Quarterly Congestion Analysis Report

Top 10 Bottlenecks in the Baltimore Region

4th Quarter 2024

BRTB Baltimore Regional Transportation Board

Report created January 2025

BALTIMORE METROPOLITAN COUNCIL

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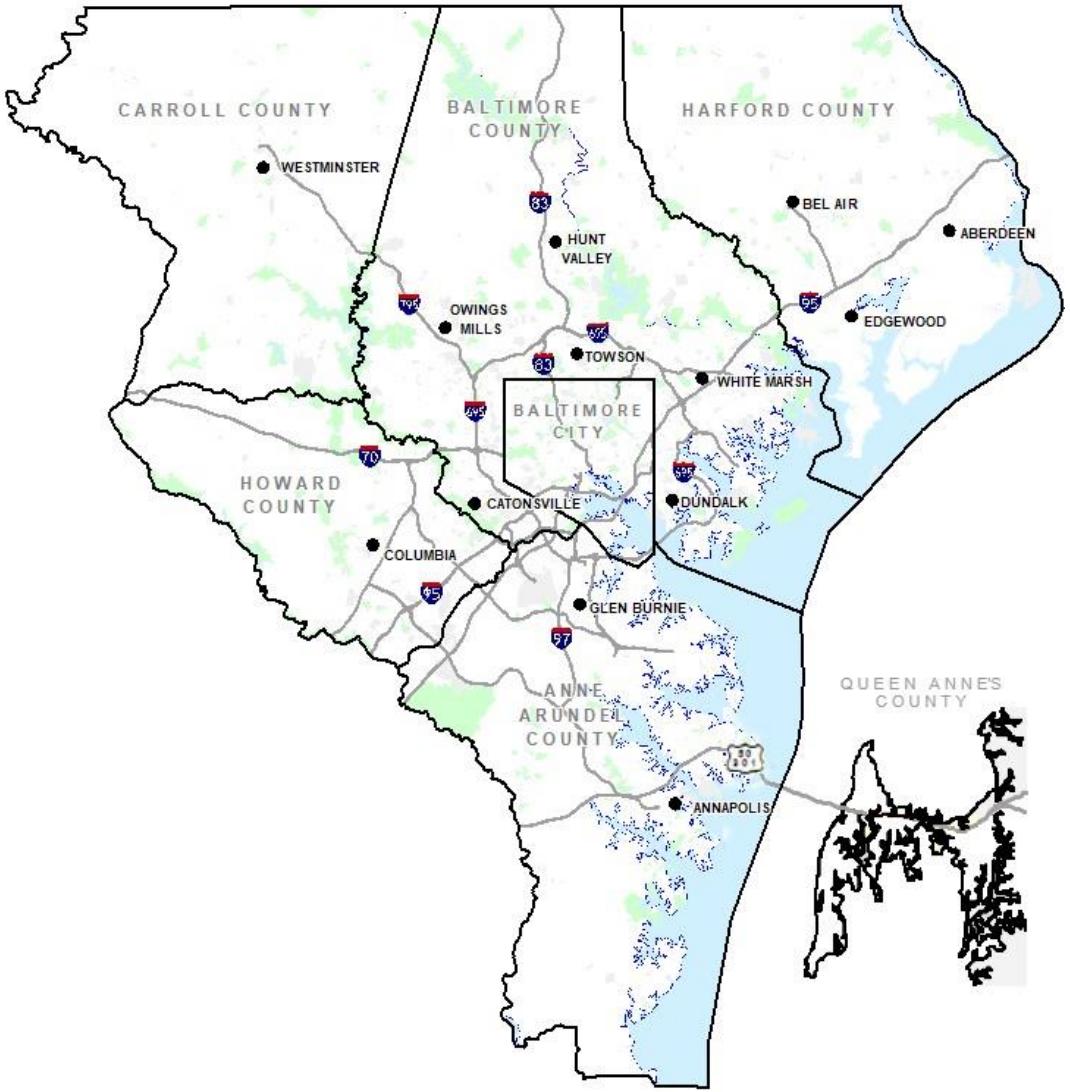
About the Region

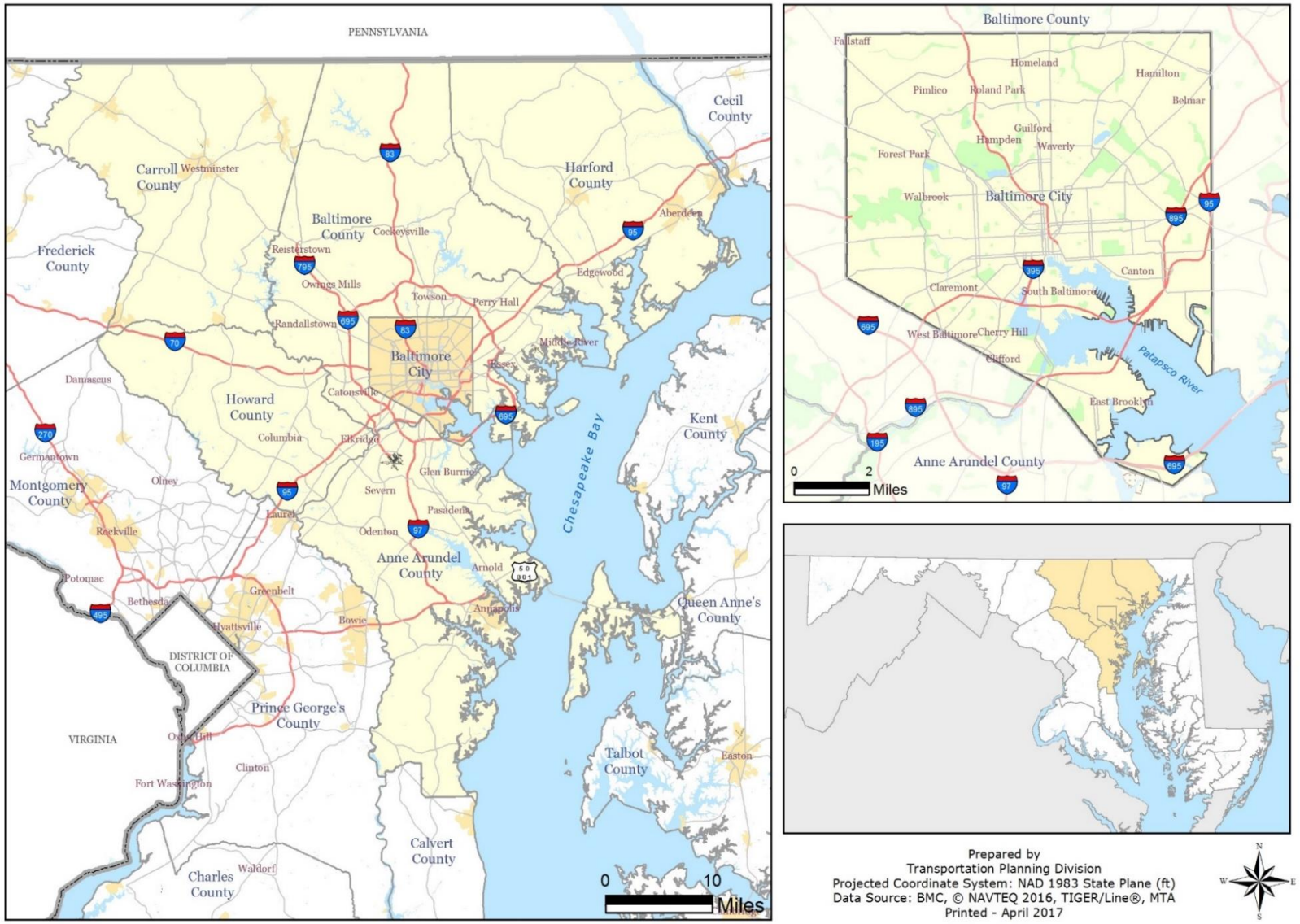
Baltimore Region



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

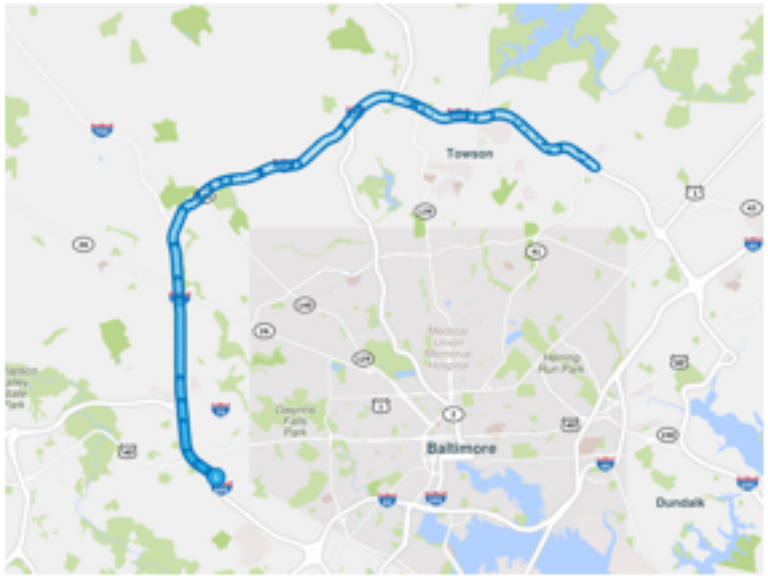
Bottleneck Analytics

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



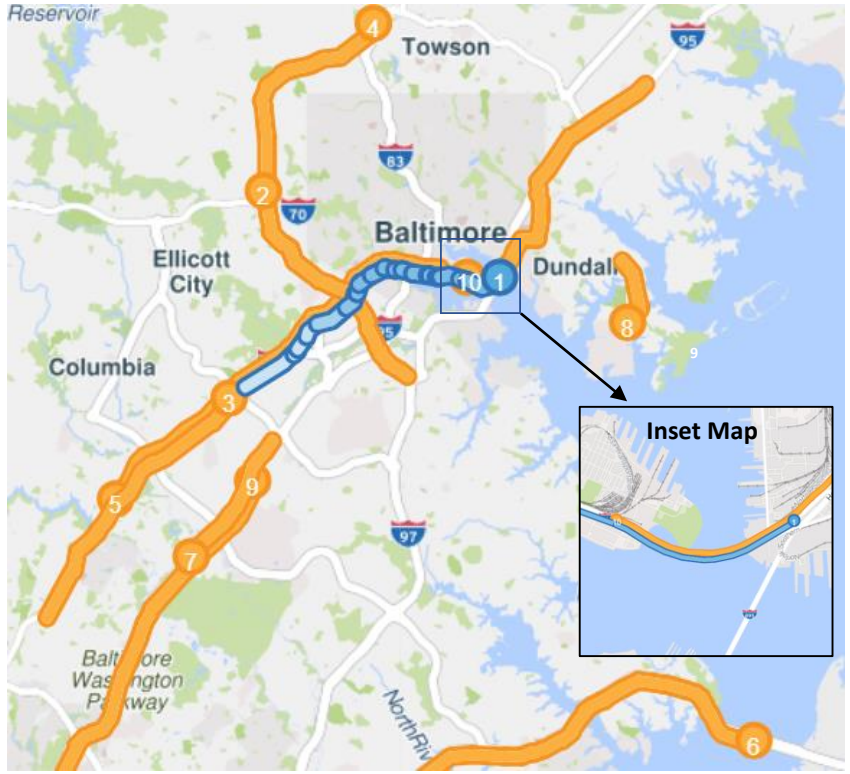
The Map view displays selected bottlenecks on a map. Each element occurring at the selected location is layered on the map, extending upstream from the head location to the maximum length of the specific *element*. As each element adds another layer on the map, road segments become more opaque. Segments 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 – 4th Quarter 2024

Top 10 Bottlenecks in the Region

Q4 2024

Rank	Location	Previous Quarter Ranking	Avg. Max. Length (mi)	Avg. Daily Duration	Volume Estimate (AADT)	Total Delay (Millions)
1	I-95 N @ FORT MCHENRY TUNNEL	2	**6.10**	2 h 27 m	82,339	**269.8**
2	I-695 IL @ SECURITY BLVD/EXIT 17	**1**	3.15	3 h 48 m	100,829	239.3
3	I-95 N @ MD-100/EXIT 43		4.14	2 h 58 m	**102,378**	132.3
4	I-695 IL @ I-83/MD-25/EXIT 23	8	3.32	2 h 16 m	96,407	119.8
5	I-95 S @ MD-216/EXIT 35		5.41	1 h 53 m	100,479	117.4
6	US-50 E @ BAY BRIDGE	6	4.45	2 h 33 m	41,732	115.1
7	MD-295 S @ MD-198	4	3.07	4 h 35 m	41,190	107.0
8	I-695 IL @ PENINSULA EXPY/EXIT 43	7	0.99	**16 h 52 m**	10,827	77.5
9	MD-295 N @ MD-175		4.56	1 h 30 m	50,046	74.1
10	I-95 S @ FORT MCHENRY TUNNEL	9	4.39	1 h 21 m	62,860	69.1



*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**.*

IL = Inner Loop OL = Outer Loop

Red #s = highest value for that metric

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

Top 10 Bottleneck Rankings in the Baltimore Region – 4th 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 Q4 2024

PK. AVG. SPEED

AM Peak | 7:50AM
54.9 mph
(22% slower than free flow)

PM Peak | 4:50 PM
28.1 mph
(58% slower than free flow)

PK. TRAVEL TIME

AM Peak |7:50AM
13.9 min

PM Peak |4:50 PM
27.1 min

Q4 DELAY COST

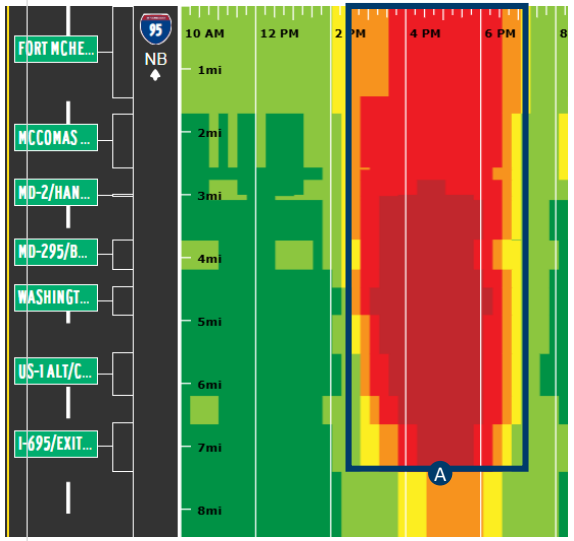
Delay Cost
$13.075 M

Veh-hrs. of Delay
312,513 h

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.

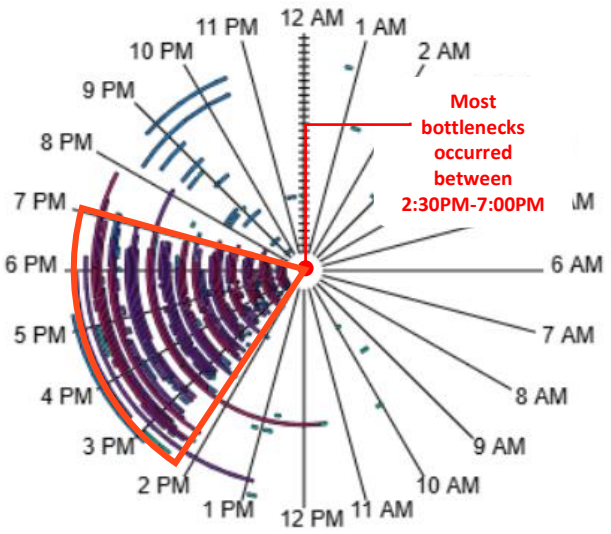
Congested Locations

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



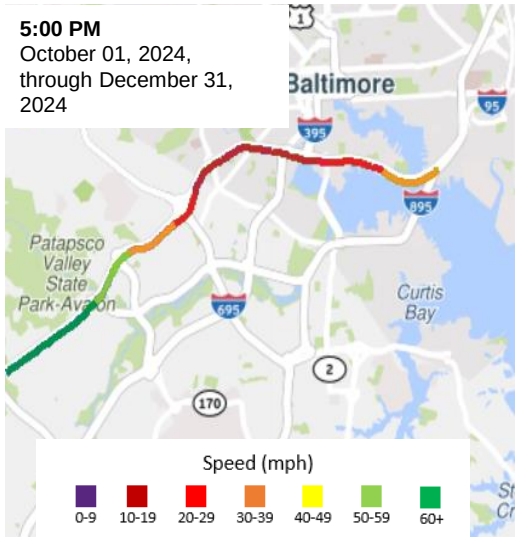
Bottleneck Occurrences

The center represents the beginning **of 10.01.24** and the outer edge the end of **12.31.24**



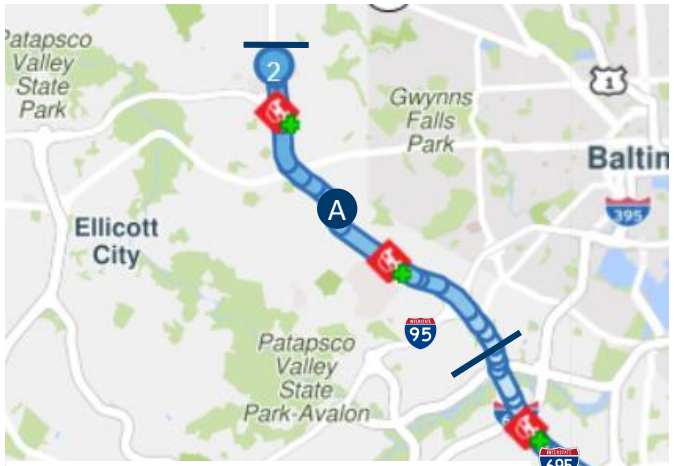
Corridor Speeds Over Time

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



2 I-695 IL @ SECURITY BLVD /EXIT 17

Quarterly Bottleneck Evaluation Summary Q4 2024



General areas of events/incidents
(there were 246 events/incidents during Q4)

A **Locations of Congestion**

PK. AVG. SPEED

AM Peak | 7:45 AM
44.8 mph
(32% slower than free flow)

PM Peak | 5:30 PM
27.2 mph
(57% slower than free flow)

PK. TRAVEL TIME

AM Peak | 7:45 AM
13.8 min

PM Peak | 5:30 PM
22.8 min

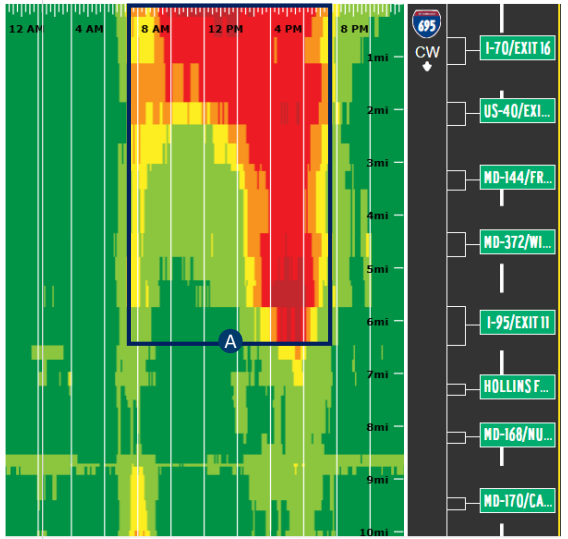
Q4 DELAY COST

Delay Cost
$19.972 M

Veh-hrs. of Delay
477,365 h

Congested Locations

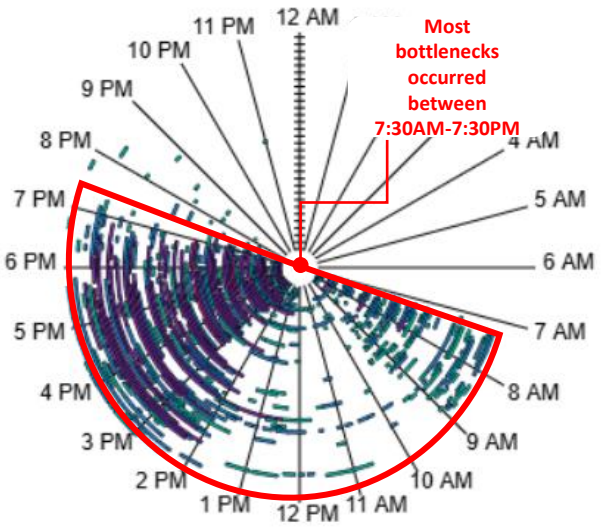
A **7:30AM – 7:30PM** I-95/Exit 11 to Security Blvd/Exit 17



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

Bottleneck Occurrences

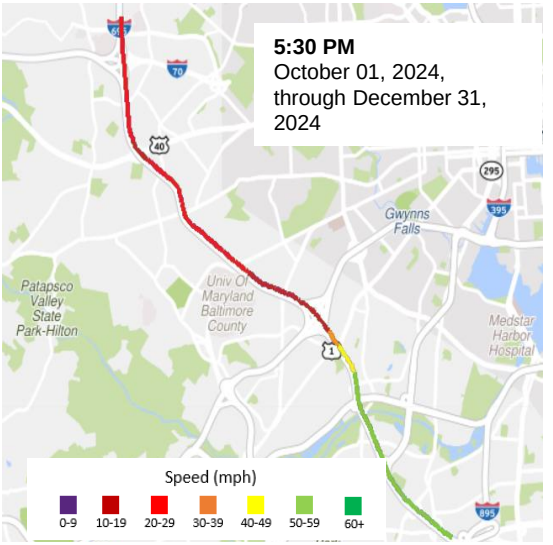
The center represents the beginning **of 10.01.24** and the outer edge the end of **12.31.24**



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

Corridor Speeds Over Time

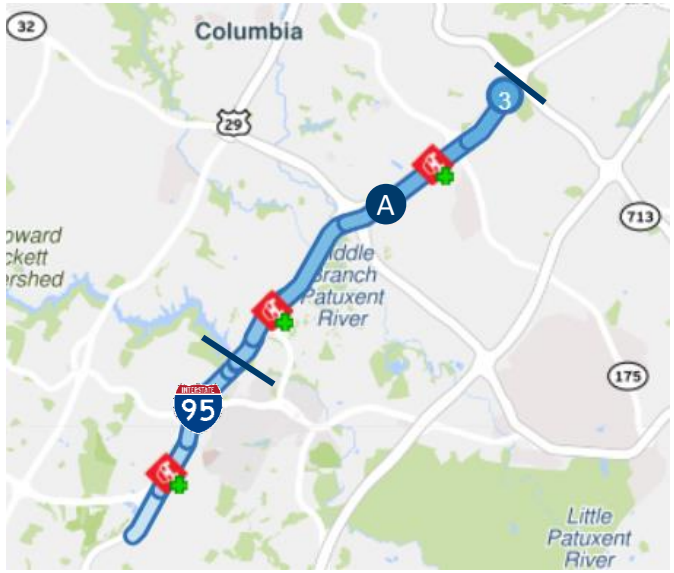
For animated playback of corridor speeds over time, click anywhere on the map below



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. The bottleneck condition is shorter midday but still exists back to US-40 increasing back to I-95 in the afternoon rush.

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

Quarterly Bottleneck Evaluation Summary Q4 2024



General areas of events/incidents
(there were 527 events/incidents during Q4)

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
54.2 mph
(24% slower than free flow)

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

PK. TRAVEL TIME

AM Peak |7:50 AM
13.3 min

PM Peak |3:45 PM
18.9 min

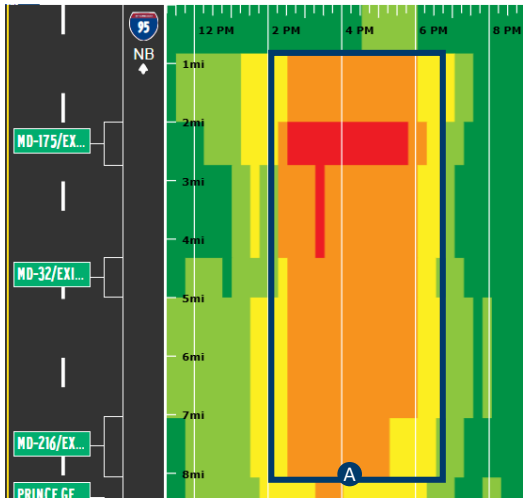
Q4 DELAY COST

Delay Cost
$15.180 M

Veh-hrs. of Delay
362,831 h

Congested Locations

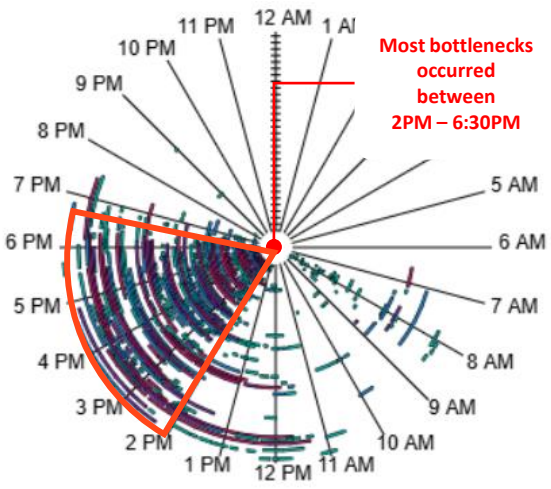
A **2:00PM – 6:30PM** Prince George's/Anne Arundel Line to MD-100/Exit 43



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

Bottleneck Occurrences

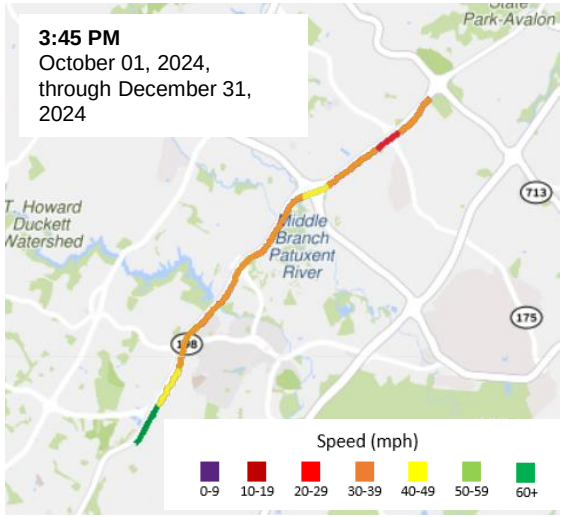
The center represents the beginning **of 10.01.24** and the outer edge the end of **12.31.24**



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

Corridor Speeds Over Time

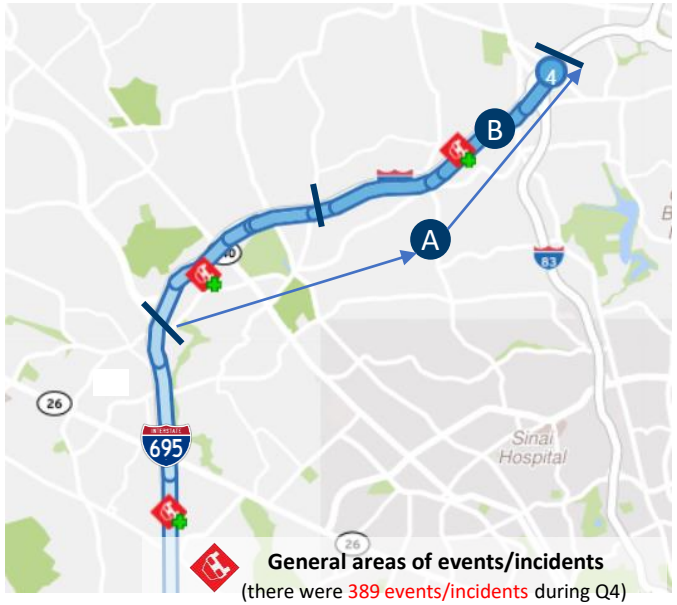
For animated playback of corridor speeds over time, click anywhere on the map below



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

Quarterly Bottleneck Evaluation Summary

Q4 2024



General areas of events/incidents
(there were 389 events/incidents during Q4)

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 | 8:00AM
37.6 mph
(45% slower than free flow)

PM Peak | 5:25 PM
31.7 mph
(49% slower than free flow)

PK. TRAVEL TIME

AM Peak |8:00AM
22.3 min

PM Peak |5:25 PM
26.4 min

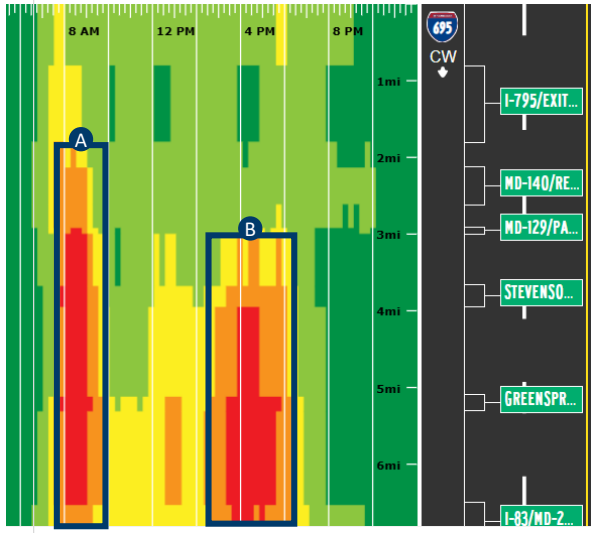
Q4 DELAY COST

Delay Cost
$29.184 M

Veh-hrs. of Delay
697,544 h

Congested Locations

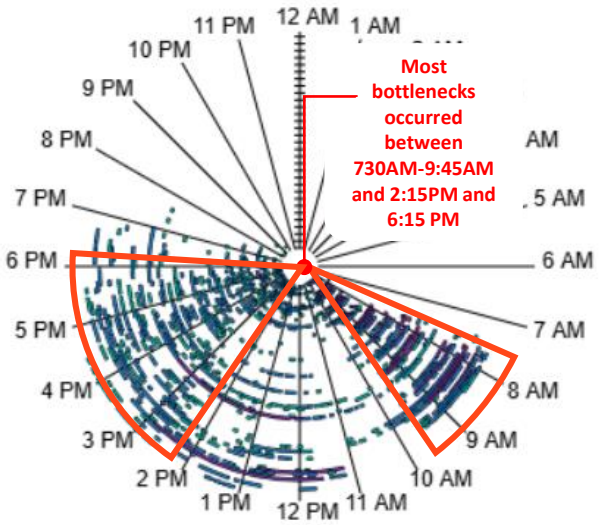
A **7:30AM – 9:45AM** I-795/Exit 19 to I-83/MD-25/Exit 25
B **2:15PM – 6:15PM** I-795/Exit 19 to Stevenson Rd/Exit 21



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

Bottleneck Occurrences

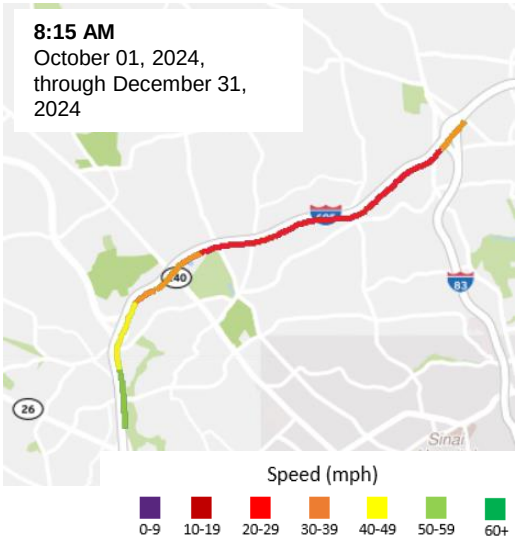
The center represents the beginning **of 10.01.24** and the outer edge the end of **12.31.24**



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



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

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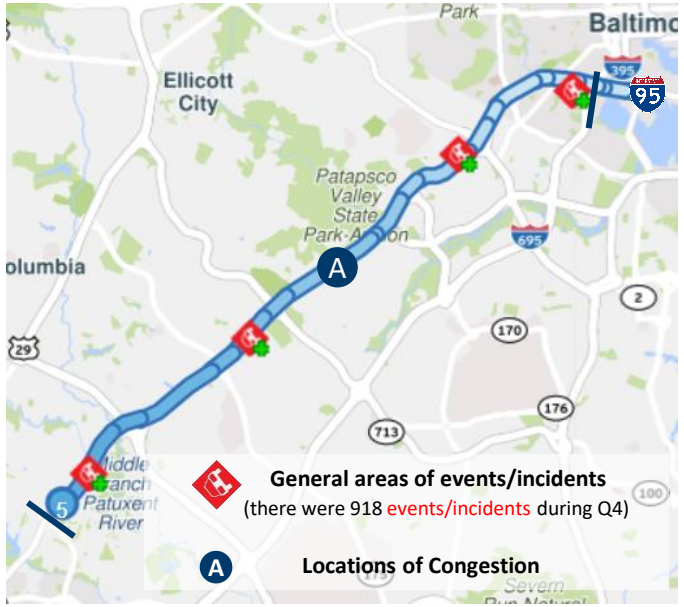
5 I-95 S @ MD-216/EXIT 35

Quarterly Bottleneck Evaluation Summary Q4 2024



High traffic volume corridor primarily in the afternoon with 3 major merge areas at MD-216, MD-32 and MD-175 near Columbia, MD.

PK. AVG. SPEED

AM Peak | 7:55 AM
53.9 mph
(23% slower than free flow)

PM Peak | 5:25 PM
35.0 mph
(47% slower than free flow)

PK. TRAVEL TIME

AM Peak | 7:55 AM
19.2 min

PM Peak |5:25 PM
29.6 min

Q4 DELAY COST

Delay Cost
$15.723 M

Veh-hrs. of Delay
375,814 h

Congested Locations

A **3:30PM – 6:30PM** MD-295/Baltimore Washington Pkwy/Exit 52 to MD-216/Exit 35

Bottleneck Occurrences

The center represents the beginning **of 10.01.24** and the outer edge the end of **12.31.24**

Corridor Speeds Over Time

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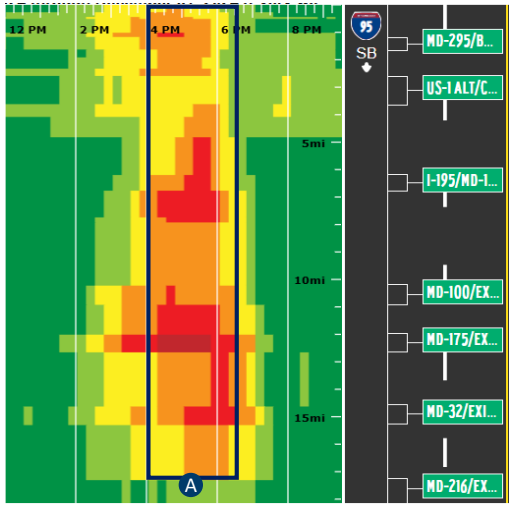

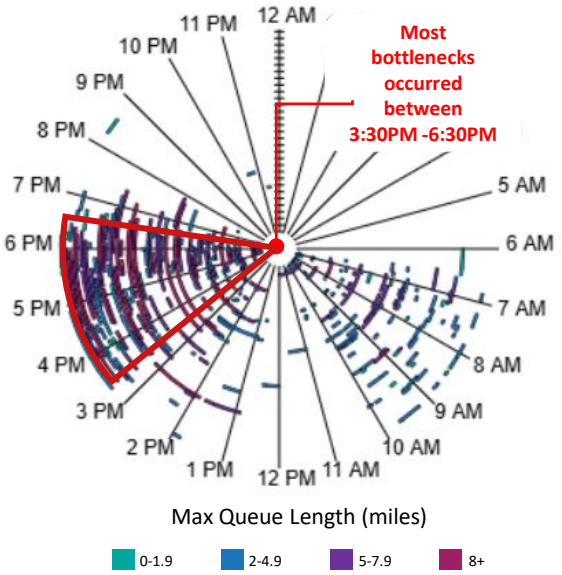

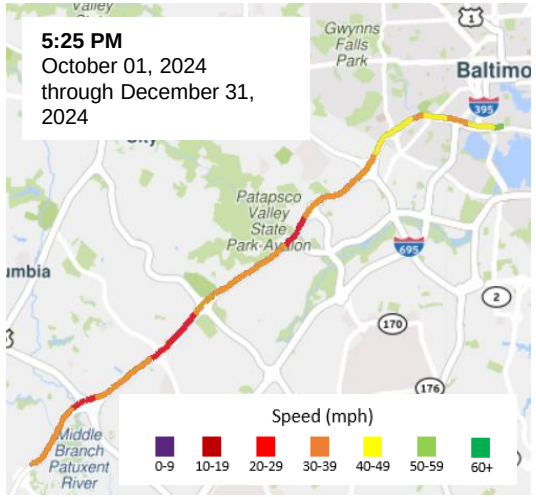

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6 US-50 E @ BAY BRIDGE

Quarterly Bottleneck Evaluation Summary Q4 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 | 9:00 AM
62.4 mph
(8% slower than free flow)

PM Peak |4:50 PM
39.4 mph
(40% slower than free flow)

PK. TRAVEL TIME

AM Peak |9:00 AM
17.5 min

PM Peak |4:50 PM
27.8 min

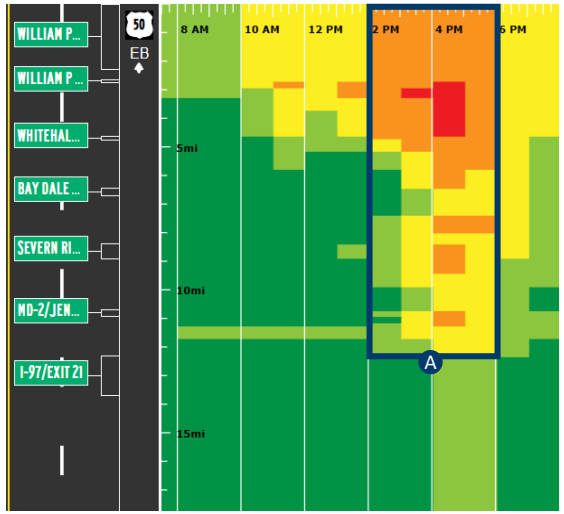
Q4 DELAY COST

Delay Cost
$7.713 M

Veh-hrs. of Delay
184,361 h

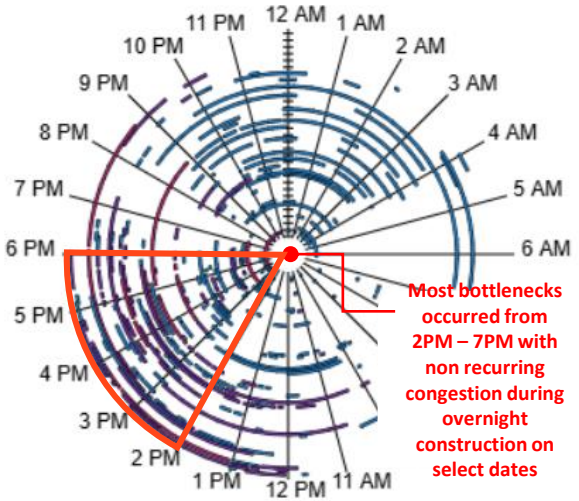
Congested Locations

A **2:00PM – 6:00PM** MD-665/Aris T Allen Blvd/Exit 21-22 to Bay Bridge



Bottleneck Occurrences

The center represents the beginning **of 10.01.24** and the outer edge the end of **12.31.24**



Corridor Speeds Over Time

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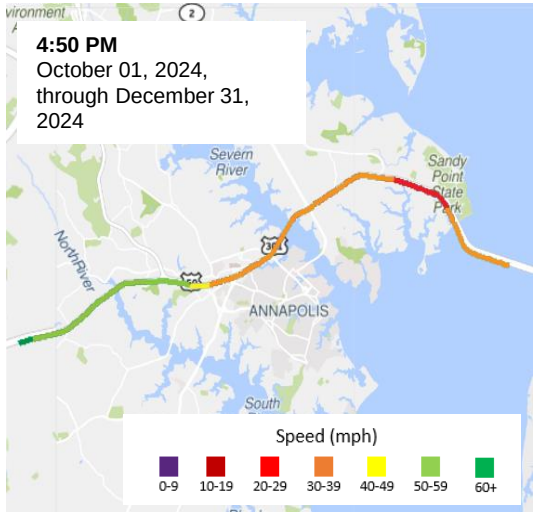

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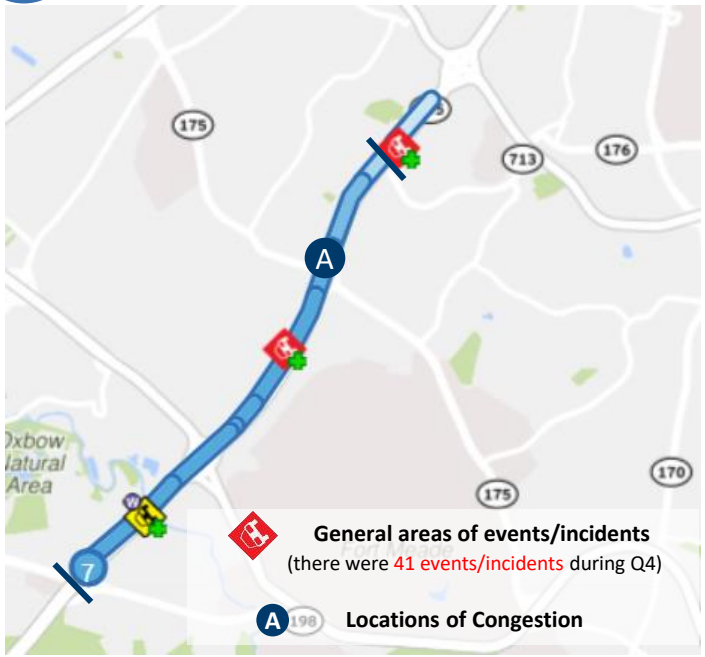
7 MD-295 S @ MD-198

Quarterly Bottleneck Evaluation Summary Q4 2024



PK. AVG. SPEED

AM Peak |7:50 AM
40.1 mph
(41% slower than free flow)

PM Peak |5:00 PM
22.9 mph
(62% slower than free flow)

PK. TRAVEL TIME

AM Peak | 7:50 AM
8.7 min

PM Peak | 5:00 PM
15.3 min

Q4 DELAY COST

Delay Cost
$10.789 M

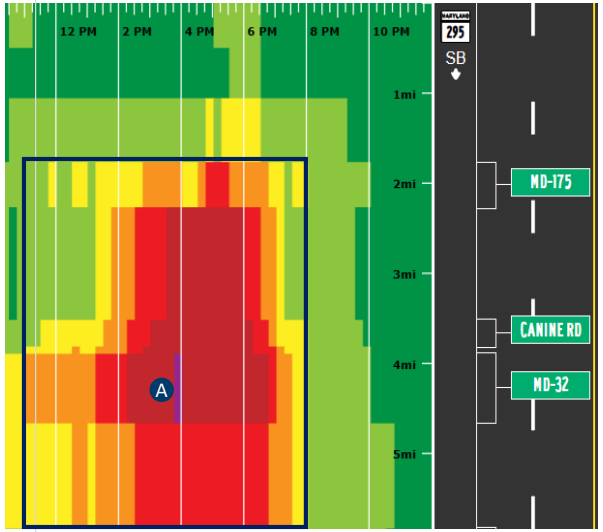
Veh-hrs. of Delay
257,869 h

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.

Congested Locations

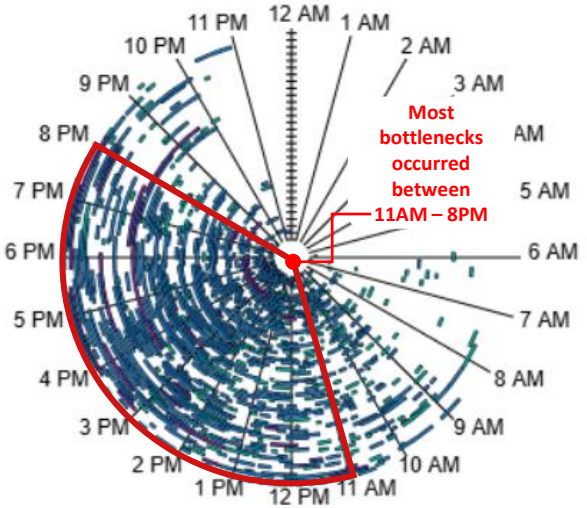
A **11:00AM –8:00PM** MD-175 to MD-198



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

Bottleneck Occurrences

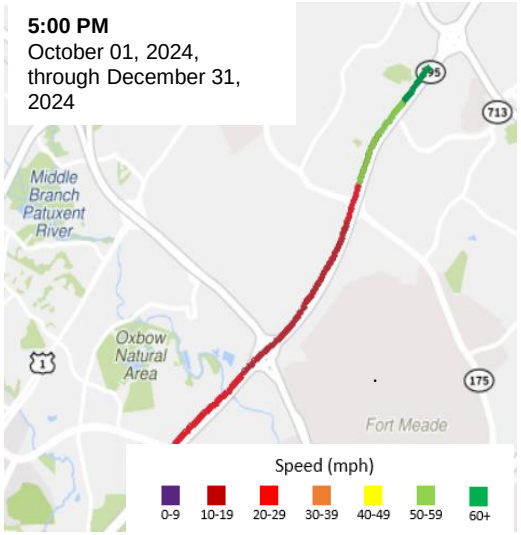
The center represents the beginning **of 10.01.24** and the outer edge the end of **12.31.24.**



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

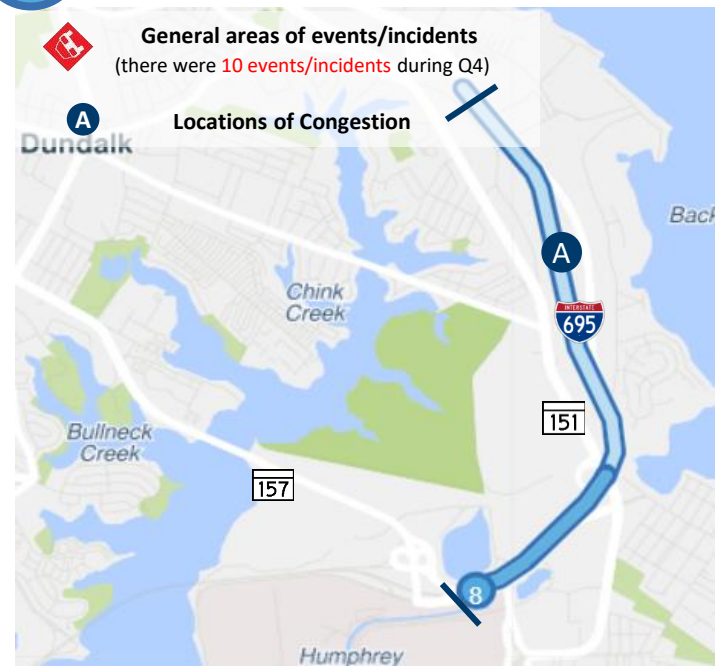
Corridor Speeds Over Time

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



8 I-695 IL @ PENINSULA EXPY/EXIT 43

Quarterly Bottleneck Evaluation Summary Q4 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 | 10:50 AM
23.7 mph
(63% slower than free flow)

PM Peak |2:25 PM
25.7 mph
(60% slower than free flow)

PK. TRAVEL TIME

AM Peak |10:50 AM
7.7 min

PM Peak |2:25PM
7.1 min

Q4 DELAY COST

Delay Cost
N/A

Veh-hrs. of Delay
N/A

Congested Locations

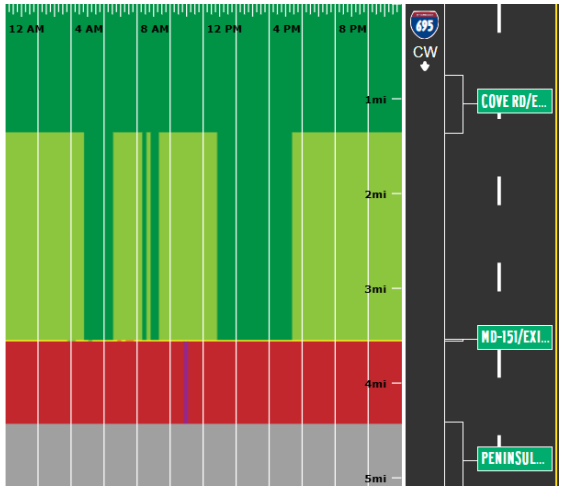
A **2:15PM – 6:15PM** Cove Rd/Exit 41 to MD-151/North Point Blvd/Exit 42

Bottleneck Occurrences

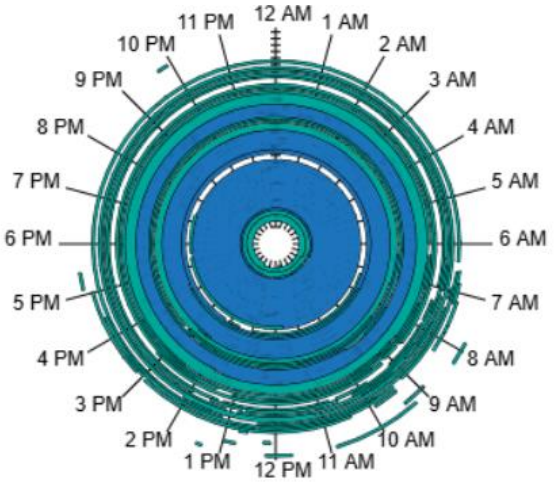
The center represents the beginning **of 10.01.24** and the outer edge the end of **12.31.24**

Corridor Speeds Over Time

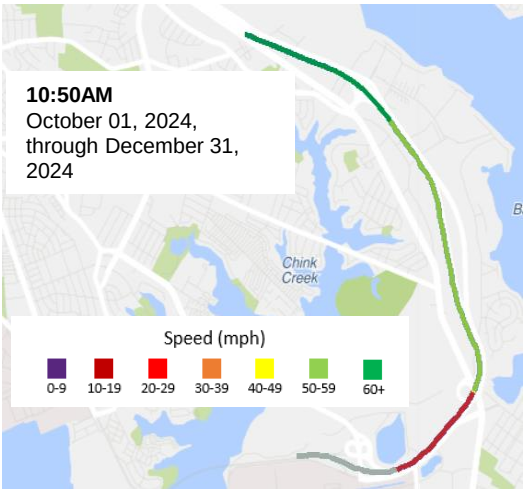
For animated playback of corridor speeds over time, click anywhere on the map below



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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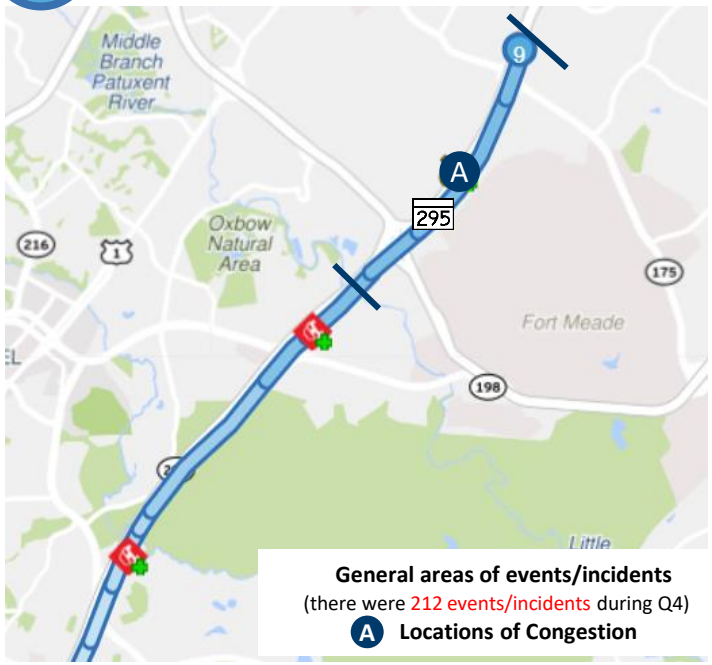
BALTIMORE METROPOLITAN COUNCIL

9 MD-295 N @ MD-175

Quarterly Bottleneck Evaluation Summary Q4 2024



General areas of events/incidents
(there were 212 events/incidents during Q4)
A Locations of Congestion

Northbound PM congestion from MD-175 near Fort Meade extending into the DC region occurring primarily during the afternoon peak period.

Volume related delays are most likely caused by factors such as commuters to and from Fort Meade.

**Speed, travel time and delay costs calculated only for the portion of the Bottleneck within the Baltimore region.*

PK. AVG. SPEED

AM Peak | 8:00 AM
50.2 mph
(22% slower than free flow)

PM Peak | 3:45 PM
25.8 mph
(59% slower than free flow)

PK. TRAVEL TIME

AM Peak | 8:00 AM
9.1 min

PM Peak |3:45 PM
17.8 min

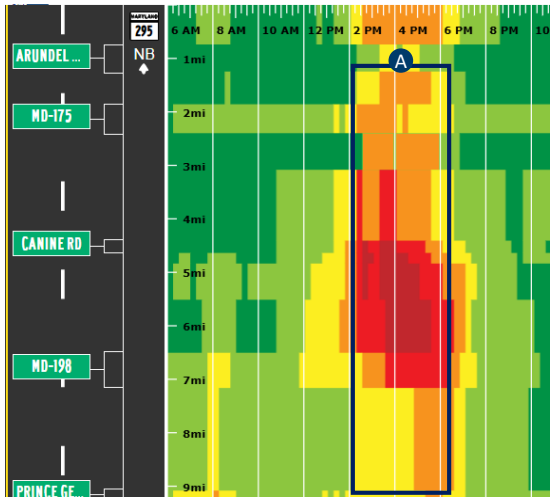
Q4 DELAY COST

Delay Cost
$7.803 M

Veh-hrs. of Delay
186,496 h

Congested Locations

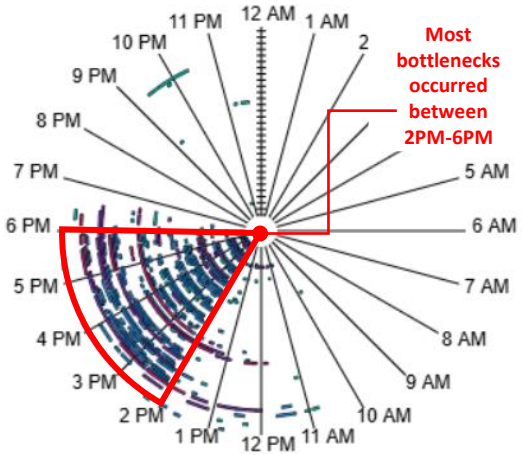
A 2PM – 6PM Anne Arundel/P.G. County Line to MD-175



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

Bottleneck Occurrences

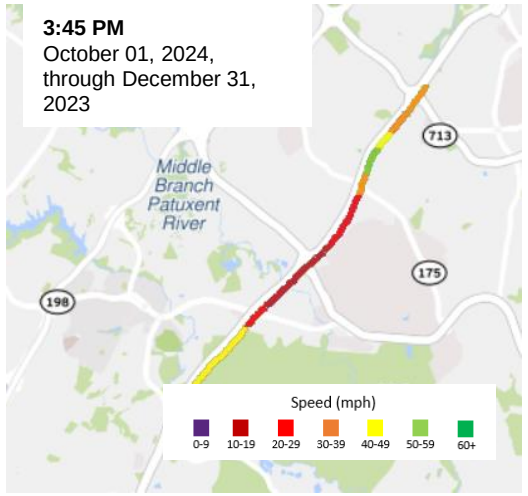
The center represents the beginning **of 10.01.24** and the outer edge the end of **12.31.24**



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

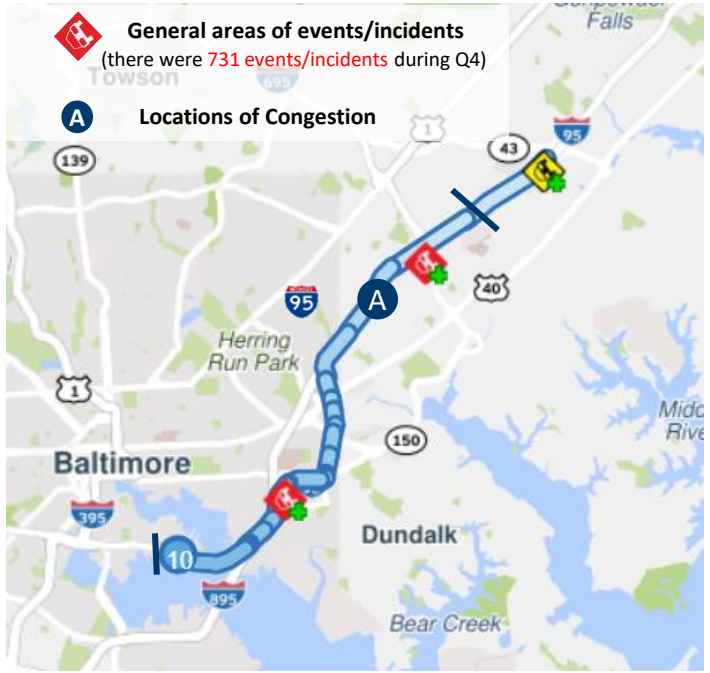
Corridor Speeds Over Time

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



10 I-95 S @ FORT MCHENRY TUNNEL

Quarterly Bottleneck Evaluation Summary Q4 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 | 8:15AM
35.4 mph
(49% slower than free flow)

PM Peak | 5:55 PM
56.9 mph
(15% slower than free flow)

PK. TRAVEL TIME

AM Peak |8:15AM
20.5 min

PM Peak |5:55 PM
12.8 min

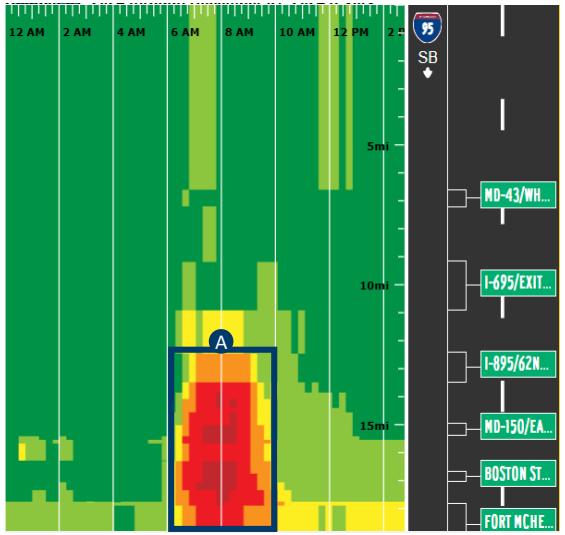
Q4 DELAY COST

Delay Cost
$6.927 M

Veh-hrs. of Delay
165,567 h

Congested Locations

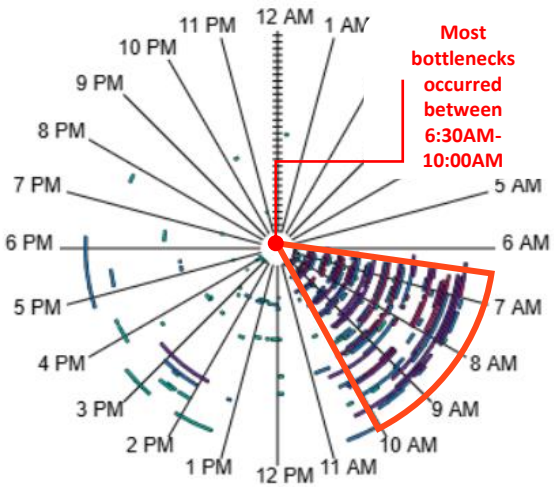
A **6:30AM – 10:00AM** I-895/62nd St/Exit 62 to Fort McHenry Tunnel



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

Bottleneck Occurrences

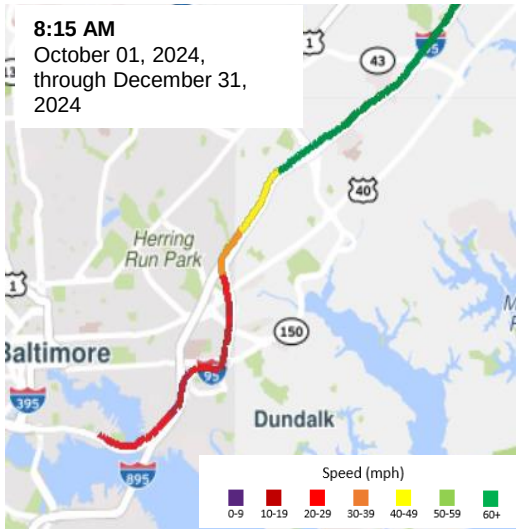
The center represents the beginning **of 10.01.24** and the outer edge the end of **12.31.24**



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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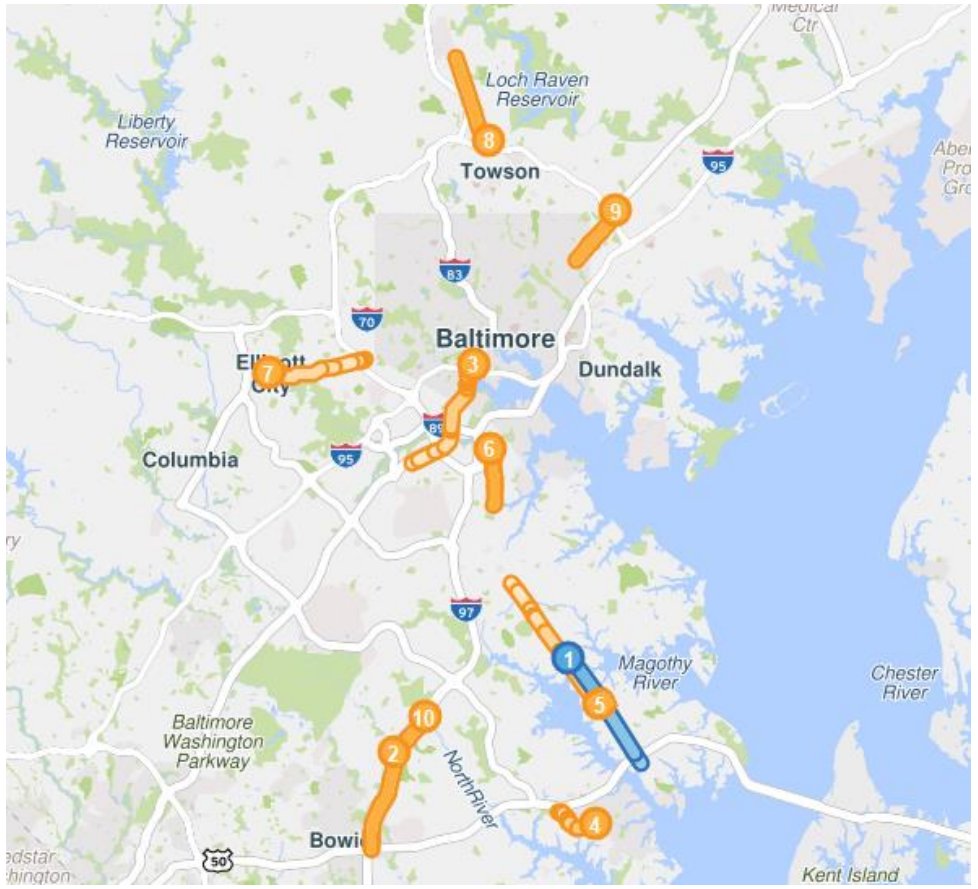
BALTIMORE METROPOLITAN COUNCIL

Top 10 Bottlenecks on Non-Limited Access Roads

Top 10 Bottlenecks in the Region – Non Limited Access Roads

Q4 2024

Rank	Location	Avg. Max. Length (miles)	Avg. Daily Duration	Volume Estimate (AADT)	Total Delay (Millions)
1	MD-2 N @ ROBINSON RD	**3.47**	1h 58m	28,413	**27.2**
2	MD-3 N @ MD-424/CONWAY RD/DAVIDSONVILLE RD	2.35	2h 21m	34,807	24.8
3	MD-295 N @ BAYARD ST	0.59	3h 32m	**36,769**	24.5
4	MD-665 S @ CHINQUAPIN ROUND RD	0.15	5h 25m	31,390	12.1
5	MD-2 S @ COLLEGE PKWY	3.02	1h 06m	30,023	11.5
6	MD-2 N @ MD-171/CHURCH ST	0.41	3h 37m	21,172	9.4
7	MD-144 W @ ELLICOTT MILLS DR	0.56	**8h 47m**	9,836	8.7
8	MD-45 S @ MD-131/SEMINARY AVE	0.58	4h 30m	18,595	8.6
9	US-1 N @ ROSSVILLE BLVD	0.26	8h 35m	22,090	7.8
10	MD-3 N @ SAINT STEPHENS CHURCH RD	0.94	1h 23m	33,020	7.6



*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)

Ranked Bottleneck Lists by Jurisdiction

Top 20 Bottlenecks in Local Jurisdictions- 4th 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	US-50 E @ BAY BRIDGE
2	MD-295 S @ MD-198
3	MD-295 N @ MD-175
4	MD-2 N @ ROBINSON RD
5	MD-3 N @ MD-424/CONWAY RD/DAVIDSONVILLE RD
6	MD-295 N @ PRINCE GEORGE'S/ARUNDEL CO LINE
7	MD-295 S @ ARUNDEL--PRINCE GEORGE'S COUNTY BORDER
8	MD-295 S @ CANINE RD
9	MD-100 W @ MD-174/QUARTERFIELD RD
10	MD-32 E @ I-97
11	MD-295 N @ MD-32
12	I-97 S @ MD-178/EXIT 5
13	I-695 CCW @ MD-170/CAMP MEADE RD/EXIT 6
14	MD-295 S @ I-695
15	MD-295 N @ I-195
16	MD-32 E @ MD-198/FORT MEADE RD
17	MD-295 N @ MD-100
18	MD-295 N @ CANINE RD
19	MD-665 S @ CHINQUAPIN ROUND RD
20	MD-2 S @ COLLEGE PKWY

Baltimore City

Rank	Location
1	I-95 N @ FORT MCHENRY TUNNEL
2	I-95 S @ FORT MCHENRY TUNNEL
3	I-95 N @ I-95 (BALTIMORE)/FORT MCHENRY TUNNEL(EAST)
4	MD-295 N @ I-95/MONROE ST
5	MD-295 N @ BAYARD ST
6	I-895 S @ HARBOR TUNNEL THWY (SOUTH)
7	I-895 N @ HARBOR TUNNEL THWY (SOUTH)
8	I-95 S @ I-95 (WEST)
9	I-895 N @ CHILDS ST/EXIT 9
10	I-83 S @ MD-25/FALLS RD/EXIT 8
11	I-83 S @ FAYETTE ST/EXIT 1
12	I-895 N @ HARBOR TUNNEL THWY (NORTH)
13	I-95 N @ MD-295/BALTIMORE WASHINGTON PKWY/EXIT 52
14	I-95 S @ I-95 (BALTIMORE)/FORT MCHENRY TUNNEL(WEST)
15	I-95 S @ KEITH AVE/EXIT 56
16	I-83 S @ COLD SPRING LN/EXIT 9
17	I-95 S @ WASHINGTON BLVD/EXIT 51
18	I-95 S @ US-1 ALT/CATON AVE/EXIT 50
19	I-95 S @ I-395/EXIT 53
20	I-395 N @ W CONWAY ST

IL = Inner Loop

OL = Outer Loop

Top 20 Bottlenecks in Local Jurisdictions- 4th 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-695 IL @ I-83/MD-25/EXIT 23
3	I-695 IL @ PENINSULA EXPY/EXIT 43
4	I-95 S @ MD-43/WHITEMARSH BLVD/EXIT 67
5	I-695 OL @ I-795/EXIT 19
6	I-95 N @ MD-152/EXIT 74
7	I-695 OL @ MD-26/EXIT 18
8	I-695 OL @ GREENSPRING AVE/EXIT 22
9	I-695 IL @ MD-542/LOCH RAVEN BLVD/EXIT 29
10	I-83 S @ I-695
11	I-695 IL @ PROVIDENCE RD/EXIT 28
12	I-70 E @ I-695/EXIT 91
13	I-695 IL @ MD-147/HARFORD RD/EXIT 31
14	I-695 OL @ STEVENSON RD/EXIT 21
15	I-695 OL @ I-70/EXIT 16
16	I-695 OL @ MD-45/YORK RD/EXIT 26
17	I-695 IL @ I-70/EXIT 16
18	I-695 OL @ I-83/MD-25/EXIT 23
19	I-695 IL @ MD-144/FREDERICK RD/EXIT 13
20	I-695 OL @ MD-41/PERRING PKWY/EXIT 30

Carroll County

Rank	Location
1	MD-30 N @ MD-27/MANCHESTER RD
2	MD-30 S @ MD-27/MANCHESTER RD
3	MD-97 N @ HOOK RD
4	MD-32 W @ MD-26/LIBERTY RD
5	MD-97 N @ MD-496/BACHMANS VALLEY RD
6	MD-27 N @ MD-30/MAIN ST
7	MD-97 S @ MD-140/COLLEGE VIEW BLVD
8	I-70 E @ CARROLL--HOWARD COUNTY BORDER
9	MD-140 W @ MD-194/YORK ST/FREDERICK ST
10	MD-97 S @ MD-496/BACHMANS VALLEY RD
11	I-70 W @ MD-27/EXIT 68
12	MD-27 N @ MD-26/LIBERTY RD
13	MD-32 W @ RAINCLIFFE RD/SANDOSKY RD
14	MD-140 W @ MD-27/MANCHESTER RD
15	MD-482 W @ MD-27/MANCHESTER RD
16	MD-97 N @ MAGNA WAY/AIRPORT DR
17	MD-140 E @ GORES MILL RD
18	MD-26 E @ WHITE ROCK RD
19	MD-26 E @ MD-32/SYKESVILLE RD
20	MD-32 E @ MD-26/LIBERTY RD

IL = Inner Loop

OL = Outer Loop

Top 20 Bottlenecks in Local Jurisdictions- 4th 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 N @ MD-24/EXIT 77
2	I-95 S @ MD-24/EXIT 77
3	I-95 S @ MD-152/EXIT 74
4	I-95 N @ MD-543/EXIT 80
5	I-95 S @ MD-543/EXIT 80
6	MD-152 N @ OLD JOPPA RD
7	I-95 S @ MARYLAND HOUSE
8	I-95 N @ MD-155/EXIT 89
9	US-1-BR S @ MD-24/VIETNAM VETERANS MEMORIAL HWY
10	MD-24 N @ PLUMTREE RD
11	MD-543 S @ US-1/HICKORY BYP
12	MD-22 E @ MD-136/PRIESTFORD RD/CALVARY RD
13	MD-24 N @ I-95/JOHN F KENNEDY MEMORIAL HWY
14	MD-24 N @ US-1-BR/BALTIMORE PIKE/BEL AIR RD
15	MD-22 W @ SCHUCKS RD/THOMAS RUN RD
16	I-95 N @ MILLARD E TYDINGS MEMORIAL BRIDGE
17	MD-24 N @ SINGER RD
18	US-1-BR N @ MD-924/BROADWAY/N MAIN ST
19	MD-152 S @ MD-7/PHILADELPHIA 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 S @ MD-175/EXIT 41
4	MD-32 W @ I-95
5	I-95 N @ MD-32/EXIT 38
6	I-95 S @ MD-100/EXIT 43
7	MD-100 W @ MARC DORSEY STATION ACCESS RD/EXIT 7
8	I-95 S @ MD-32/EXIT 38
9	I-70 W @ US-29/EXIT 87
10	I-895 S @ I-95/EXIT 46
11	MD-32 E @ I-95
12	US-29 N @ MD-175
13	MD-100 W @ US-29
14	I-95 N @ MD-175/EXIT 41
15	I-95 N @ PRINCE GEORGE'S/HOWARD CO LINE
16	I-70 W @ MARRIOTTSVILLE RD/EXIT 83
17	MD-144 W @ ELLICOTT MILLS DR
18	I-70 E @ US-29/EXIT 87
19	US-29 N @ MD-103
20	MD-32 W @ CEDAR LN

Top 20 Bottlenecks in Local Jurisdictions- 4th 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 W @ US-301/BLUE STAR MEMORIAL HWY
4	US-50 E @ MD-8/EXIT 37
5	US-301 S @ US-50
6	US-50 W @ MD-8/EXIT 37
7	US-50 W @ MD-213/CENTREVILLE RD
8	US-50 E @ MD-213/CENTREVILLE RD
9	US-50 E @ MD-18/MAIN ST/EXIT 43A
10	US-50 W @ MD-404/QUEEN ANNE HWY
11	US-50 E @ PINEY RD/S PINEY RD/EXIT 40A
12	MD-300 E @ MD-19
13	MD-300 E @ US-301/BLUE STAR MEMORIAL HWY
14	US-50 E @ MD-404/QUEEN ANNE HWY
15	US-50 W @ MD-18/MAIN ST/EXIT 43A
16	US-50 W @ MD-456/DEL RHODES AVE
17	MD-300 W @ MD-213/CHURCH HILL RD
18	US-301 N @ MD-18/MAIN ST
19	US-50 W @ DOMINION RD/EXIT 39B
20	US-301 N @ MD-291/RIVER RD

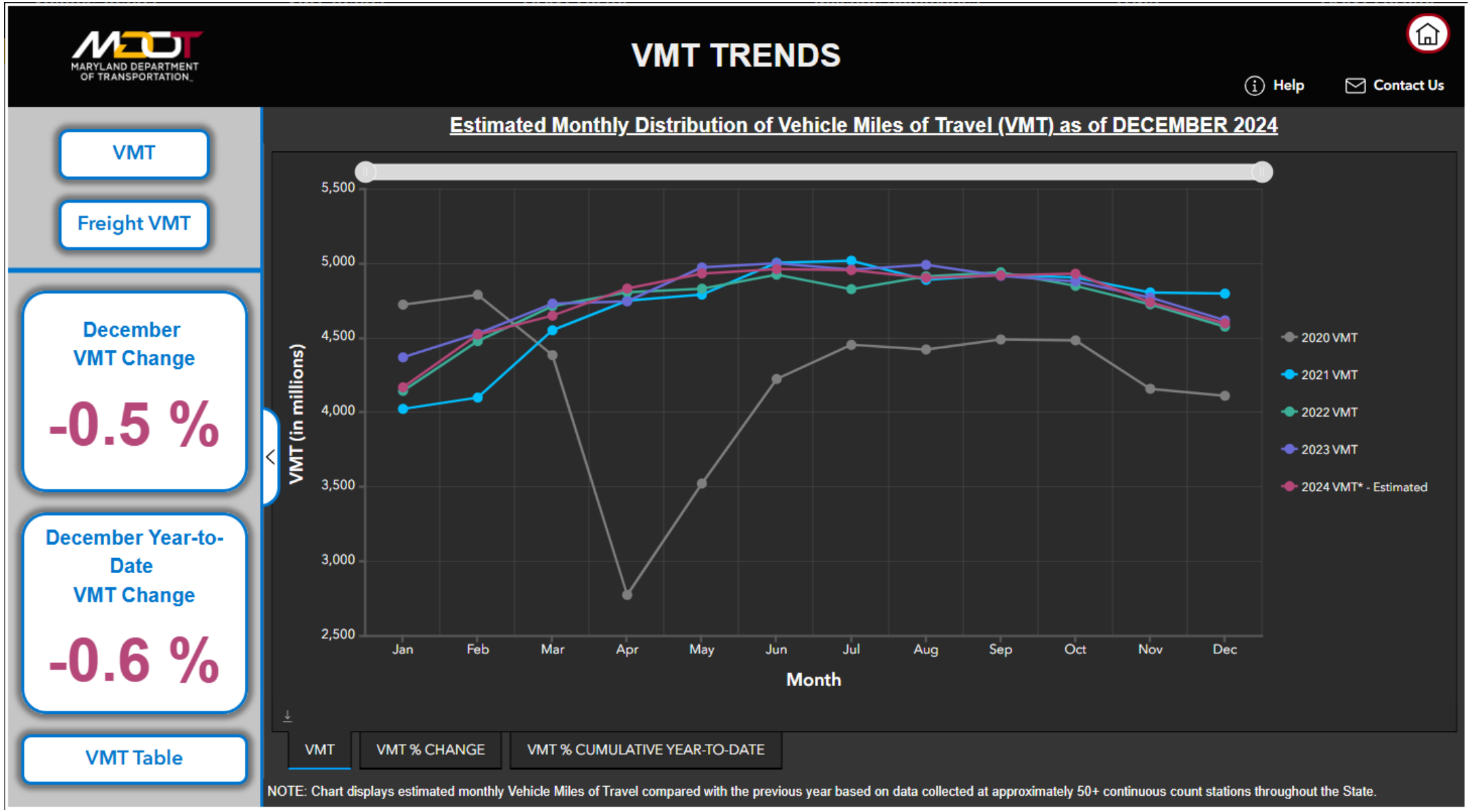
Vehicle Miles Traveled (VMT) Trend Graphs

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

Estimated Monthly Distribution of Vehicle Miles of Travel (VMT) as of DECEMBER 2024

MONTH-VMT	2020	2021	2022	2023	2024 EST.	% CHANGE 2020-2021	% CHANGE 2021-2022	% CHANGE 2022-2023	% CHANGE 2023-2024	YEAR-TO-DATE 2023-2024
	in millions									
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	4936	9.4	-1.1	0.6	1.1	-0.7
Nov	4163	4810	4730	4776	4743	15.5	-1.7	1.0	-0.7	-0.7
Dec	4116	4802	4580	4623	4602	16.7	-4.6	0.9	-0.5	-0.6
TOTAL	50592	56616	56784	57537		11.9	0.3	1.3		

Notes	
1	This month VMT is forecasted using Final 2023 VMT. After HPMS submission in June 2024 we forecast using Final 2023 VMT
2	Data Source: Based on data collected at 50+ continuous count stations maintained by SHA' Data Services Division in Office Of Planning & Preliminary Engineering.


MARYLAND DEPARTMENT OF TRANSPORTATION
VMT TRENDS
Help
Contact Us
VMT
Freight VMT
December VMT Change
-0.5 %
December Year-to-Date VMT Change
-0.6 %
VMT Table
Estimated Monthly Distribution of Vehicle Miles of Travel (VMT) as of DECEMBER 2024
VMT (in millions)
5,500
5,000
4,500
4,000
3,500
3,000
2,500
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Month
2020 VMT
2021 VMT
2022 VMT
2023 VMT
2024 VMT* - Estimated
VMT
VMT % CHANGE
VMT % CUMULATIVE YEAR-TO-DATE
NOTE: 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.

Estimated Monthly Distribution of Freight Vehicle Miles of Travel (VMT) as of DECEMBER 2024

MONTH-FREIGHT VMT	2020	2021	2022	2023	2024 EST.	% CHANGE 2020-2021	% CHANGE 2021-2022	% CHANGE 2022-2023	% CHANGE 2023-2024	YEAR-TO-DATE 2023-2023
	in millions									
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	278	1.5	-16.7	1.5	0.0	-0.1
Nov	319	331	264	273	279	3.8	-20.2	3.4	2.2	0.1
Dec	308	318	264	265	267	3.2	-17.0	0.4	0.8	0.1
TOTAL	**3553**	**3961**	**3092**	**3241**		**11.5**	**-21.9**	**4.8**		

Notes	
1	Used a new software for vehicle class identification (Freight/Trucks) in 2022.
2	The Freight VMT is forecasted data from 2023 HPMS Vehicle Class Summary submitted to FHWA
3	Estimated 2024 Freight VMT forecast based on 2023 Freight- VMT and 2022 HPMS Vehicle Class Summary
4	Freight VMT = Vehicle Class 5-13
5	Data Source: Based on data collected at 20+ continuous count stations maintained by SHA's Data Services Division in Office Of Planning & Preliminary Engineering

MARYLAND DEPARTMENT OF TRANSPORTATION

VMT TRENDS

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VMT

Freight VMT

December Freight VMT Change

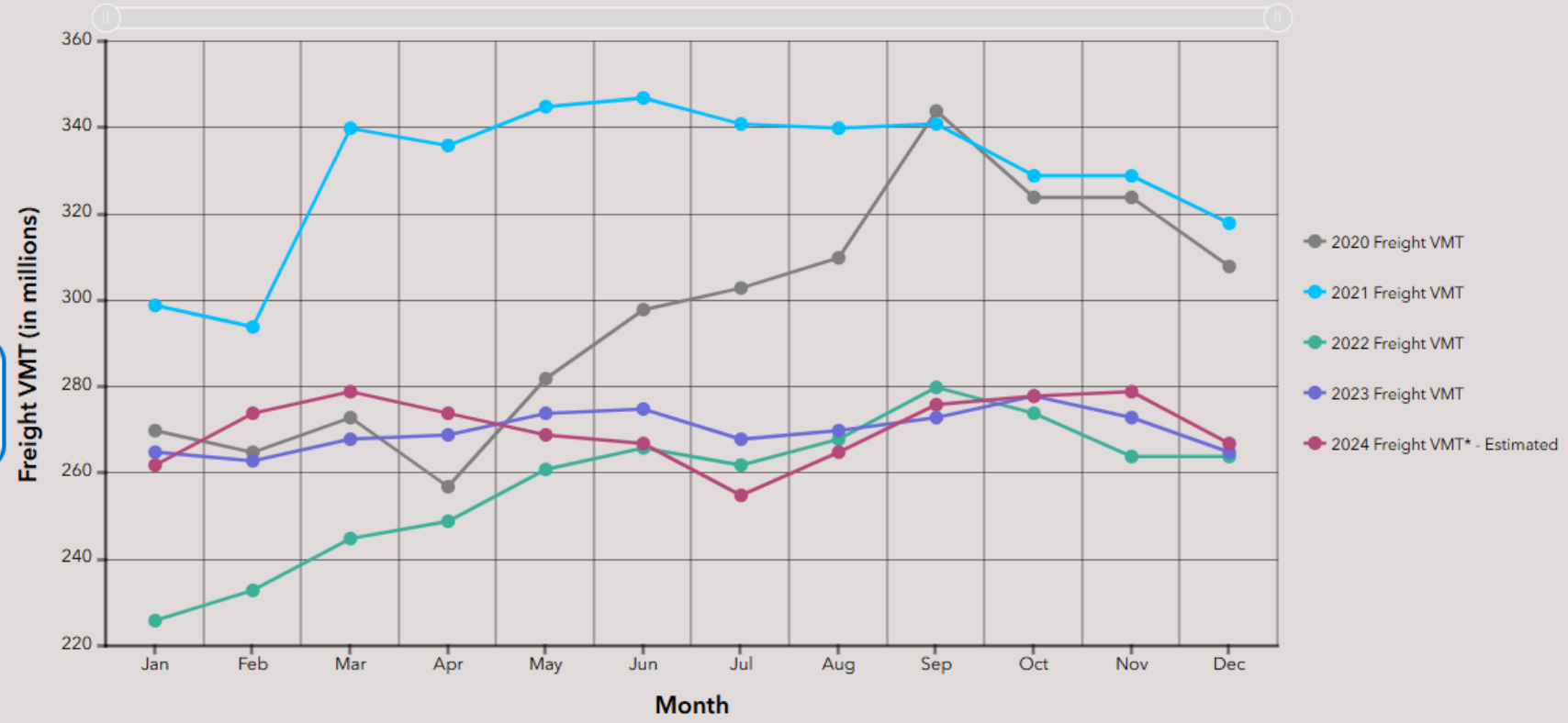
0.8 %

December Year-to-Date Freight VMT Change

0.1 %

Freight VMT Table

Estimated Monthly Distribution of Freight Vehicle Miles of Travel (VMT) as of DECEMBER 2024

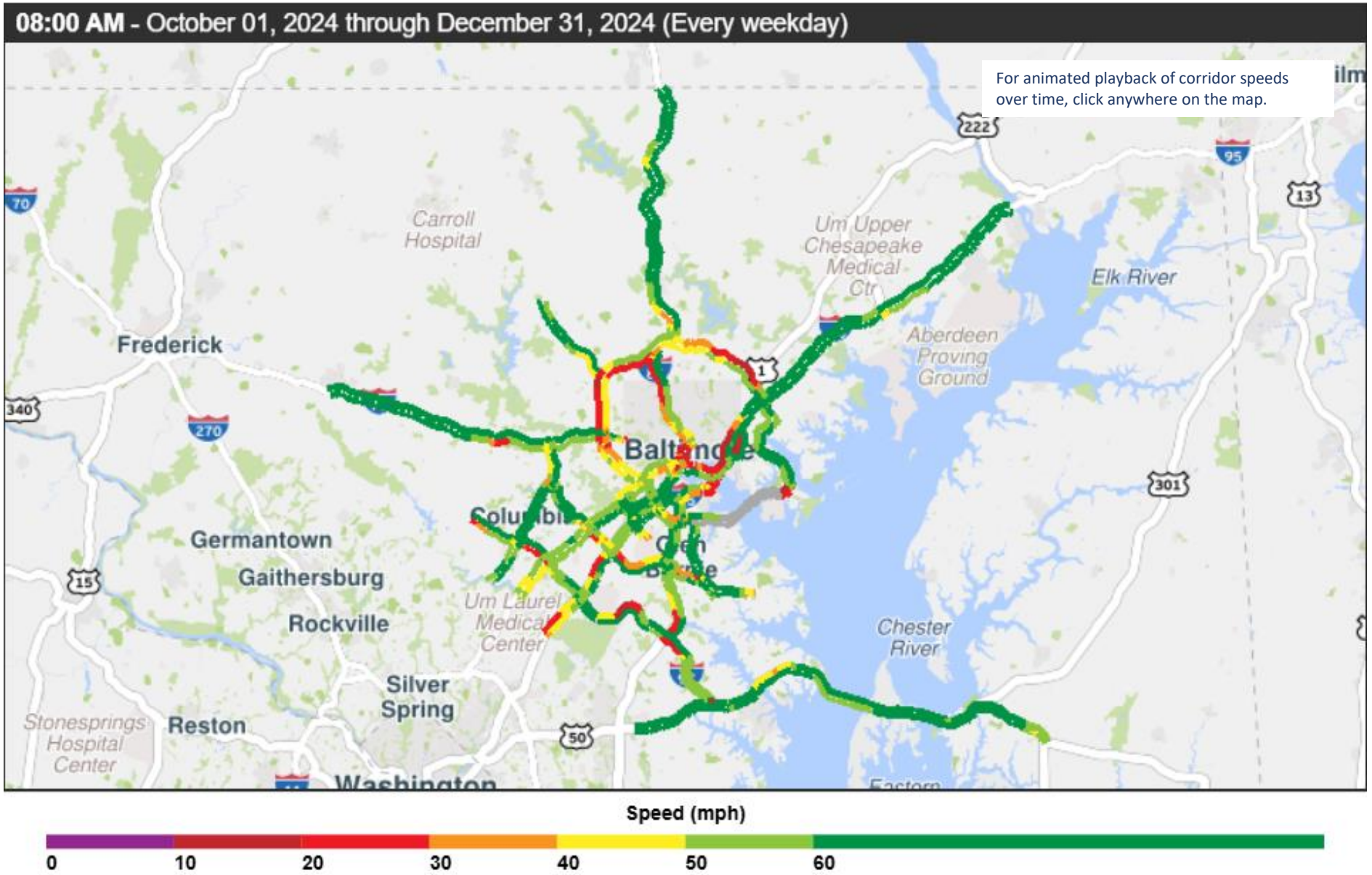


FREIGHT VMT | FREIGHT VMT % CHANGE | FREIGHT VMT % CUMULATIVE YEAR-TO-DATE

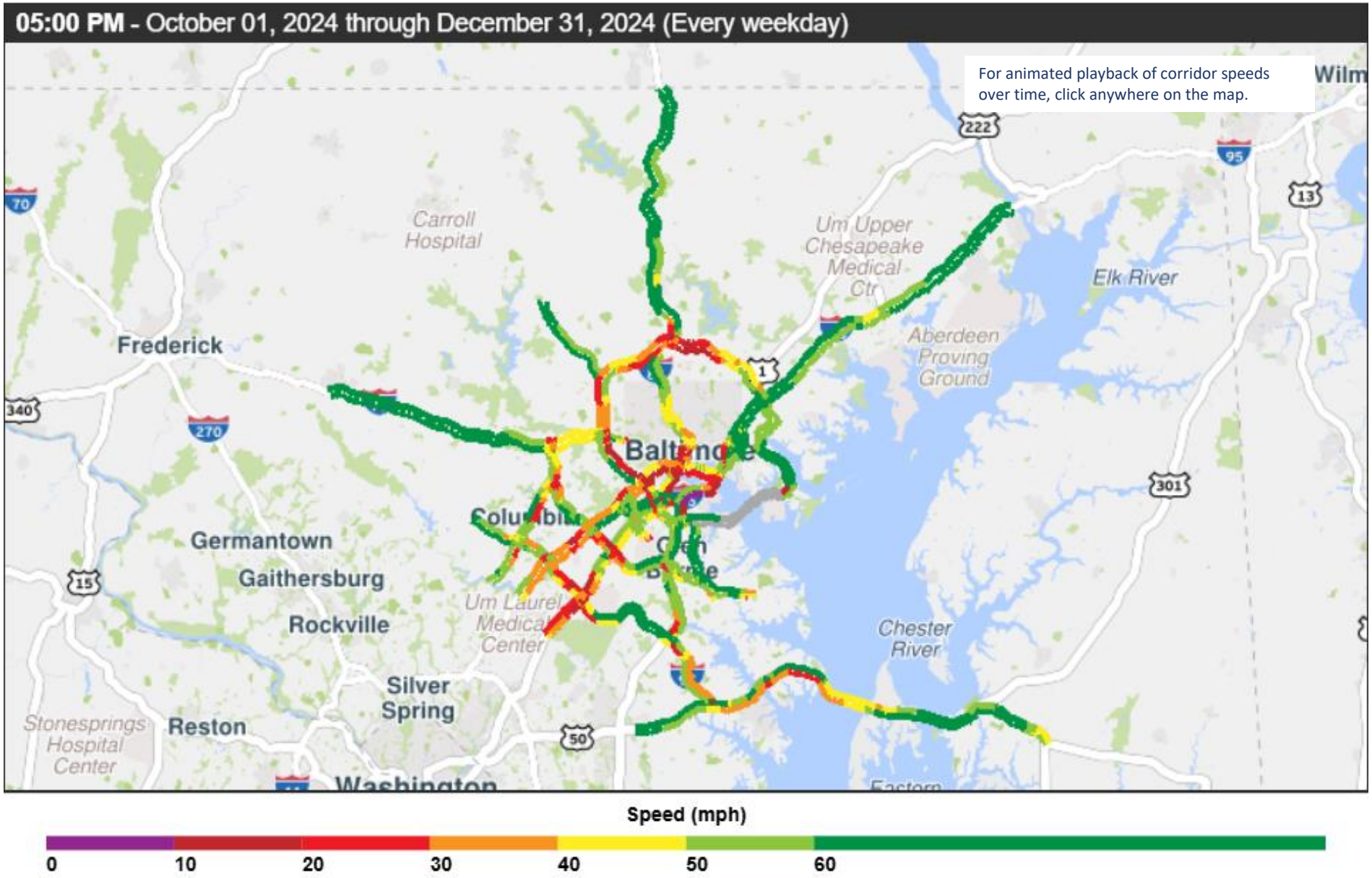
NOTE: Chart displays estimated monthly Freight Vehicle Miles of Travel compared with the previous year based on data collected at approximately 20+ continuous count stations throughout the State.

Regional Speed Maps

AM Peak Period Rush Hour: 4th Quarter 2024



PM Peak Period Rush Hour: 4th Quarter 2024



System Reliability Performance Measures

Percent of reliable person-miles traveled on the Interstate

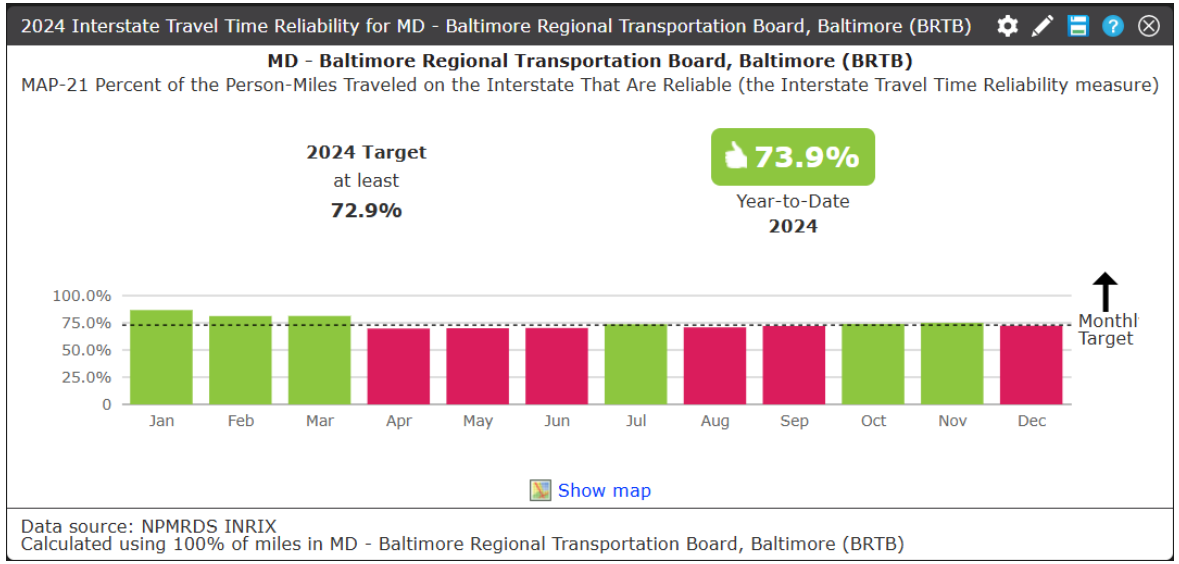
Percent of reliable person-miles traveled on the Non-Interstate NHS

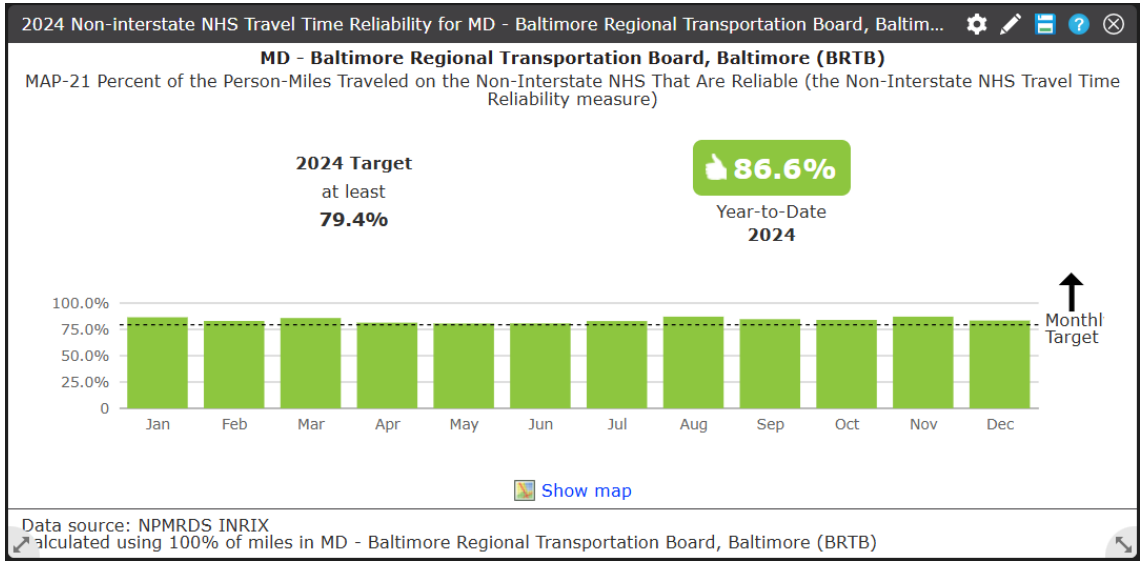
Percentage of Interstate system mileage providing for reliable truck travel time (Truck Travel Time Reliability Index)

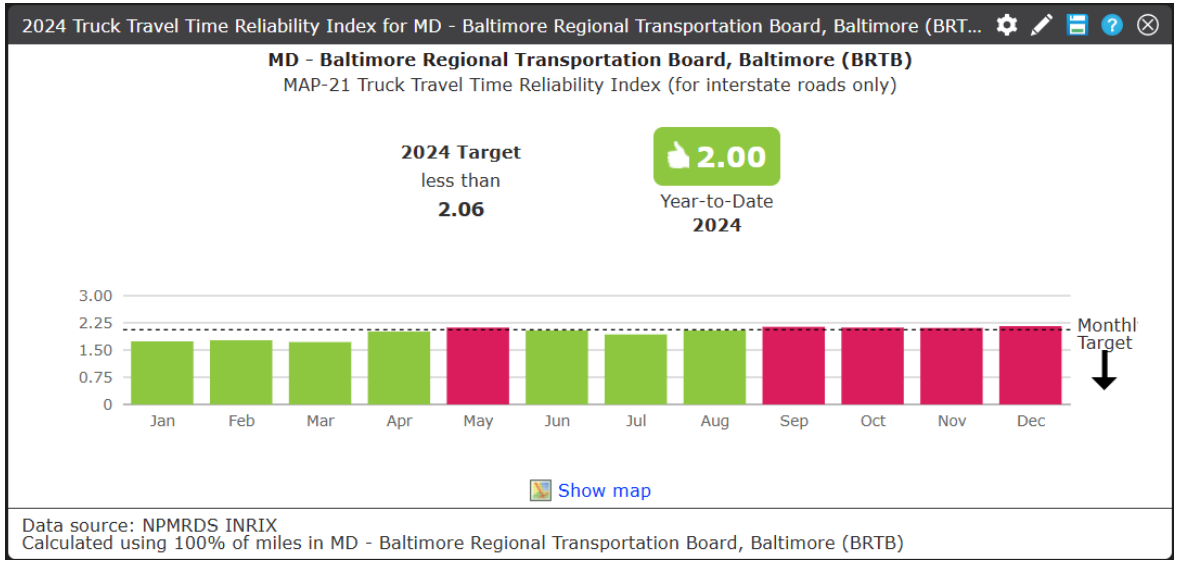
* Each state must establish statewide targets and report findings to the Federal Highway Administration. Metropolitan Planning Organizations must either support the established state targets or develop regional targets of their own.

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

							2024						
Jan	**Feb**	**Mar**	**Apr**	**May**	**June**	**July**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**2024 Rank**	**2024 Locations**
		10	1	1	1	2	2	2	2	1	1	1	I-95 N @ FORT MCHENRY TUNNEL
8	8	8	3	2	5	1	1	1	1	2	3	2	I-695 IL @ SECURITY BLVD/EXIT 17
9	1	1	7	3	2	3	3			17		3	I-95 N @ MD-152/EXIT 74
2	2	2	4		7	8	6	7	4	8	7	4	I-695 IL @ I-83/MD-25/EXIT 23
	18	4	2	4	4	5	7	5	3			5	I-895 N @ HARBOR TUNNEL THWY (NORTH)
3	7		9	6	6	6	5	3	7	7	9	6	MD-295 S @ MD-198
5	3	3	6	5	8	7			5	3	4	7	I-95 N @ MD-100/EXIT 43
13	10		15	7	3	4	4		6	6	8	8	US-50 E @ BAY BRIDGE
4	6	5	10	8	9	13	14	10	9	4	5	9	I-95 S @ MD-216/EXIT 35
			5		12	11	8	6	10	12	17	10	I-95 S @ FORT MCHENRY TUNNEL
1		9	11	14			10	18		14		11	I-95 N @ MD-32/EXIT 38
						16	6	4	8	9		12	I-695 IL @ PENINSULA EXPY/EXIT 43
15				16	11	12	19	19	14	13	14	13	I-95 S @ MD-175/EXIT 41
		12		13				9			6	14	I-95 S @ MD-43/WHITEMARSH BLVD/EXIT 67
20			17	18	19			11	13	15	16	15	I-695 OL @ I-795/EXIT 19
		18	14	19	15	17	16	16	18	16	20	16	I-695 OL @ MD-26/EXIT 18
								12				17	I-695 OL @ I-83/MD-25/EXIT 23
			18					17	16			18	I-695 IL @ MD-542/LOCH RAVEN BLVD/EXIT 29
16	17				18		13		19			19	I-83 S @ I-695
19									20			20	I-70 E @ I-695/EXIT 91

Conclusions/Observations: The December 2024 Monthly Average Vehicle Miles Traveled AVMT is down compared to December 2023 by -0.5%. The Cumulative Year to Date AVMT change through December 2024 AMVT is down compared to last year 2023 by -0.6I%. I-95 N at the Fort McHenry Tunnel was the region's top bottleneck for the 4th Quarter and finished number 1 for calendar year 2024 as well.

Inner Loop (IL)
Outer Loop (OL)

Credits


THE EASTERN
TRANSPORTATION
COALITION


CATT
LABORATORY


MDOT
MARYLAND DEPARTMENT
OF TRANSPORTATION
STATE HIGHWAY
ADMINISTRATION


INRIX


BALTIMORE
METROPOLITAN
COUNCIL
1500 Whetstone Way, Suite 300
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BRTB
Baltimore Regional Transportation Board

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