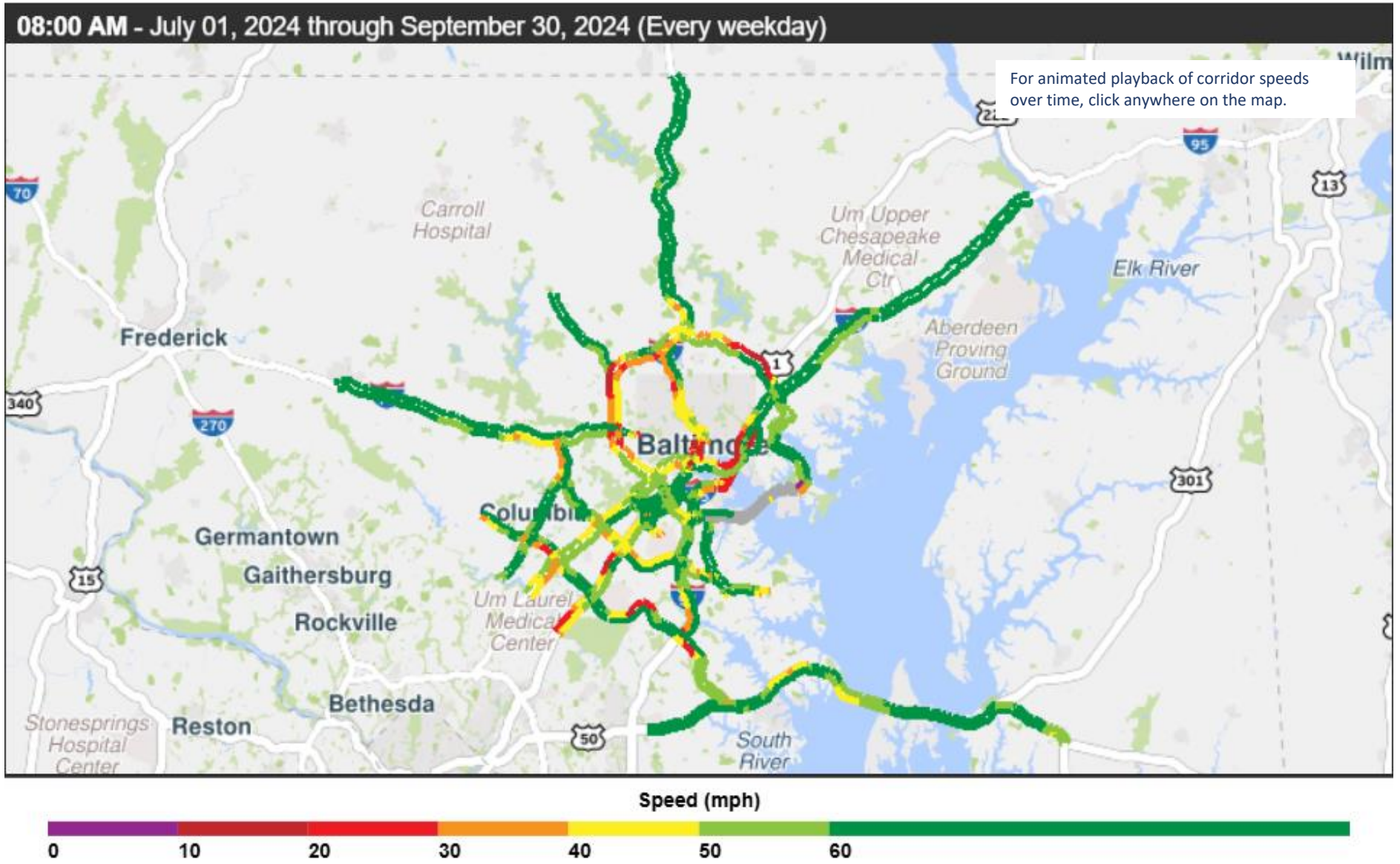
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cumulative Year-to-Date Freight VMT 2023-2024	-1.1%	1.5%	2.4%	2.3%	1.4%	0.7%	-0.1%	-0.3%	-0.2%			
2024 Freight VMT (Millions) * Estimated	262	274	279	274	269	267	255	265	276			
2023 Freight VMT (Millions)	265	263	268	269	274	275	268	270	273	278	273	265
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.

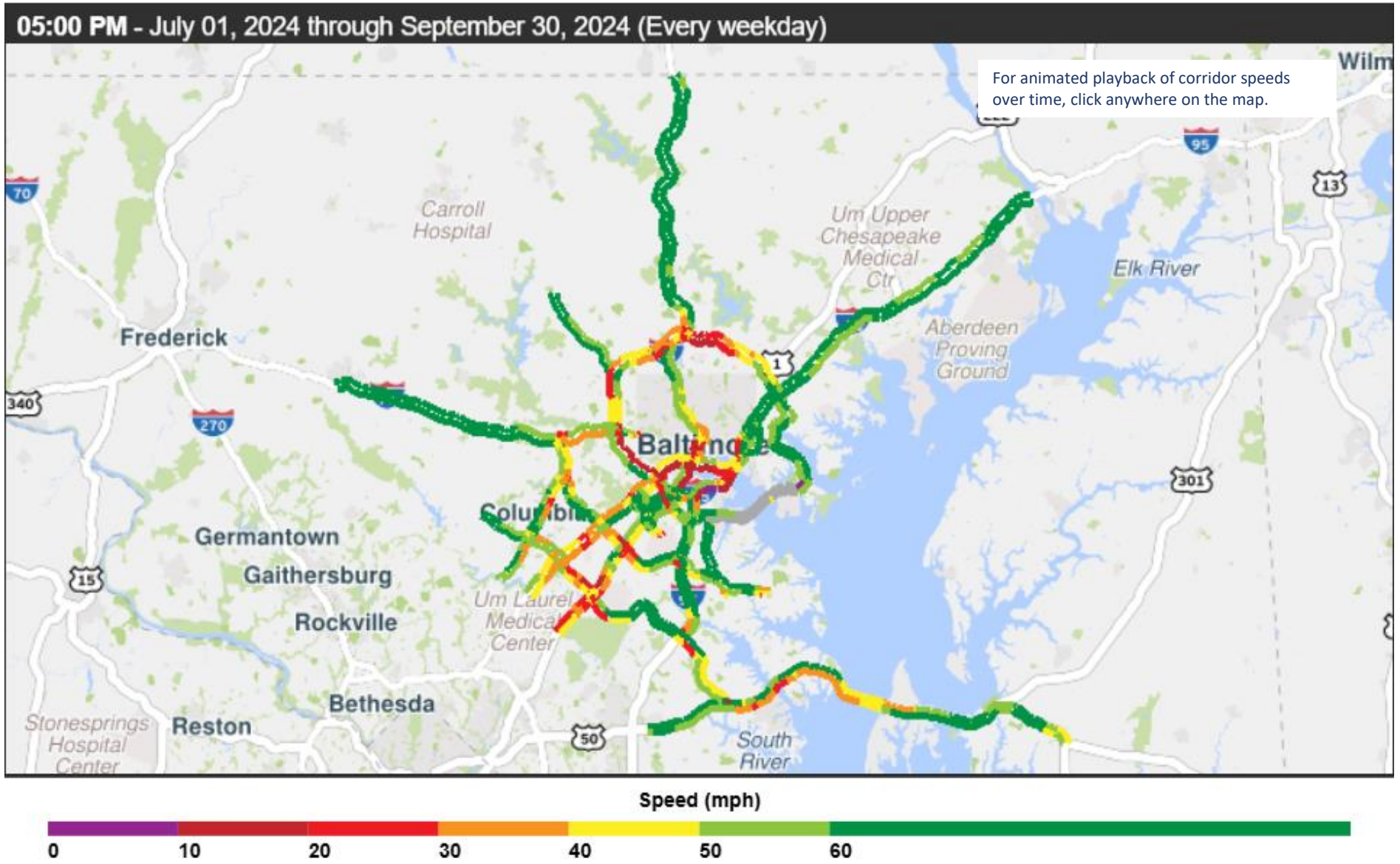
Report Updated on :12/17/2024

Regional Speed Maps

AM Peak Period Rush Hour: 3rd Quarter 2024



PM Peak Period Rush Hour: 3rd Quarter 2024



System Reliability Performance Measures

Percent of reliable person-miles traveled on the Interstate

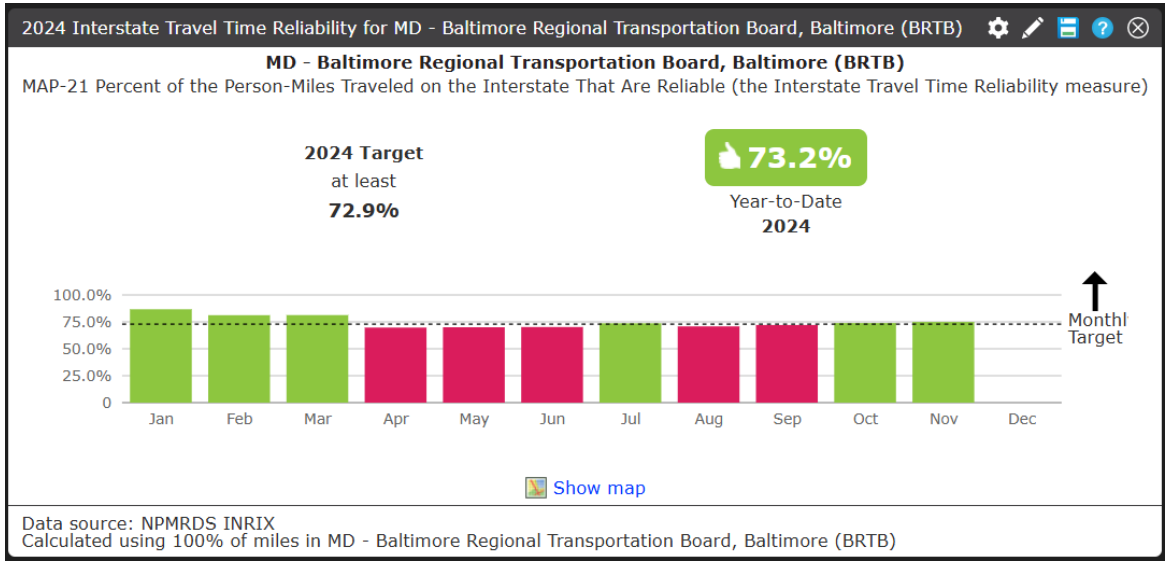
Percent of reliable person-miles traveled on the Non-Interstate NHS

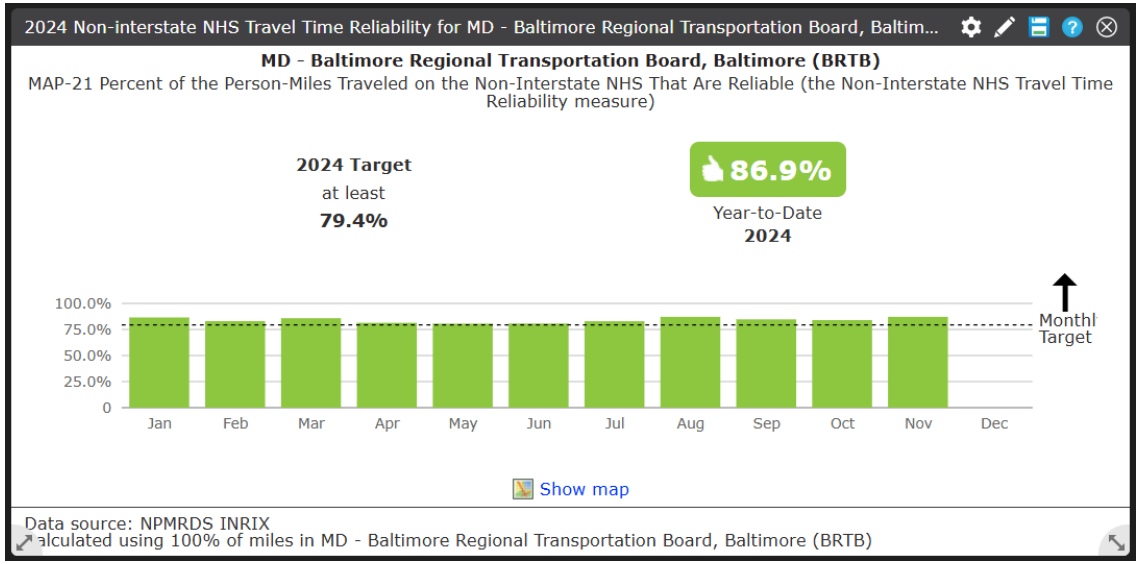
Percentage of Interstate system mileage providing for reliable truck travel time (Truck Travel Time Reliability Index)

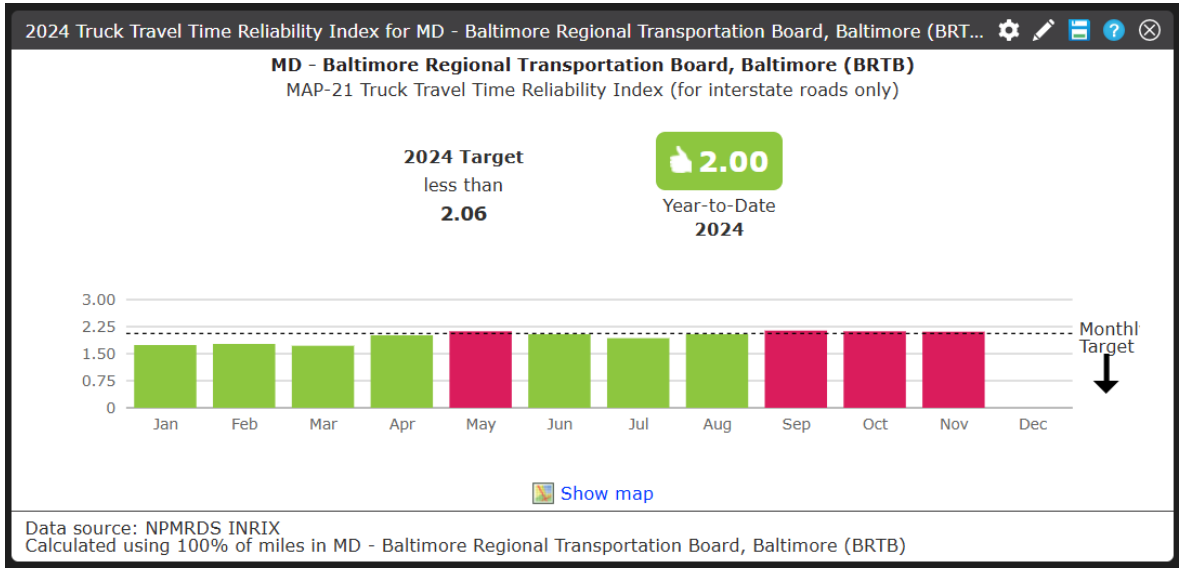
* Each state must establish statewide targets and report findings to the Federal Highway Administration. Metropolitan Planning Organizations must either support the established state targets or develop regional targets of their own.

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										
Oct	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**July**	**Aug**	**Sep**	**Q3 Rank**	**Q3 Locations**
18	16	10	8	8	8	3	2	5	1	1	1	1	I-695 IL @ SECURITY BLVD/EXIT 17
					10	1	1	1	2	2	2	2	I-95 N @ FORT MCHENRY TUNNEL
	1	1	9	1	1	7	3	2	3	3		3	I-95 N @ MD-152/EXIT 74
	4	5	3	7		9	6	6	6	5	3	4	MD-295 S @ MD-198
10		17		18	4	2	4	4	5	7	5	5	I-895 N @ HARBOR TUNNEL THWY (NORTH)
	5	8	13	10		15	7	3	4	4		6	US-50 E @ BAY BRIDGE
									16	6	4	7	I-695 IL @ PENINSULA EXPY/EXIT 43
6	20	2	2	2	2	4		7	8	9	7	8	I-695 IL @ I-83/MD-25/EXIT 23
						5		12	11	8	6	9	I-95 S @ FORT MCHENRY TUNNEL
12	13										12	10	I-695 OL @ I-83/MD-25/EXIT 23
15	3	3	4	6	5	10	8	9	13	14	10	11	I-95 S @ MD-216/EXIT 35
	7			4	7	13	10			17		12	I-97 S @ MD-178/EXIT 5
								13	10	15		13	US-50 W @ BAY BRIDGE
1		6			14	19	12		9			14	I-95 S @ MD-24/EXIT 77
5					18	14	19	15	17	16	16	15	I-695 OL @ MD-26/EXIT 18
19	14		20			17	18	19			11	16	I-695 OL @ I-795/EXIT 19
8	8	7	15				16	11	12	19	19	17	I-95 S @ MD-175/EXIT 41
		18			12		13				9	18	I-95 S @ MD-43/WHITEMARSH BLVD/EXIT 67
17	19	11	12		13	20		16	20	20		19	MD-295 N @ MD-175
9	11	13	16	17				18		13		20	I-83 S @ I-695

Conclusions/Observations: The September 2024 Monthly Average Vehicle Miles Traveled AVMT is up compared to September 2023 by 0.1%. The Cumulative Year to Date AVMT change through September 2024 AMVT is down compared to last year 2023 by -0.9%. I-695/Beltway inner loop at Exit 17/Security Blvd was the region's top bottleneck replacing I-95 N at the Fort McHenry Tunnel which dropped to the #2 spot.

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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