



TRIP REPORT: MARYLAND TRAFFIC CONGESTION COSTS DRIVERS AS MUCH AS \$2,465 ANNUALLY – \$5.8 BILLION STATEWIDE. AS MARYLAND VEHICLE TRAVEL RETURNS TO PRE-PANDEMIC LEVELS, ADEQUATE TRANSPORTATION INVESTMENT WILL BE CRITICAL TO FUND PROJECTS AND PROGRAMS TO IMPROVE TRAVEL RELIABILITY AND SUPPORT ECONOMIC GROWTH

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As vehicle travel in Maryland returns to near pre-pandemic levels, the state’s congested roads, highways and bottlenecks choke commuting and commerce and cost the state’s drivers a total of \$5.8 billion annually – up to \$2,465 per driver- in the form of auto and truck delays, wasted fuel and emissions. Increased investment in transportation improvements could improve travel reliability and enhance quality of life and economic growth in Maryland, according to a new report released today by [TRIP](#), a Washington, DC based national transportation research nonprofit.

The TRIP report, *“Keeping Maryland Mobile: Providing a Modern, Sustainable Transportation System in the Old Line State,”* calculates the cost to Maryland motorists and hours lost due to congestion, identifies the most congested routes during morning and evening weekday commutes, examines the impact of congestion on job accessibility, identifies the state’s worst traffic bottlenecks and the least reliable routes for large commercial trucks, and examines steps being taken to improve travel reliability in Maryland.

Traffic congestion in the Baltimore urban area results in the average driver losing 59 hours annually in traffic delays and wasting 22 gallons of fuel, costing the average Baltimore driver \$1,371 each year in lost time and wasted fuel. The average driver in the Maryland DC suburbs loses 99 hours to congestion and wastes 39 gallons of fuel annually, costing \$2,465 in lost time and wasted fuel. Statewide, drivers lose \$5.8 billion annually as a result of lost time and wasted fuel due to traffic congestion. Due to the COVID-19 pandemic, vehicle travel in Maryland dropped as much as 47 percent in April 2020 (as compared to vehicle travel during the same month the previous year), but rebounded to five percent below 2019’s pre-pandemic levels in 2022.

The TRIP report identifies the fifteen most congested highway and arterial road segments during weekday morning and evening commutes. The chart below lists the five most congested highways and the most congested arterials (non-freeway) during the AM and PM commutes.

Rank	Top Highway Bottlenecks	Average Length (Mi.)
1	MD 295 Northbound at Powder Mill Rd.	3
2	US 50 Westbound at William Preston Lane Bridge	4
3	I-895 Northbound at Harbor Tunnel Thruway	2
4	I-270 Northbound at MD 109/Exit 22	6
5	I-270 Northbound at MD 85/Exit 31	8

TRIP’s report also identifies the top highway bottlenecks, which typically form at interchanges or intersections, and the resulting delays spread to adjacent roadways. The top five are listed below; the report includes a list of Maryland’s 20 worst highway bottlenecks.

When signalized intersections carry more traffic than they can efficiently accommodate, traffic operations degrade, resulting in most motorists having to wait through more

than one green light cycle before traveling through an intersection. TRIP’s report lists the 15 worst performing intersections in Maryland during morning and evening peak travel periods. Below are the top five.

Traffic congestion significantly reduces access to jobs and employees. In a 2019 [report](#), the Center for Transportation Studies at the University of Minnesota found that of the approximately 1.8 million jobs accessible within a one-hour drive to a resident of the Baltimore metro area, only 30 percent are accessible within 30 minutes. Of the

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5	I-270 Northbound at MD 85/Exit 31	8

Rank	AM Most Congested Arterial Intersections	PM Most Congested Arterial Intersections
1	MD 4 at MD 337/Presidential Pkwy	MD 500 at MD 410/Adelphi Rd
2	MD 26 at Lord Baltimore Dr/I-695 OL Off Ramp	US 301 at Cedarville Rd/McKendree Rd
3	US 29 at Rivers Edge Rd	MD 4 at FDR Blvd
4	MD 5 @ Surratts Rd	MD 500 at Eastern Ave
5	MD 210 at Livingston Rd/Kerby Hill Rd	MD 410 at MD 212

percent, respectively, as a result of traffic congestion.

approximately 2.4 million jobs accessible within a one-hour drive to a resident of the Washington, DC metro area, only 24 percent are accessible within a 30-minute drive. The Center for Transportation Studies report also found that the number of jobs accessible within 40 minutes during peak commuting times in the Baltimore and Washington, DC metro areas was reduced by 43 and 51

The Maryland Department of Transportation State Highway Administration has undertaken a combination of programs and projects to address traffic congestion and reliability challenges, which were estimated in 2020 to save approximately \$1.2 billion in reduced delays, fuel consumption and emissions. These efforts include an incident management program that in 2020 cleared approximately 35,000 incidents and assisted approximately 35,000 stranded motorists, improved traffic signalization, the provision of more than 13,500 park and ride spaces at 107 locations, HOV lanes on portions of I-270 and US 50, new sidewalks and bike lanes, and additional roadway capacity at a number of historically congested intersections.

Improvements to Maryland's roads, highways and bridges are funded by local, state and federal governments. The level of highway investment in Maryland will increase as a result of the five-year federal [Infrastructure Investment and Jobs Act](#) (IIJA), signed into law in November 2021, which will provide \$4.6 billion in road, highway and bridge funding in Maryland from 2022 to 2026, including a 36 percent increase in federal funding in 2022.

"Maryland has made significant progress in recent years in addressing its congestion and reliability challenges," said Dave Kearby, TRIP's executive director. "It is critically important that adequate investment is made to keep the state's residents, businesses and visitors moving efficiently and safely. Maryland's economic health and the quality of life of its residents are literally riding on its transportation network."



Keeping Maryland Mobile: Providing a Modern, Sustainable Transportation System in the Old Line State

Executive Summary

Accessibility and connectivity are critical factors in a state's quality of life and economic competitiveness. The growth and development of a state or region hinges on efficient and safe access to employment, customers, commerce, recreation, education and healthcare via multiple transportation modes. As Maryland emerges from the COVID-19 pandemic, quality of life in the Old Line State, and the pace of the state's economic growth, will be closely tied to the condition, efficiency, safety and resiliency of its transportation system.

An adequate and reliable source of transportation funding will be critical to Maryland's ability to provide the system of roads, highways, bridges and transit that will be needed to support commerce within the state by connecting the state to markets around the globe, while providing the safe and efficient mobility needed to support a high quality of life and strong

economy in Maryland.

TRIP's "Keeping Maryland Mobile" report examines the use and reliability of Maryland's surface transportation system and the importance of the recent reauthorization of the federal surface transportation program. The report also looks at the challenges Maryland faces to accommodate future transportation growth and sustain adequate funding despite the potential of increasing fuel efficiency standards and the adoption of electric vehicles. Sources of information for this report include the Maryland Department of Transportation State Highway Administration (MDOT SHA), the Federal Highway Administration (FHWA), the Bureau of Transportation Statistics (BTS), the U.S. Census Bureau, the Texas Transportation Institute (TTI), the American Road & Transportation Builders Association (ARTBA), and the National Highway Traffic Safety Administration (NHTSA).

TRAFFIC CONGESTION IN MARYLAND

Congested roads, highways and bottlenecks choke commuting and commerce and cost Marylanders \$5.8 billion in 2022 in the form of auto delay, truck delay, and wasted fuel and emissions. Vehicle miles of travel (VMT) in Maryland increased by 20 percent from 2000 to 2019, and by six percent from 2014 to 2019. Due to the COVID-19 pandemic, vehicle travel in Maryland dropped by as much as 47 percent in April 2020 (compared to vehicle travel during the same month the previous year). By 2022, Maryland's overall VMT levels had rebounded to five percent below 2019's pre-pandemic levels. The chart below details the annual hours lost to congestion, congestion costs per driver and the average amount of fuel per driver wasted annually due to congestion in the state's largest urban areas.

Urban Area	Hours Lost to Congestion	Annual Cost Per Driver	Gallons of Fuel Wasted Per Driver
Baltimore	59	\$1,371	22
Maryland DC Suburbs	99	\$2,465	39

Increasing congestion on Maryland's major highways and roads hampers the state's ability to support economic development and quality of life by reducing the reliability and efficiency of personal and commercial travel, including the transport of goods

and services.

Rank	Top Highway Bottlenecks	Average Length (Mi.)	Longest Arterial Roads Sections	
			Route	Miles
1	MD 295 Northbound at Powder Mill Rd.	3	MD 111 to McKendree Rd/Cedarville Rd.	2.6
2	US 50 Westbound at William Preston Lane Bridge	4	MD 3 EB - I-495 to MD 650	2.0
3	I-895 Northbound at Harbor Tunnel Thruway	2	Washington Ave. to Brenbrook Dr.	2.0
4	I-270 Northbound at MD 109/Exit 22	6	MD 100 to Catherine Ave.	2.0
5	I-270 Northbound at MD 85/Exit 31	8	B - Brenbrook Dr. to I-695	2.2
6	MD 295 Southbound at MD 198	3	Mills Blvd. to McDonogh Rd./Craddock Ln.	2.1
7	US 50 Eastbound William Preston Lane Bridge	5	SB - US 29 to Adelphi Rd.	2.3
8	I-270 Southbound at MD 109/Exit 22	4	Waterford Rd. to MD 607	2.2
9	MD 295 Southbound at Riverdale Rd	3	Pkwy. to Robinson Rd./Leelyn Dr.	2.5
10	I-495 Inner Loop at I-270 Spur	5	MD 30 Business (North) to MD 27	2.4
15	MD 97 NB - MD 390 to MD 586	2.0	Ln./McDonogh Rd. to Owings Mills Blvd	2.1
	AM Most Congested Highway Sections		B - MD 410 to Adelphi Rd.	2.5
			Se Pkwy. to Beach Dr./ Grosvenor Ln.	2.3
			Plummer Dr. to Odendhal Dr.	2.3
			MD 500 EB - DC Line to MD 410	2.1
Rank	AM Most Congested Highway Sections		PM Most Congested Highway Sections	
	Route	Miles	Route	Miles
1	I-495 Outer Loop - PG Co. Line to MD 97	4	I-495 Inner Loop - I-270 East Spur to MD 97	3.4
2	I-695 Outer Loop- MD 43 to Cromwell Bridge Rd.	3	I-695 Inner Loop - MD 139 to Providence Rd	3.7
3	I-695 Outer Loop - MD 122 to MD 144	3	MD 295 NB - MD 410 to MD 193	3.1
4	I-270 Local SB - I-370 to MD 189	3	I-895 NB - Frankfurst Ave. to Holabird Ave.	3.2
5	I-270 SB - Shady Grove Rd. to MD 189	3	I-695 Inner Loop - I-95 to US 40	3.5
6	US 50 Westbound - MD 410 to DC Line	4	MD 295 SB - MD 175 to MD 198	4.0
7	I-695 Inner Loop - Stevenson Rd. to I-83	3	I-270 Local NB - I-370 to Watkins Mill Road	2.9
8	I-895 NB - Frankfurst Ave. to Holabird Ave.	3	I-95/I-495 Inner Loop - I-95 to MD 295	3.2
9	MD 295 SB - MD 198 to Powder Mill Rd.	6	MD 295 NB - MD 198 to MD 175	4.1
10	I-95 SB - South of MD 200 to I-495	3	I-95/I-495 Outer Loop - MD 450 to MD 201	3.5
11	MD 295 SB - MD 193 to MD 410	3	I-270 NB - MD 121 to MD 109	4.1
12	I-270 SB - MD 80 to MD 109	4	I-95 NB - MD 2 to Fort McHenry Tunnel East	3.0
13	I-495 Outer Loop - MD 187 to MD 190	3	I-495 Inner Loop - VA Line to I-270 West Spur	3.9
14	I-95/I-495 Inner Loop - MD 414 to I-295	3	I-895 SB - MD 150 to Harbor Tunnel West	3.3
15	I-95/I-495 Inner Loop - I-95 to MD 295	4	I-270 NB - MD 189 to I-370	3.2

Washington, DC urban areas 111,973 and 310,582 jobs were accessible within a one-hour transit trip, respectively. In the Baltimore and Washington, DC urban areas 41,307 and 46,516 jobs were accessible within one hour by travel on a low-stress bicycle network and 90,214 and 193,483 jobs were accessible within one hour by travel on a low or medium-stress bicycle network, respectively.

Location	Jobs Reachable by Auto Within 60 Minutes	Percent of Jobs Reachable by Auto Within 40 Minutes	Percent Reduction of Jobs Reachable by Auto Within 40 Min. Due to Congestion
Baltimore	1,867,890	51%	46%
Washington, DC	2,603,119	45%	52%

Location	Jobs Reachable by Transit Within 60 Minutes	Jobs Reachable by Low-Stress Bicycle Within 60 Minutes	Jobs Reachable by Low and Medium-Stress Bicycle Within 60 Minutes
Baltimore	111,973	41,307	90,214
Washington, DC	310,582	46,516	193,483

When signalized intersections carry more traffic than they can efficiently accommodate, traffic operations degrade, resulting in most motorists having to wait through more than one green light indication before being able to go through the intersection. The following list indicates the 15 worst performing intersections in Maryland during morning and evening peak travel periods.

Rank	AM Most Congested Arterial Intersections	PM Most Congested Arterial Intersections
1	MD 4 at MD 337/Presidential Pkwy	MD 500 at MD 410/Adelphi Rd
2	MD 26 at Lord Baltimore Dr/ I-695 OL Off Ramp	US 301 at Cedarville Rd/McKendree Rd
3	US 29 at Rivers Edge Rd	MD 4 at FDR Blvd
4	MD 5 @ Surratts Rd	MD 500 at Eastern Ave
5	MD 210 at Livingston Rd/Kerby Hill Rd	MD 410 at MD 212
6	MD 2 at Tarragon Ln	MD 41 at Putty Hill Ave
7	MD 4 at Chaneyville Rd	MD 5 at MD 637 (Naylor Rd)
8	MD 108 at Old Baltimore Rd	MD 119 at I-370/Sam Eig Hwy
9	MD 410 at MD 212	US 1 at US 1AL/Hamilton St
10	MD 210 at Wilson Bridge Dr	MD 4 at MD 337/Presidential Pkwy
11	MD 4 at Dower House Rd	US 15 SB Ramps at Rosemont Ave/Schley Ave
12	MD 124 at Warfield Rd	MD 210 at Livingston Rd/Kerby Hill Rd
13	MD 450 at 48th Street	MD 414 at Ramp from I-95 WB
14	MD 355 at MD 911/Wootten Pkwy	MD 355 at Jones Bridge Rd/Center Dr
15	MD 193 at E. Franklin Ave/Franklin Ave	MD 2 at MD 4 (Sunderland)

the five highway locations where large commercial trucks make up the largest share of daily traffic.

Traffic congestion significantly reduces access to jobs and employees. In a 2020 [report](#), (data was collected prior to the onset of the COVID-19 pandemic) the Center for Transportation Studies at the University of Minnesota found that of the approximately 1.9 million jobs accessible within a one-hour drive to a resident of the Baltimore metro area, only 51 percent are accessible within 40 minutes. Of the approximately 2.6 million jobs accessible within a one-hour drive to a resident of the Washington, DC metro area, only 45 percent are accessible within a 40-minute drive.

The Center for Transportation Studies report also found that the number of jobs accessible within 40 minutes during peak commuting times in the Baltimore and Washington, DC metro areas was reduced by 46 and 52 percent, respectively, as a result of traffic congestion.

The Center for Transportation Studies found that in 2020 (pre-COVID-19 pandemic) in the Baltimore and

TRAFFIC BOTTLENECKS IN MARYLAND

When a portion of a highway or signalized arterial roadway experience a significant reduction in travel speeds, they are deemed bottlenecks. Often these bottlenecks form at interchanges or intersections and the resulting delays spread to adjacent roadway segments. Based on the volume of traffic, traffic speed, and the extent and length of the delay, the chart below ranks the ten worst highway bottlenecks in Maryland. A list of Maryland's 20 worst highway bottlenecks is included in the report.

FREIGHT TRANSPORTATION IN MARYLAND

The health and future growth of Maryland's economy is riding on its surface transportation system. Annually, \$403 billion worth of freight are shipped to or from sites in Maryland, an amount that is anticipated to grow by 73 percent in inflation-adjusted dollars by 2045.

The amount of freight transported in Maryland and the rest of the U.S. is expected to increase significantly as a result of economic growth, changing business and retail models, increasing international trade, and rapidly changing consumer expectations that place an emphasis on faster deliveries, often of smaller packages or payloads.

The following chart shows the five highway locations in Maryland carrying the greatest number of large commercial trucks daily, and

Rank	Highest Truck Volume		Highest Truck Percentage Locations	
	Route Location	Daily Trucks	Route Location	Percent
1	I-95 North of I-695	29,300	MD 159 – South of US 40	36%
2	I-95/I-495 North of US 50	23,200	I-81 South of PA Line	36%
3	I-81 North of I-70	20,600	I-81 South of US 11	32%
4	I-695 West of Greenspring Ave	18,200	US 522 N of I-70	31%
5	I-495 East of MD 185	16,200	MD 313 – South of US 301	30%

The efficiency of freight movement in Maryland is threatened by traffic congestion, which reduces the reliability of goods movement to and from destinations in and through the state. The following chart details the highway segments in Maryland that provide the worst travel

reliability for commercial trucks as a result of traffic congestion.

PROGRESS IN RELIEVING TRAFFIC CONGESTION IN MARYLAND

Using a combination of programs and projects, the Maryland Department of Transportation and State Highway Administration is taking steps to address Maryland’s traffic congestion and reliability challenges. These efforts are aimed at improving the efficiency and expanding the capacity of the state’s transportation system.

- MDOT SHA’s congestion relief programs and projects to improve the efficiency and expand the capacity of the state’s major roadways were estimated in 2020 to save approximately \$1.2 billion in reduced delays, fuel consumption and emissions.

MDOT SHA congestion relief efforts include:

- An incident management program that in 2020 cleared approximately 35,000 incidents and assisted approximately 35,000 stranded motorists.
- Improved traffic signalization.
- The provision of more than 13,500 park and ride spaces at 107 locations.
- The use of High Occupancy Vehicle (HOV) lanes on portions of I-270 and US 50.
- The addition of 9.6 miles of new sidewalks with 66 projects in 21 counties, improvements to six directional miles for biker access, increasing the directional miles of marked bike facilities provided by MDOT to over 450.
- Nineteen virtual weigh stations are in operation and design work begun (presently on hold) for up to 20 additional truck parking spaces at the I-70 Welcome Center in Frederick County.
- The addition of roadway capacity at a number of intersections and portions of roadways, including the following in 2020: MD 2/4 from Fox Run Boulevard to Commerce Lane; MD 32 from Main Street to Macbeth Way; MD 180 from Swallowtail Drive to US 15/340 ramps; MD 22 from Prospect Mill Road to MD 136; I-270 and Watkins Mill Road; MD 97 at Randolph Road; I-81 from Potomac River Bridge to MD 63; US 113 from MD 365 to North of Five Mile Branch; US 50 at MD 589 and MD 346 from US 113 to Healthway Drive.

Rank	Least Reliable Routes for Large Commercial Trucks	Miles
1	US 50/US 301 WB - Chester Station Ln. to Bay Bridge	3.2
2	I-495 Outer Loop - I-95 to US 29	3.2
3	US 50 EB - Bay Dale Drive to Oceanic Drive	3.8
4	I-495 Inner Loop - MD 187 to MD 97	4.5
5	I-695 Outer Loop - MD 122 to MD 144	3.1
6	I-695 Outer Loop - MD 43 to Cromwell Bridge Rd	3.1
7	I-695 Inner Loop - MD 139 to Providence Road	3.3
8	I-95/ I-495 Inner Loop - MD 5 to Woodrow Wilson Bridge	5.6
9	I-895 SB - I-95 to Ponca Street	3.2
10	I-270 NB - Shady Grove Road to Watkins Mill Road	3.7
11	US 50 WB - MD 410 to Columbia Park Road	3.1
12	I-95/I-495 Inner Loop - I-95 to MD 201	3.2
13	I-95 NB - US 1 Alt to Ft McHenry Tunnel	3.2
14	I-270 West Spur SB - I-270 Split to I-495	1.7
15	I-270 SB - MD 80 to MD 109	3.8

THE IMPACT OF TRANSPORTATION INVESTMENT ON ECONOMIC GROWTH IN MARYLAND

According to a [report by the American Road & Transportation Builders Association](#), the design, construction and maintenance of transportation infrastructure in Maryland supports approximately 78,000 full-time jobs across all sectors of the economy. These workers earn \$3.5 billion annually. Approximately one million full-time jobs in Maryland in key industries like tourism, retail sales, agriculture and manufacturing are completely dependent on the state’s transportation network.

MARYLAND’S TRANSPORTATION SYSTEM AND FUNDING

Investment in Maryland’s roads, highways and bridges is funded by local, state and federal governments. A lack of sufficient funding at all levels will make it difficult to adequately maintain and improve the state’s existing transportation system.

The level of highway investment in Maryland is likely to increase as a result of the five-year federal [Infrastructure Investment and Jobs Act](#) (IIJA), signed into law in November 2021, which will provide \$4.6 billion in road, highway and bridge funding in Maryland from 2022 to 2026, resulting in a 36 percent increase in federal funding in 2022.

According to the [Status of the Nation’s Highways, Bridges, and Transit, 24th Edition](#), submitted to Congress by the United States Department of Transportation (USDOT) in 2021, the nation faces a \$1 trillion backlog in needed repairs and improvements to the nation’s roads, highways and bridges.^[i] The USDOT report found that the nation’s annual investment in roads, highways and bridges by all levels of government should be increased by 55 percent annually to improve the conditions of roads, highways and bridges, relieve traffic congestion and improve traffic safety.^[ii]

The USDOT report also found that the nation faces a \$105 billion backlog in needed repairs and improvements to the its transit systems.^[iii] The USDOT report found that the nation’s annual investment in transit repairs and improvements by all levels of government should be increased by 30 percent to improve the condition and expand the service of the nation’s transit systems.^[iv]

Highway and bridge spending multiplies through the economy by stimulating additional output. A 2021 macroeconomic [analysis](#) by [IHS Markit](#) found that that every dollar spent on highway and bridge improvements results in \$3.4 dollars in combined direct, indirect and induced output from industries throughout the economy, resulting in a multiplier for highway and bridge investment of 3.4.

To view total TRIP Report visit tripnet.org

Sources of information for this report include the Federal Highway Administration (FHWA), the Maryland Department of Transportation and State Highway Administration (MDOT SHA), the American Road and Transportation Builders Association (ARTBA), the Bureau of Transportation Statistics (BTS), the U. S. Census Bureau, the Center for Transportation Studies, the Texas Transportation Institute (TTI) and the National Highway Traffic Safety Administration (NHTSA). All data used in the report are the most recent available.