

Goal Facilitate Economic Opportunity and Reduce Congestion in Maryland through Strategic System Expansion

Invest in and pursue opportunities to promote system improvements that support economic development, reduce congestion, and improve the movement of people and goods



OBJECTIVES:

- Pursue capital improvements to the transportation system that will improve access to jobs and tourism and leverage economic growth opportunities
- Improve the movement of goods within and through Maryland by investing in intermodal connections and improvements to reduce freight bottlenecks
- Strategically invest in expansion and operational improvements to reduce congestion along the multimodal transportation system

While the fluctuation of freight is evident during COVID-19, Maryland remains an important link in global supply chains due to its crossroad freight infrastructure including the Port of Baltimore, major Class I rail lines, and major roads and highways, such as the I-95 corridor. Trucks move the highest tonnage and value. For value, multiple modes and mail have the second highest value followed by rail. While the U.S. Department of Transportation (U.S. DOT) Freight Analysis Framework (FAF) data are estimates of value based on actual inputs and factoring, they do well represent the levels of value Maryland experiences. With the gross domestic product (GDP) growth rates factored in, the increasing trends of the previous years along with the decrease of 2020 can be seen. In 2020, due to COVID-19, freight volumes were generally low for the initial quarters and then began to recover quickly as the year progressed, with the exception of air cargo that steadily increased. Freight activity is getting back to pre-COVID-19 levels. The Port of Baltimore remains the largest auto and roll on/roll off port in the U.S.

MDOT SHA has also begun work on a truck parking widget to help improve truck parking challenges in Maryland, which will help with both safety and freight efficiency. MDOT has begun work on an update to the Statewide Freight Plan and has renewed the State Freight Advisory Committee in line with federal Fixing America's Surface Transportation (FAST) Act requirements.

Maryland has an extensive transportation system that supports both passenger travel and goods movement, both of which are important for economic growth. Residents, workers, and visitors of Maryland used rail, buses, highways, airports, and other transportation modes to get home, to work, or to important places of interest. Important goods are transported throughout Maryland on freight trains, cargo planes, trucks, and cargo ships.



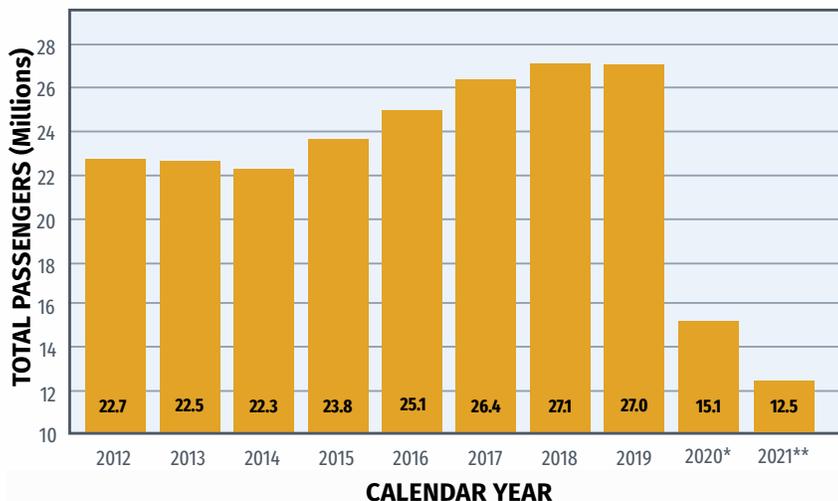
OBJECTIVE:

Pursue capital improvements to the transportation system that will improve access to jobs and tourism and leverage economic growth opportunities

BWI MARSHALL AIRPORT TOTAL ANNUAL PASSENGERS



BWI Marshall Airport is a crucial point of entry and export for cargo and people. This measure accounts for the number of annual passengers using BWI Marshall Airport.



*2020 data has been revised from previous report.

**2021 data is preliminary and subject to change.



WHY DID PERFORMANCE CHANGE?

- March 2020 saw the onset of the COVID-19 pandemic, which decreased passenger demand
- The low-point in April 2020 saw passenger traffic down 96% from April 2019; in the end, CY 2020 saw passenger counts at BWI Marshall Airport decline more than 58%
- In early 2021, with the increase in vaccinations, passenger demand increased significantly, and by August 2021 passenger levels were twice that of August 2020, but still down 25% from the pre-pandemic level of August 2019

WHAT ARE FUTURE PERFORMANCE STRATEGIES?

- MDOT MAA Office of Air Service Development continues to meet with airlines regarding both new service and the restoration of lost service
- Ongoing terminal improvements for Southwest Airlines are in the works; these include a Concourse A/B Connector and Baggage Handling System Project that will transform a major portion of the airport; this will allow direct concourse-to-concourse connectivity for passengers, new food and retail concessions, modern restrooms, and expanded airline hold rooms; there is also utility work that will support construction of a major aircraft maintenance facility for Southwest Airlines

INTERNATIONAL CRUISES USING THE PORT OF BALTIMORE*



The Port of Baltimore is one of the busiest cruise ports on the eastern seaboard. This measure illustrates cruise-related business activity departing from the Port of Baltimore to foreign destinations.

FISCAL YEAR	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Number of International Cruises using MDOT MPA's Terminal	100	93	99	75	94	86	94	94	69	0

Target: Maintain two year-round cruise line operations at the Port

*The entire cruise industry was shut down in March 2020 due to COVID-19 and remained under a CDC issued "no sail" order unless certain criteria were met. It is expected that cruises will resume from Baltimore in FY 2022.

WHY DID PERFORMANCE CHANGE?

- The entire cruise industry was shut down for much of FY 2020 and FY 2021 due to the COVID-19 pandemic so there were no international cruises that used the Port of Baltimore in FY 2021
- MDOT MPA added new check-in stations, carpeting, restrooms, a VIP lounge, traffic flow advancements, and a public address system for customer comfort at the Cruise Maryland Terminal (the South Locust Point Cruise Terminal)

WHAT ARE FUTURE PERFORMANCE STRATEGIES?

- The two homeport cruises are resuming service; Carnival embarked on its first cruise since the start of the pandemic in September 2021 and Royal Caribbean resumed cruises from the port in December 2021

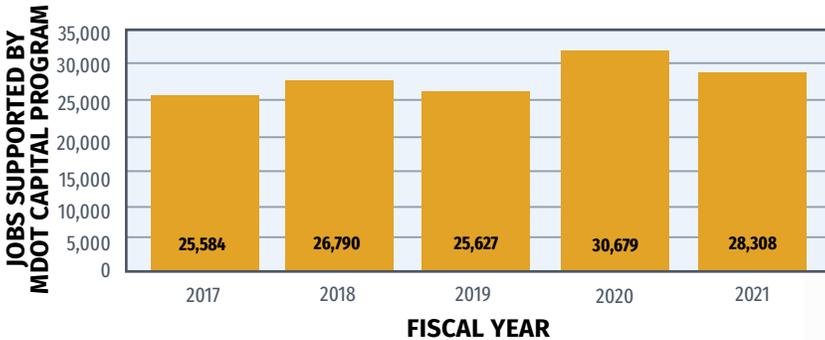


JOBS SUPPORTED BY MDOT CAPITAL PROGRAM*

MAKING PROGRESS

Economic return from transportation investment is based on the estimated number of jobs created as a result of MDOT investments in capital projects.

Annually, the CTP lists MDOT's planned capital investments by Transportation Business Unit (TBU). These investments drive the creation of direct construction jobs, bolster manufacturing jobs, and support businesses directly affected by the patronage of construction staff. Construction and maintenance projects support economic activity beyond the project location.



* This measure will be reported in the AR until the replacement measure, Change in Market Access and Productivity Due to Improvements in the Transportation Network, is ready for reporting.

OBJECTIVE:

Improve the movement of goods within and through Maryland by investing in intermodal connections and improvements to reduce freight bottlenecks

WHAT ARE FUTURE PERFORMANCE STRATEGIES?

- The Howard Street Tunnel project is expected to generate about 6,550 construction jobs and an additional 7,300 jobs from the increased business
- Construction of the Frederick Douglass Tunnel is expected to generate 30,000 jobs across the Baltimore region over 10 years; most of the jobs will be construction jobs
- A second 50-foot-deep berth at the Seagirt Marine Terminal will allow more frequent calls from large container ships and is estimated to contribute approximately 1,950 direct/induced/indirect jobs, resulting in an increase of \$195 million in total economic activity



IMPROVING GOODS MOVEMENT: FREIGHT ORIGINATING AND TERMINATING IN MARYLAND

FREIGHT ORIGINATING AND TERMINATING IN MARYLAND*

METHOD FOR MOVING FREIGHT	TOTAL VALUE (MILLIONS)	TOTAL TONNAGE (THOUSANDS) SATISFIED
Air	\$6,213	58
Other**	\$65,025	6,815
Pipeline	\$7,110	34,645
Rail	\$13,686	25,626
Truck	\$295,608	225,129
Water	\$517	3,142
All Freight	\$388,159	295,417

* Source: U.S. Department of Transportation Freight Analysis Framework (FAF4) Version 4.5.1. that was refactored using 2019 data. To report 2019 data, a 3% annual growth rate was applied. FAF generates estimates based on a base year of data. Therefore, tonnage and values represented are estimates, not exact amounts. The water tonnage data based is for 2019, based on U.S. Army Corps of Engineers reporting.

** Category "Other" includes multiple modes, mail, and other and unknown categories from data from the Freight Analysis Framework Version 4.5.1.

Maryland is an important link in global supply chains due to its significant freight infrastructure including the Port of Baltimore and major Class I rail lines, as well as interstate highways, such as I-95, US 50, I-81, I-70, I-83, and US 301. The Port of Baltimore remains the largest auto and roll on/roll off port in the U.S. In 2020, due to COVID-19, freight volumes were generally low for the initial quarters and then began to recover quickly as the year progressed. With the GDP growth rates factored in, the increasing trends of the previous years along with the decrease of 2020 can be seen.

One important strategy to improve goods movement is the continued work to construct the Howard Street Tunnel expansion. This project will add double-stacked container shipping capability to and from the Port of Baltimore, which is expected to increase container volumes at the Port by 160,000 annually and create thousands of additional jobs. The Port of Baltimore is a nationally significant freight facility and is the port closest to Mid-American inland markets. MDOT SHA has also invested in freight performance; the Maryland Roadway Performance Tool aligns truck probe data to the Maryland highway network and provides a suite of performance indicators such as delay per mile, cost of congestion, and freight commodity costs. Finally, MDOT is updating the Statewide Freight Plan, the Statewide Rail Plan, and has renewed the State Freight Advisory Committee in line with federal FAST Act requirements.

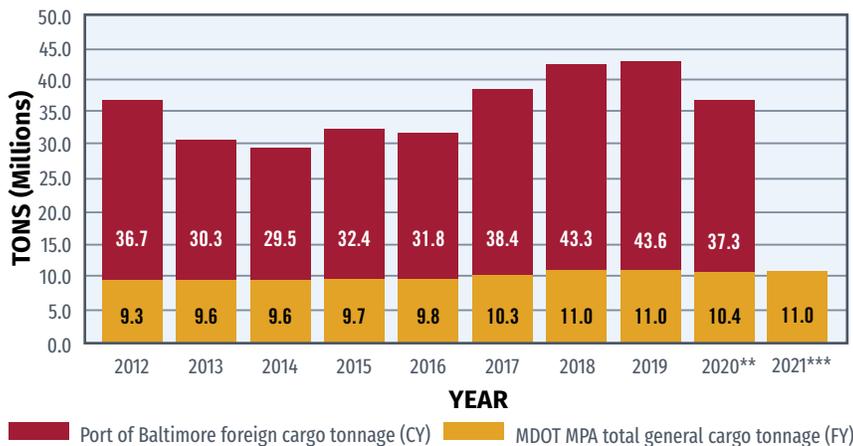
During the last five years (2015-2020), air cargo tonnage at BWI Marshall Airport has increased at an average annual rate of 19% - more than doubling the volume processed in 2015. With the opening of the new Midfield Cargo building in late-2019, BWI Marshall Airport has become one of Amazon's top five busiest air cargo facilities in the nation (out of 35) and currently employs more than 1,200 people. As of 2020, BWI Marshall Airport has 57% of the regional market share handling more cargo than Dulles International and Reagan National airports combined. Moving forward, MDOT MAA continues to explore opportunities to accommodate growth in both the domestic and international air cargo markets.





PORT OF BALTIMORE FOREIGN CARGO AND MDOT MPA GENERAL CARGO TONNAGE*

Measures the amount of foreign and general cargo moving through the Port of Baltimore



* MDOT MPA cargo data is provided by fiscal year, but Port information is reported using the latest full calendar year because Port statistics combine data for public and private marine terminals that use different fiscal year reporting timeframes. Therefore, 2021 data cannot be reported until early 2022.

** 2020 data has been revised from previous report.

*** MDOT MPA general cargo includes both foreign and domestic waterborne cargo, whereas, Port-wide data includes only foreign waterborne cargo. Port-wide data for calendar year 2021 is an estimate; fiscal year date for 2021 is not yet available.

WHY DID PERFORMANCE CHANGE?

- The Port of Baltimore's public and private marine terminals continue to rebound from the COVID-19 pandemic and handled 37.3 million tons of cargo in CY 2020
- Approximately two-thirds of the Port's tonnage are bulk commodities, and the largest is coal; the remaining third is general cargo; the largest component of general cargo is containerized goods, however, it is noteworthy that the general cargo has 94% of the international cargo's value

WHAT ARE FUTURE PERFORMANCE STRATEGIES?

- MDOT MPA promotes the entire Port of Baltimore to all potential users and will continue to work with the private terminal operators to assess their needs; MDOT MPA will also continue to work with the U.S. Army Corps of Engineers to make sure that the channels are dredged to federally authorized dimensions
- The Port currently faces a competitive disadvantage with containerized cargo because of a lack of high-cube double-stack rail clearance; neither CSX nor Norfolk Southern can offer this type of service in Baltimore due to clearance issues; in 2019, MDOT applied for and secured an Infrastructure for Rebuilding America (INFRA) grant to address the clearance issues associated with CSX's Howard Street Tunnel; the project received a National Environmental Policy Act (NEPA) Finding of No Significant Impact (FONSI); efforts are currently underway that will allow CSX and MDOT MPA to begin construction in FY 2022
- Ports America Chesapeake (PAC) continues to make investments at the Seagirt Marine Terminal (ensuring that the MDOT MPA can handle the large container ships); in 2019, MDOT MPA and PAC received a \$6.6 million Better Utilizing Investments to Leverage Development (BUILD) grant for a \$32.8 million project to modernize Berth 3 at Seagirt; design and engineering are currently underway; the project will allow the Port to simultaneously handle two ultra large container vessels (ULCV) at Seagirt



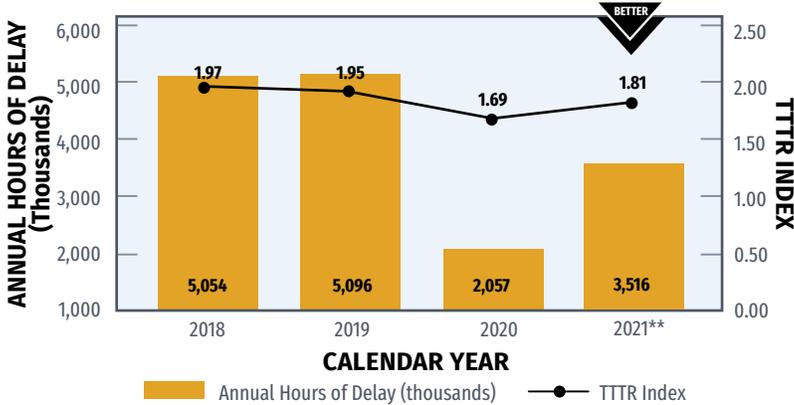
ANNUAL HOURS OF DELAY FOR TRUCKS AND TRUCK TRAVEL TIME RELIABILITY INDEX*



Delay and reliability can affect many things in a supply chain beyond just the truck transporting the goods. An efficient and reliable system translates to improved goods movement, which supports Maryland's businesses and economic growth positively. MDOT has been a leader in measuring freight mobility following industry tested and supported methods. Maryland's annual Mobility Report allows MDOT to see how well freight moves and to identify freight bottlenecks and track them over time. Additionally, MDOT continues to build new resources using truck probe data to understand freight mobility dynamics and the impact of delay on key Maryland supply chains.

In addition to MDOT's tracking of freight mobility, MDOT responds to the federal Moving Ahead for Progress in the 21st Century (MAP-21) and FAST Act performance measure requirements for the Truck Travel Time Reliability (TTTR) index.

The following graph shows the annual TTTR in relation to the annual hours of delay.



Target: 6,070 (\$6.1 million) Thousand Hours Of Truck Delay In 2021, TTTR of 1.88 in 2021

* 2018-2020 data has been revised from previous report.

** 2021 data is preliminary and subject to change.

WHY DID PERFORMANCE CHANGE?

- Due to the uncertainty related to the pandemic and recovery, the estimation of the levels of truck travel has been difficult to determine, thereby affecting the 2020 actual data and requiring revisions to the future target data; truck volumes during the first half of 2021 have fluctuated around 2019 levels
- As traffic volumes rebound from peak pandemic levels, the total number of crashes and incidents continue to remain high; the severity of the crashes and higher percentage of commercial vehicle-related incidents is still a concern

WHAT ARE FUTURE PERFORMANCE STRATEGIES?

- Congestion and reliability trends of trucks and all vehicles needs to be carefully monitored to strategically invest in freight corridors and highway networks; as Maryland travel begins to go back to relatively normal conditions, data and performance-driven capital and operational technology investments would be required
- Continue to collaborate with metropolitan planning organizations (MPOs), local agencies, state entities, and the private sector to deliver projects that address reliability and efficiency
- Modernize transportation infrastructure by incorporating Intelligent Transportation System (ITS) technology and Transportation Systems Management and Operations (TSMO) strategies
- Continue active monitoring of transportation system, incident detection and clearance, and deploy road weather management strategies to restore capacity on Maryland highways for better traffic and truck travel

OBJECTIVE:

Strategically invest in expansion and operational improvements to reduce congestion along the multimodal transportation system

ANNUAL COST OF CONGESTION (BILLIONS) ON THE MDOT HIGHWAY NETWORK



Target: \$4.1 billion in 2023

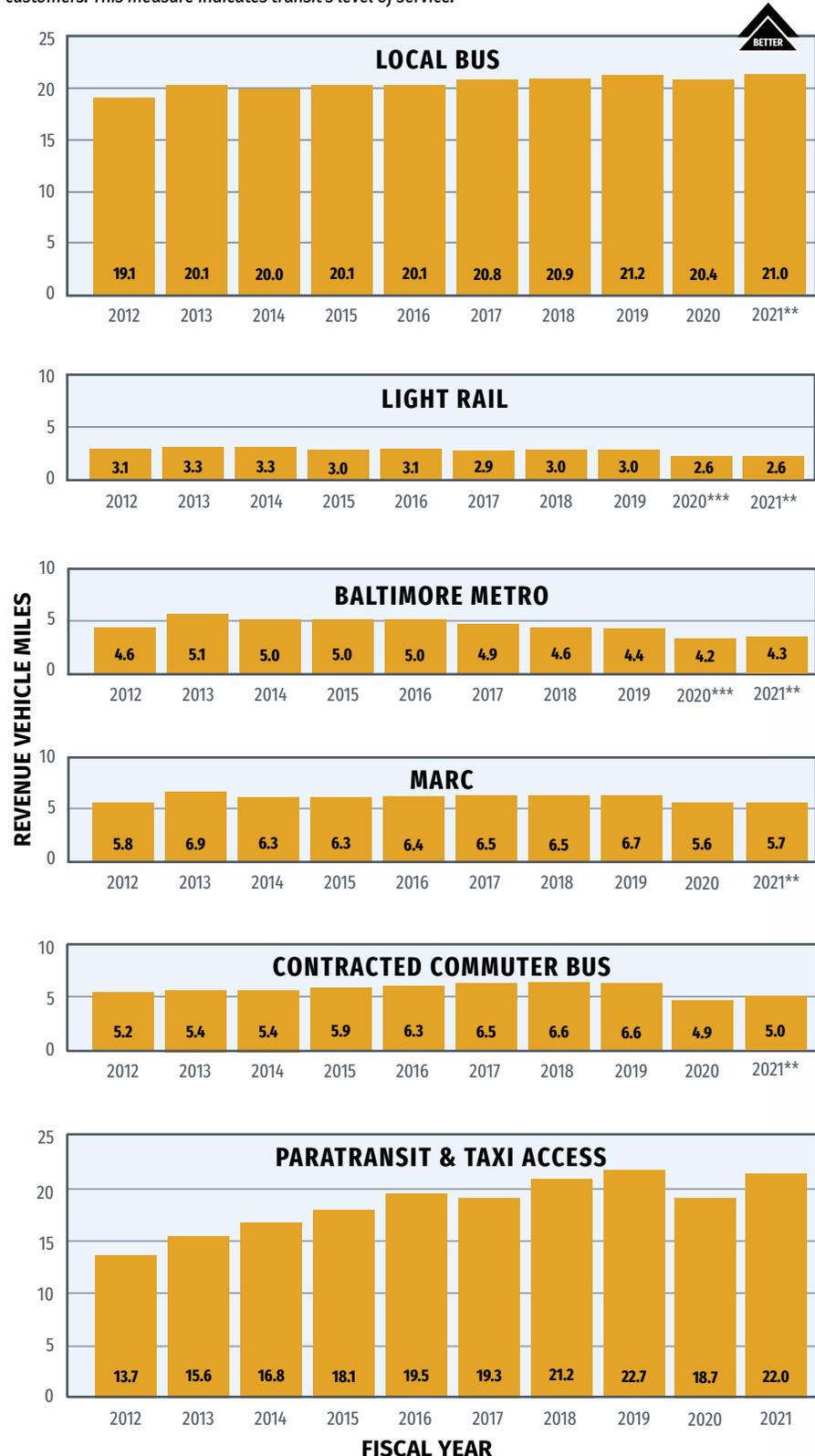
* 2021 data is preliminary and subject to change.

Congestion and reliability trends of vehicles needs to be carefully monitored as Maryland recovers from the COVID-19 pandemic and travel begins to go back to relatively normal conditions. Different corridors and regions are likely going to experience different recovery rates of peak hour travel conditions; therefore, data and performance driven capital and operational technology investments would be required accordingly.

ANNUAL REVENUE VEHICLE MILES OF TRANSIT SERVICE PROVIDED*



Revenue vehicle miles measure each mile for which a transit vehicle is in service and accepting customers. This measure indicates transit's level of service.



* All units are revenue miles (millions). Excludes Locally Operated Transit Systems (LOTS) and WMATA.
 ** 2021 data is preliminary and subject to change.
 *** 2020 data has been revised from previous report.

WHY DID PERFORMANCE CHANGE?

- During the pandemic, MDOT MTA sought feedback from the public and stakeholders on service priorities; as a result, MDOT MTA maintained service on all Core Local Bus routes and Mobility services
- Baltimore Metro SubwayLink continued to perform scheduled track repair and maintenance, toward the goal of maintaining assets in a state of good repair; completing these projects during a period of decreased ridership minimized the impact on the riding public

WHAT ARE FUTURE PERFORMANCE STRATEGIES?

- For fall 2021, MDOT MTA announced bus route improvements that support multiple job centers across the region, especially focused on connecting essential workers to their jobs
- As travel patterns return to normal, MDOT MTA will continue to evaluate opportunities to provide reliable service through specified terms in new contracts for contracted services

