MARYLAND DEPARTMENT OF TRANSPORTATION

MDOT Freight Summit

Monday, December 8, 2025

Agenda

- **Welcome**
  - Keynote
  - Safety
  - SFAC and State Freight Plan
- **Operating Picture and Challenges**
  - Modal Landscape/Hot Topics
  - BREAK (10 minutes)
  - Private Sector Perspective and Reactions Panel
- **Lunch & Listen** (60 minutes)
- **Successes and Solutions**
  - Rail Spotlight: Howard Street Tunnel
  - Innovative Solutions
  - Industrial Development Panel
  - BREAK (10 minutes)
  - Multistate and Regional Freight Planning
- **Performance and Plan Targets, Facilitated Discussion, and Steps Ahead**

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Keynote

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SAFETY

Office of Rail & Intermodal Freight

The Secretary's Office

MDOT is Serious About Safety

- At the Maryland Department of Transportation (MDOT), we aim to be the safest in the nation.
- As a Vision Zero state, our goal is to eliminate all vehicle-related deaths and serious injuries by 2030.
- Despite proactive engineering, education, and enforcement efforts, too many lives are still lost on our roads.
- We are intensifying our safety initiatives with a dynamic, department-wide campaign.
- Together, we can create a safe Maryland for all.

Contact for more info and to get involved:
seriousaboutsafety@mdot.maryland.gov

SERIOUS ABOUT SAFETY
MDOT
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MDOT
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Operation Lifesaver – Overview

- Nationally-recognized non-profit organization and leader of rail safety education and awareness.
- Provides public education programs dedicated to reducing collisions, injuries and fatalities at highway-rail grade crossings and preventing trespassing on or near railroad tracks.
- Presents to school groups, driver education classes, community members, professional drivers, law enforcement, emergency responders, etc.
- **Every 3 hours in the U.S., a person or vehicle is hit by a train.**

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OPERATION LIFESAVER® Maryland

Operation Lifesaver – Maryland Program

- Maryland OL Program reestablished in partnership with the National OLI Office in August 2022.
- Currently have 26 active OL Authorized Volunteers (OLAVs) to assist in presentations and events throughout the State.
- Presentations/Events requested online or via email.
- Using OLI branded posters, giveaways, informational brochures, etc. to use for events – obtained through OLI National grant.

In Maryland each year, on average, 23 people are killed or injured in grade crossing and trespassing incidents.

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Crossing Safety

- Maryland has approximately **1,200 highway-rail grade crossings**.
- Reinforce essential safety practices
  - Following the signs & signals
  - Slowing down when approaching crossings
  - Never stop on the tracks

Truck Safety

- Trucks carrying hazardous materials are required to STOP at all crossings.
- Trucks shouldn't enter a crossing unless they can drive completely through without stopping.
- High profile crossings – recognize the warning signs and know what to do in the event the vehicle gets stuck.
  - MDOT currently working on a project to identify and verify proper traffic control devices.
- FRA has a free Rail Crossing Locator Mobile App to allow you to safely plan your route accordingly.

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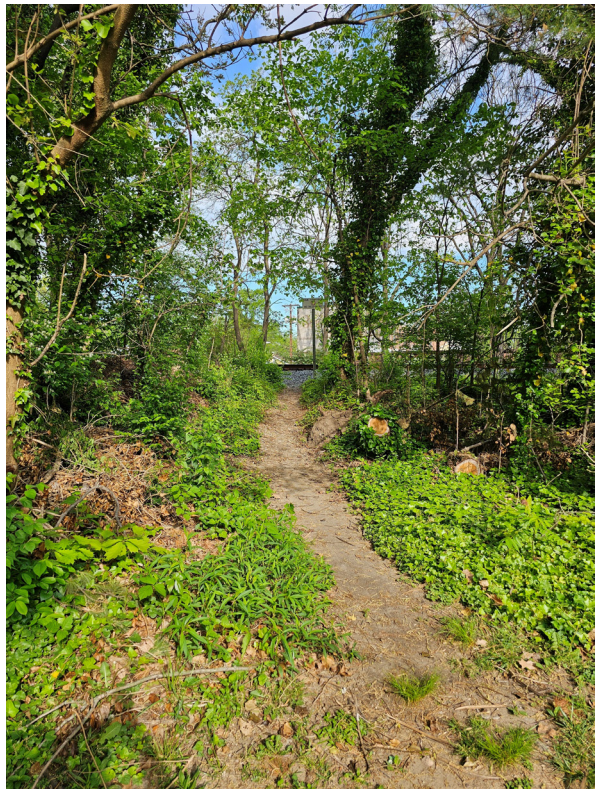
Trespass Prevention

- Railroad property is private property
- Trespassing is illegal
- The shortcut isn't worth the risk
- MDOT was recently awarded a grant for a statewide trespassing study

Stay Off! Stay Away!
Stay Safe!



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VOLUNTEER for Rail Safety!

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Operation Lifesaver – Maryland State Coordinator

See Tracks, Think Train Week! September 21-27, 2026

State Coordinator

Ms. Stacey Beckett

Office of Rail and Intermodal Freight, MDOT

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www.oli.org

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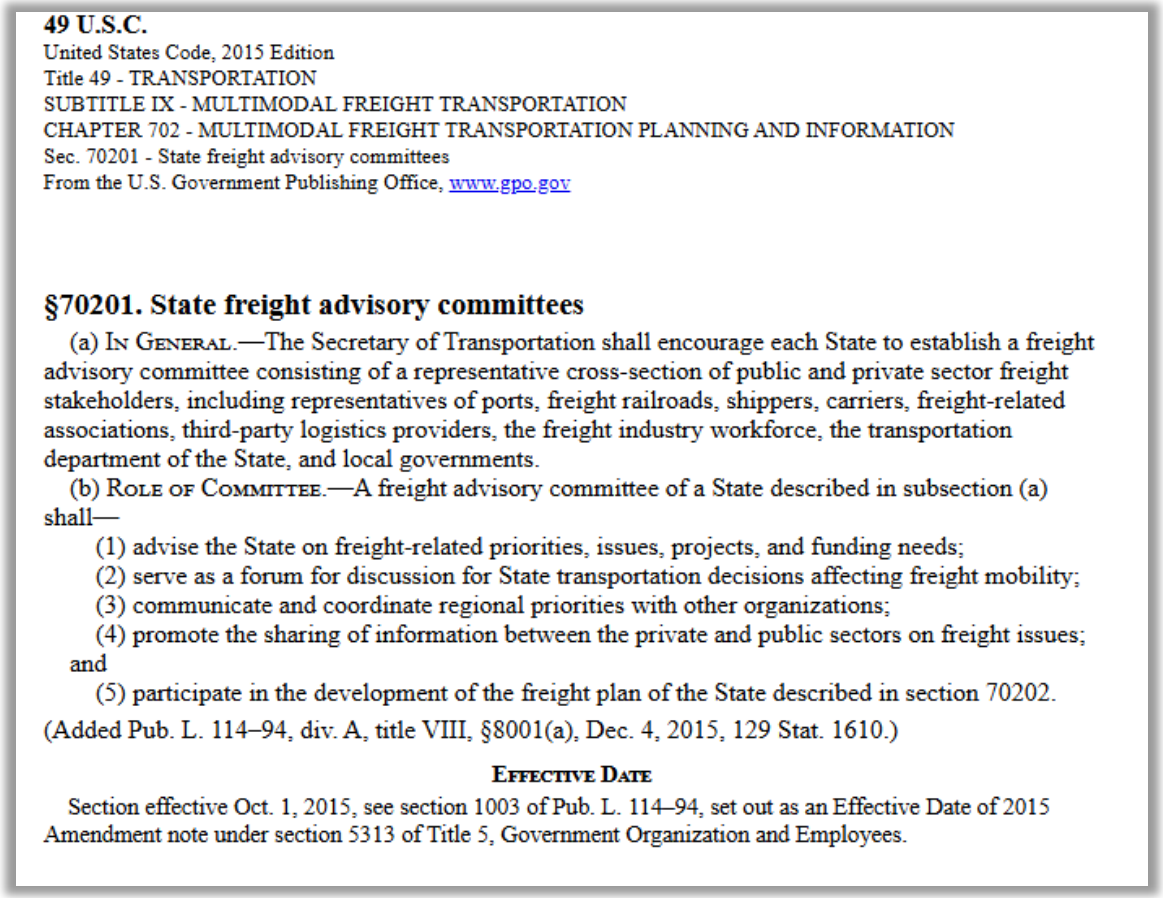
State Freight Advisory Committee (SFAC) & State Freight Plan

STATE FREIGHT ADVISORY COMMITTEE

State Freight Advisory Committees (SFAC) are established by **49 U.S. Code § 70201**, which applies to states that receive National Highway Freight Program funding

Each SFAC shall:

- Consist of a representative cross-section of public and private sector freight stakeholders, including representatives from a cross-section of public and private stakeholders (i.e., ports, shippers, carriers, and state transportation departments).
- Play a key role in advising the state on freight priorities and participating in the development of state freight plans.
- Help coordinate state efforts in freight mobility and investment.



49 U.S.C.
United States Code, 2015 Edition
Title 49 - TRANSPORTATION
SUBTITLE IX - MULTIMODAL FREIGHT TRANSPORTATION
CHAPTER 702 - MULTIMODAL FREIGHT TRANSPORTATION PLANNING AND INFORMATION
Sec. 70201 - State freight advisory committees
From the U.S. Government Publishing Office, www.gpo.gov

§70201. State freight advisory committees

(a) IN GENERAL.—The Secretary of Transportation shall encourage each State to establish a freight advisory committee consisting of a representative cross-section of public and private sector freight stakeholders, including representatives of ports, freight railroads, shippers, carriers, freight-related associations, third-party logistics providers, the freight industry workforce, the transportation department of the State, and local governments.

(b) ROLE OF COMMITTEE.—A freight advisory committee of a State described in subsection (a) shall—

(1) advise the State on freight-related priorities, issues, projects, and funding needs;
(2) serve as a forum for discussion for State transportation decisions affecting freight mobility;
(3) communicate and coordinate regional priorities with other organizations;
(4) promote the sharing of information between the private and public sectors on freight issues; and
(5) participate in the development of the freight plan of the State described in section 70202.

(Added Pub. L. 114–94, div. A, title VIII, §8001(a), Dec. 4, 2015, 129 Stat. 1610.)

EFFECTIVE DATE

Section effective Oct. 1, 2015, see section 1003 of Pub. L. 114–94, set out as an Effective Date of 2015 Amendment note under section 5313 of Title 5, Government Organization and Employees.

GOALS AND ROLES OF THE SFAC IN MARYLAND

SFAC Goal

Represent the freight community at large and advise the state on freight-related priorities, policies, issues, projects, and funding needs in order to advance freight goals and objectives in Maryland

SFAC Objectives

- Support state freight plan update
- Provide feedback on freight project prioritization
- Provide guidance on freight program activities
- Communicate freight experience and bottlenecks
- Advise on next generation supply chain operations and how the state can support industry
- React to freight performance and advise on solutions to address bottlenecks

Role of the State Freight Advisory Committee

- Advise the State on freight-related priorities, policies, issues, projects, and funding needs
- Serve as a forum for discussion of State transportation decisions affecting freight mobility
- Communicate and coordinate regional priorities with other organizations (for example, among state, regional and local planning organizations)
- Promote the sharing of information between the private and public sectors on freight issues
- Participate in the development of the State freight plan, and other relevant freight plans
- Provide recommendations for Critical Urban and Rural Freight Corridors, which should be done as part of the State freight plan process
- Review and provide guidance on freight-related performance measures and performance data

Maryland SFAC Current Members

SPONSOR: Maryland Department of Transportation

Industry	Maryland State Agency	Association	Railroad
Military	Federal Agency	Local Government	MPO
	Regional State Government Agency	Jurisdictional Government Agency	

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State Freight Plan Update

Office of Planning, Programming, and Project Delivery

December 2025

Contents

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State Freight Plan Update

- Federally, mandated four-year update
- Last update was published Nov 2022

2022 State Freight Plan Goals

FREIGHT GOALS

- SAFETY, SECURITY, AND RESILIENCE
- ECONOMIC OPPORTUNITY AND EFFICIENCY
- SYSTEM PRESERVATION AND MODERNIZATION
- QUALITY OF SERVICE, EFFICIENCY, AND CUSTOMER EXPERIENCE
- ENVIRONMENTAL PROTECTION AND SENSITIVITY
- FISCAL RESPONSIBILITY
- TRANSPORTATION CHOICES AND CONNECTIONS

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www.mdot.maryland.gov/OPCP/MDOT_State_Freight_Complete_2022_12_06.pdf

State Freight Plan Purpose

Purpose

To examine existing and projected conditions, build consensus, and identify policy positions, strategies, and freight projects to improve freight movement efficiency and safety throughout the state of Maryland

Vision

TO UPDATE!

Freight travels freely and safely through a modern, resilient, and interconnected multimodal network contributing to sustainable economic viability and growth for Maryland businesses and communities

Alignment with the 2050 Maryland Transportation Plan Goals

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IIJA Freight Plan Elements

The **Infrastructure Investment and Jobs Act (IIJA)*** identifies **17 federally required elements** for a state freight plan

1. Freight system trends, needs, and issues
2. Freight policy, strategy, and performance measure evaluations
3. Rural and Urban Freight Network
4. Alignment with National Freight Policy goals
5. Innovative technologies and operational strategies
6. Asset preservation and improvement strategies
7. Freight bottlenecks, mobility issues, and mitigation strategies
8. Freight congestion and mitigation strategies
9. Freight Investment Plan
10. Truck parking facilities assessment
11. Supply chain cargo flows (by mode)
12. Inventory of commercial ports
13. Consideration of multi-state freight compacts
14. Impacts of e-commerce of freight infrastructure
15. Considerations for military freight
16. Focus on enhancing freight resilience and reducing freight environmental impacts
17. State Freight Advisory Committee (SFAC) consultation

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** Per federal code 49 U.S.C. 70202*

Updates from IIJA to the SFP

PLAN STRUCTURE CHANGES

- Plans must be updated every **4** years instead of 5.
- Include all modal ports: inland, water, air, and border
- IIJA expanded the list of appropriate **SFAC** members.
- Changed the investment planning period from 5 years to **8** years.

FUNDING ALLOCATION CHANGES

- Increased the percentage of NHFP dollars that can go to intermodal projects from 10% to **30%**.
- States do not have to include non-highway projects in their FIPs.

Updates from IIJA to SFP Elements

CUFC/CRFC

- Designation of CUFC/CRFCs **not** required
- **IIJA increased the CFC mileage** allowed for some states, especially small or rural locations

ENVIRONMENTAL STRATEGIES

strategies and goals to **decrease**-

- the severity of impacts of extreme weather and natural disasters on freight mobility;
- the impacts of freight movement on local air pollution;
- the impacts of freight movement on flooding and stormwater runoff; and
- the impacts of freight movement on wildlife habitat loss

MILITARY CONSIDERATIONS

- Installations and key transportation infrastructure used **(required)**
- Coordination with USTRANSCOM **(recommended)**
- Impacts of e-commerce on freight infrastructure in the State

TRUCK PARKING STUDY

- Opportunity to propose completing a **truck parking study** during development of the freight plan
- States should have completed an inventory of public facilities for Jason's Law

State Freight Plan Structure

Background

1. **Introduction**
   - Purpose, Vision, and Context
   - Recent Freight Actions and Resources
   - Stakeholders and Partnerships
2. **Strategic Goals and Objectives**
   - Overview and Alignment with 2050 MTP
   - Federal/State Requirements
   - Initial Outreach Perspectives
3. **Freight Demand and the Economy**
   - Commodity Flows
   - Freight Economic Influences
   - Freight Industry Sector Profiles
4. **Freight Network and Infrastructure**
   - Road, Rail, Port/Waterway, and Air
   - Energy Infrastructure
   - Multimodal Freight Network

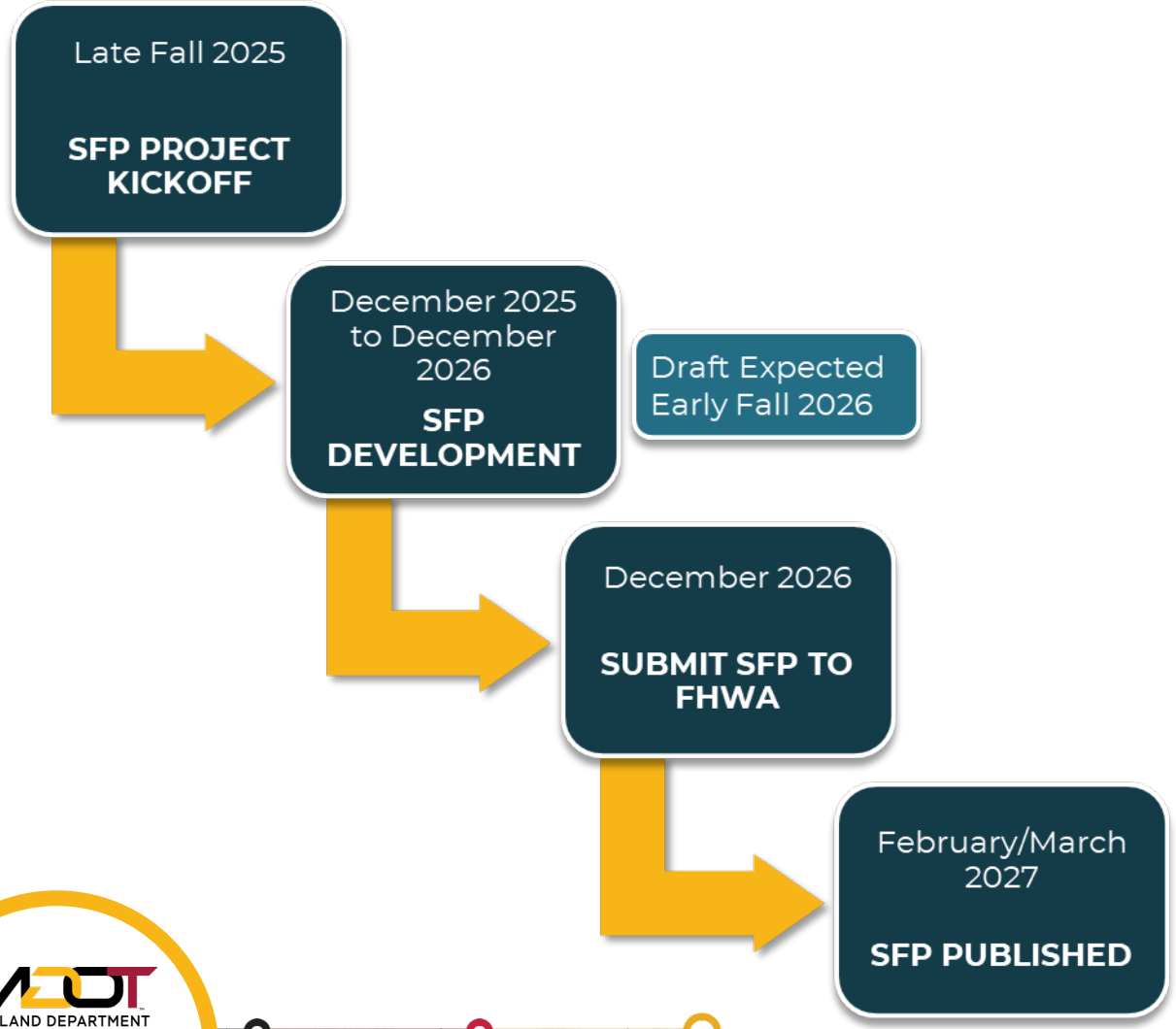
Focus Areas

5. **Freight Performance, Trends, Needs**
   - Freight Performance Measures (by goal)
   - Agency and Stakeholder Perspectives
   - Freight Needs (regional and statewide)
6. **Freight Focus Areas and Programs**
   - Aligned with federal requirements
   - Aligned with state freight needs and interests

Implementation

7. **Freight Projects and Investment Plan**
   - Freight Project Candidates
   - Funding Opportunities
   - Freight Investment Plan
8. **Freight Plan Implementation**
   - Freight Strategies
   - Implementation Tactics and Next Step Priorities

Project Timeline



- **Timeline**
  - ~15 months to complete
  - Submit to FHWA Final Draft in December 2026, Final Plan published in February/March 2027
- **Project Leads**
  - MDOT Core Team (TSO, SHA)
  - Consultant Team (WRA, Jacobs)
- **Outreach**
  - Core Team monthly updates
  - MDOT Freight Roundtable quarterly meetings
  - State Freight Advisory Committee quarterly
  - Coordination with senior leadership, MPOs, FHWA, and regional stakeholders at key milestones

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Role of the State Freight Advisory Committee for the State Freight Plan Update

SFAC Objectives

- **Support state freight plan update**
- Provide feedback on freight project prioritization
- Provide guidance on freight program activities
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- **Participate in the development of the State freight plan,** and other relevant freight plans
- **Provide recommendations for Critical Urban and Rural Freight Corridors, which should be done as part of the State freight plan process**
- **Review and provide guidance on freight-related performance measures and performance data**

What to keep in mind about the State Freight Plan throughout today's Summit

- Next State Freight Plan is due to FHWA in December 2026
- Across the areas of the State Freight Plan, what is new?
- What is missing?
- Does the SFAC member list need to be updated?
- What kinds of investment to the State's transportation system will support freight most efficiently?

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Contact

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Maryland Department of Transportation

The Secretary's Office

Office of Planning, Programming, and Project Delivery

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Project Email

MDStateFreightPlan@mdot.maryland.gov

Project Website

www.mdot.Maryland.gov/freightplan

SFAC Website

www.mdot.maryland.gov/SFAC

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Part I. Operating Picture and Challenges

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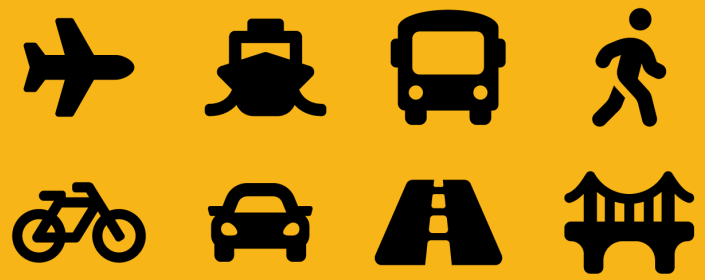
Modal Landscape/ Hot Topics



Maryland Department of Transportation Freight Summit

December 8, 2025

Agenda

- MDTA Facilities Overview
- All Electronic Toll (AET) Conversion
- Traffic Management
- Key Bridge Rebuild Update

MARYLAND TRANSPORTATION AUTHORITY

FACILITIES

1. Thomas J. Hatem Memorial Bridge (US 40)
2. John F. Kennedy Memorial Highway (I-95)
3. Fort McHenry Tunnel (I-95, I-395)
4. Baltimore Harbor Tunnel (I-895)
5. Francis Scott Key Bridge (I-695)
6. Intercounty Connector (ICC)/MD200
7. William Preston Lane Jr. Memorial (Bay) Bridge (US 50/301)
8. Governor Harry W. Nice Memorial/Senator Thomas “Mac” Middleton Bridge

All Electronic Tolling (AET)

KEY BRIDGE REBUILD

Maryland Transportation Authority
MDTA

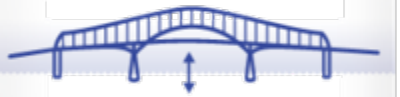
Traffic Management

Key Bridge Rebuild Update

Bridge Comparison

Previous Steel Arch Continuous Truss Bridge

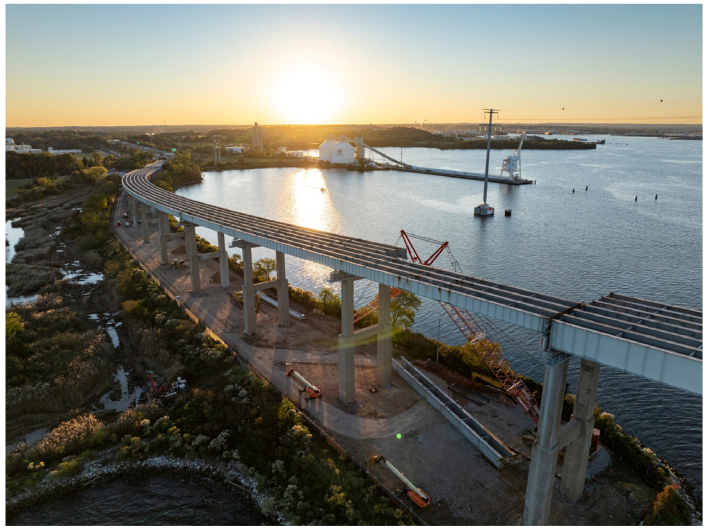
New Cable-stayed Bridge

VERTICAL CLEARANCE	TOTAL BRIDGE LENGTH	BRIDGE/PIER TOWER HEIGHT	MAIN SPAN DISTANCE	TOTAL SPAN LENGTH
				
Vertical clearance from water to bridge deck above the federal channel	Total bridge length was approximately	Main truss was approximately	Distance between the main span piers was	Total length of continuous truss span
185-foot	**1.7 miles**	**358 feet tall**	**1,209 feet**	**2,643 feet**
				
Minimum clearance from water to bridge deck above the federal channel	Total bridge length more than	Two bridge towers more than	Distance between main span pylons exceeding	Total length of cable-stayed main span exceeding
230-foot	**2 miles**	**600 feet tall**	**1,600 feet**	**3,300 feet**

Pre-Construction Activities

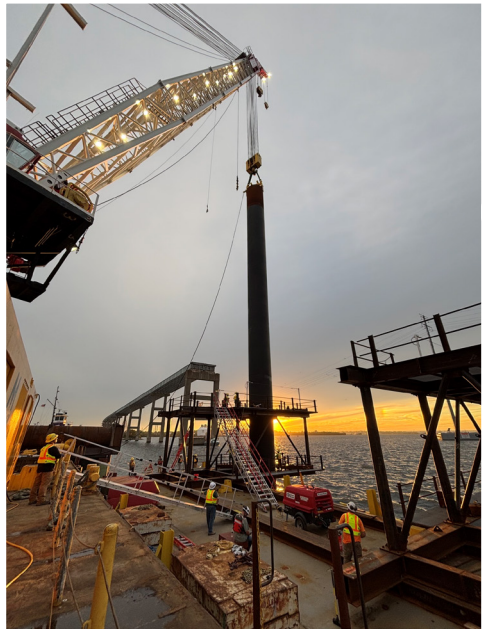
Mechanical Demolition

- Mechanical demolition is using heavy machinery to remove existing bridge structures
- Land and over water demolition has occurred in phases
- Over water demolition began in July 2025



Test Pile Program

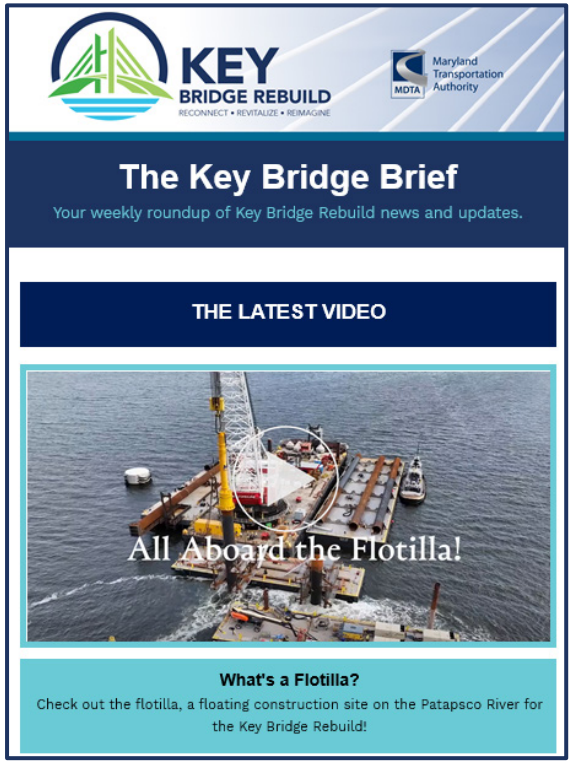
- Test pile driving is used to advance the design of the main span foundations
- Periodic pile driving began in September 2025 and is complete, with testing to follow
- Test piles are 96 inches (8 feet) in diameter and over 200 feet in length

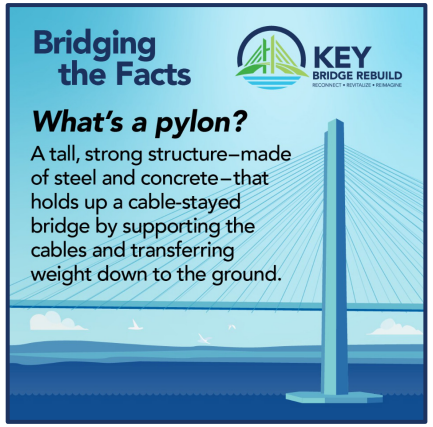


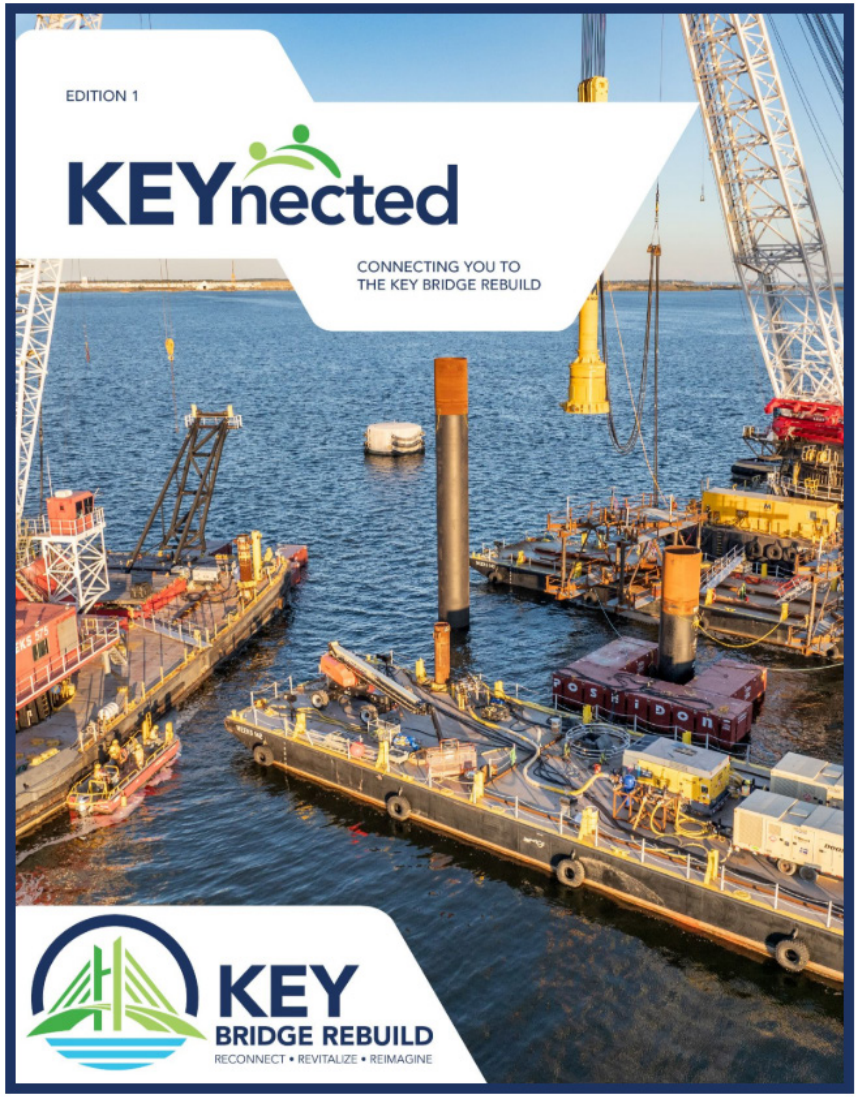
Outreach and Engagement

Be on the look at out!

- Weekly Key Bridge Brief eblast
- Bridging the Facts Facebook series
- KEYnected Project Newsletter







Questions?

KeyBridgeRebuild.com

info@KeyBridgeRebuild.com

800-515-7030
Public Information Hotline

@KeyBridgeRebuild

Key Bridge Rebuild
2310 Broening Highway
Baltimore, MD 21224

The Port of Baltimore

presented by

Maryland Port Administration

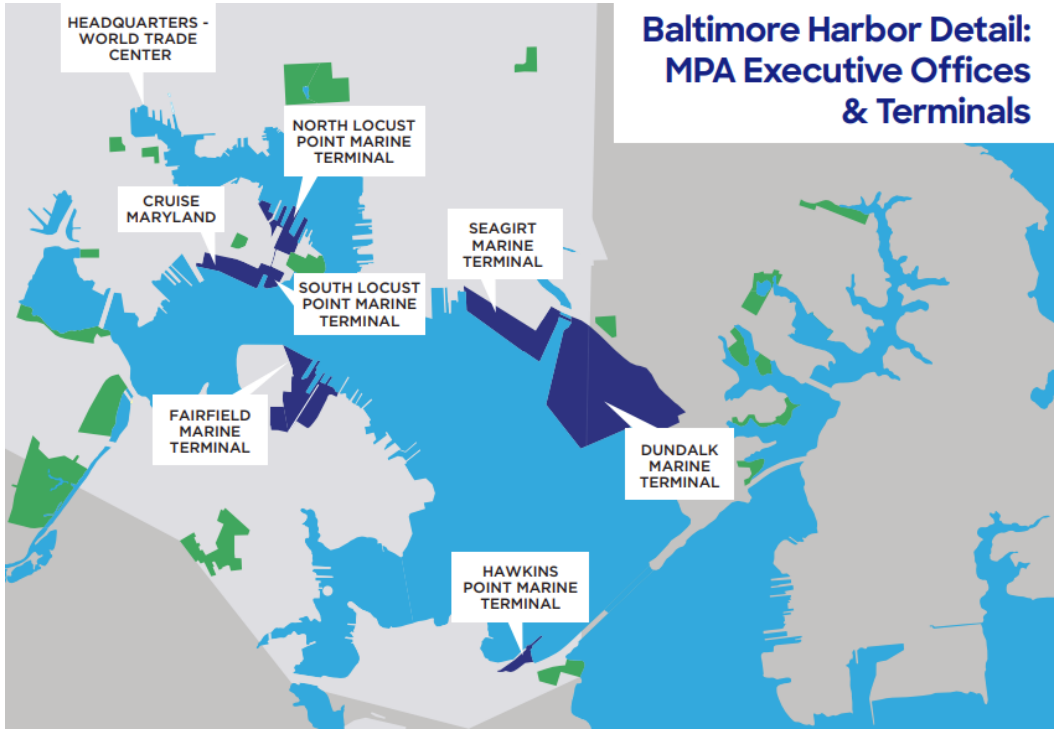
Port Overview

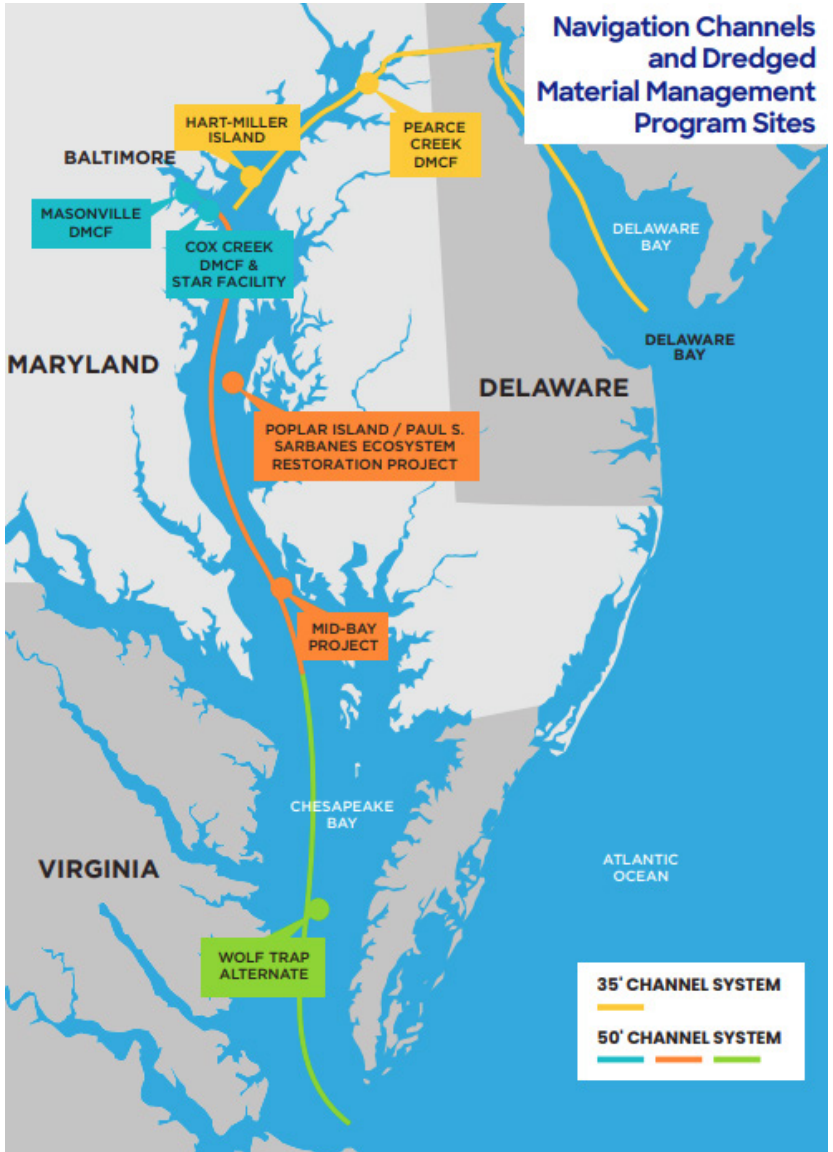
The Port of Baltimore consists of public, state-owned and private marine terminals.

Maryland Port Administration

Mission To stimulate the flow of waterborne commerce through the ports in the state in a manner that provides an economic benefit to Marylanders.

MPA operates six marine terminals, which includes Cruise Maryland, facilitating the movement of goods and passengers. Maintaining 130 miles of navigation channels is a critical MPA responsibility.





Economic Impact & Cargo Statistics

20,193
DIRECT JOBS
60% OF JOBS BELONG TO RESIDENTS OF BALTIMORE CITY & BALTIMORE COUNTY

31,173
INDUCED AND INDIRECT JOBS

273,000
JOBS RELATED TO PORT'S CARGO

$647 M
IN MARYLAND STATE AND LOCAL TAXES

$3.9 B
IN MARYLAND BUSINESS REVENUES

$5.3 B
IN PERSONAL INCOME TO MARYLAND RESIDENTS

$62.2 billion

TOTAL CARGO VALUE THROUGH THE PORT

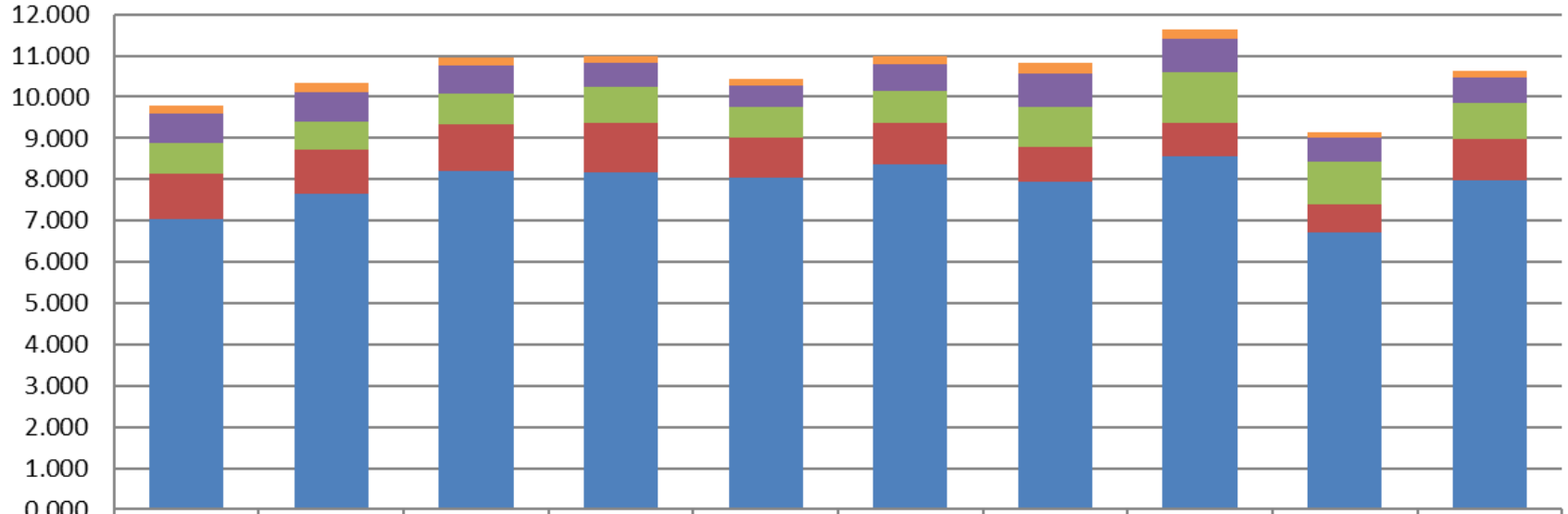
45.9 million tons

TOTAL TONS HANDLED THROUGH THE PORT

Maryland Port Administration
General Cargo Tonnage

MPA General Cargo Tonnage includes all cargo handled through the state-owned terminals and facilities.

MPA General Cargo (millions on tons)



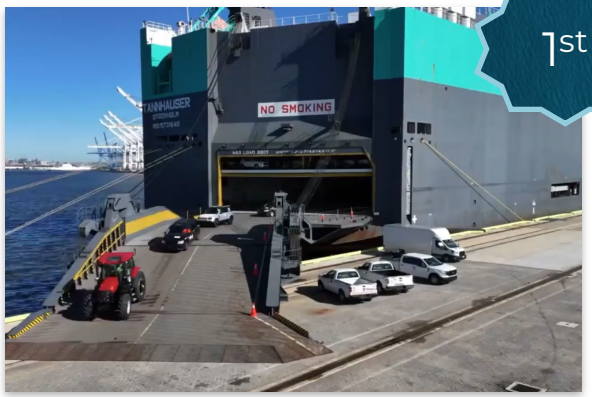
	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY24	FY25
BB/Steel	0.199	0.219	0.197	0.161	0.168	0.199	0.272	0.222	0.141	0.167
Forest	0.709	0.736	0.676	0.586	0.495	0.638	0.813	0.795	0.578	0.621
Ro/Ro	0.740	0.684	0.772	0.886	0.765	0.796	0.960	1.228	1.035	0.873
Autos	1.099	1.054	1.110	1.196	0.943	0.996	0.843	0.832	0.688	0.989
Container	7.040	7.654	8.214	8.174	8.057	8.366	7.952	8.551	6.704	7.982

Cargo Statistics and National Rankings

Ranked out over 173 U.S. ports handling international cargo.

2nd

2nd in Autos/Light Trucks



1st

1st in Ro/Ro

1st

Domino SUGAR

1st in Imported Sugar

11th

11th in Overall Foreign Cargo Value ($62.2 billion)

10th

10th in Overall Foreign Cargo Tonnage (45.9 million tons)

Major Accomplishments

Maryland Tough, Baltimore Strong

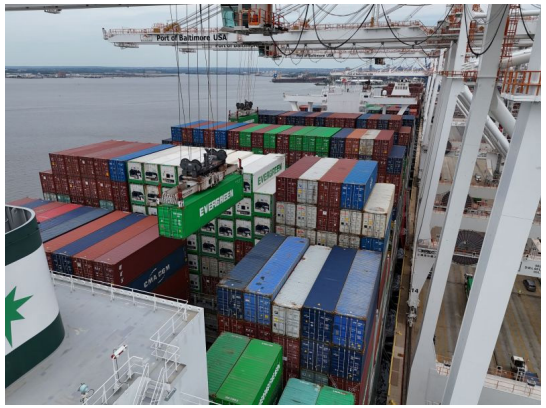
The Port of Baltimore continued to rebound strongly in 2025 from a challenging year in 2024 caused by the Dali's allision with the Key Bridge and the subsequent collapse of the bridge into the main channel of the Port. The incident resulted in the channel being blocked to normal ship traffic for nearly three months. The full extent of the damages suffered is still to be determined. With the Governor's leadership, as well as hundreds of federal, state, and local officials and employees, Team Maryland and our partners worked quickly, tirelessly, and collaboratively to open the Port and the federal channel eleven weeks after the DALI caused the collapse of the Key Bridge. Their leadership and quick actions demonstrated to the world that the Port of Baltimore is exceptionally resilient.

Howard Street Tunnel Reopens!

The Howard Street Tunnel reopened to single stack service on September 26, 2025. The completion of the project for double stack clearance is expected in 2026.

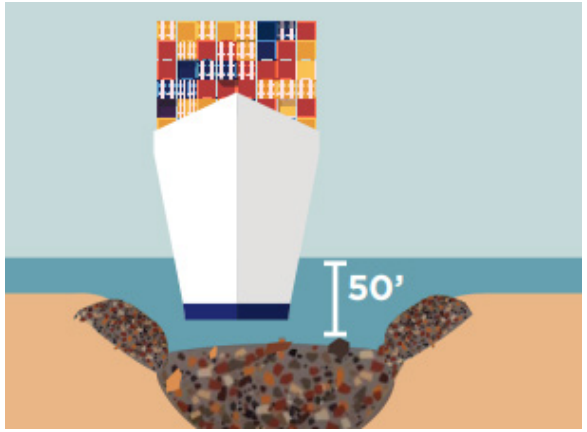
The Port Continues to Grow

Cargo volumes at the Maryland Port Administration state-owned, public marine terminals were all up in Fiscal Year 2025 over the previous year for key targeted commodities (autos, containers, roll on/roll off farm and construction machinery, forest products, and breakbulk). Many of those cargos were also up over Fiscal Year 2023 volumes, which was a record year for the Port of Baltimore.



Seagirt Loop Channel Deepening Authorized

The Seagirt Loop Feasibility Study a partnership between the MPA and the U.S. Army Corps of Engineers concluded in June 2023 with the signing of a Chief's Report by the USACE Commanding General and Chief of Engineers. The report recommended improvements to the Seagirt Loop Channel, including deepening to 50 feet and widening channel bends. These improvements, once constructed, will improve navigational efficiencies and safety to help meet demand for future capacity. Construction is anticipated to start in October 2026, pending the appropriation of construction funding.



Top Security Rating for the 16th Consecutive Year

The U.S. Coast Guard awarded a top security assessment rating to the MPA for the 16th consecutive year. In recent years, the MPA has installed high-mast lighting, fencing, additional signage and other physical security equipment, and strengthened gates and fence lines. Heightened cyber security and access control initiatives coupled with the MPA's closed-circuit television network have added to the MPA's robust and highly effective security program.

Mid-Bay Underway!

The $4.4 billion Mid-Chesapeake Bay Ecosystem Restoration Project, a top priority for the Port and our Congressional Delegation, progressed on schedule with the completion of the first phase, and initiation of the second phase of construction for the restoration of Barren Island. In May, the Army Corps announced it received $71.9 million for the Mid-Chesapeake Bay Island project. Design of James Island progressed in FY 2025 and is expected to begin construction in 2026. James Island will restore 2,072 acres of remote island habitat and accommodate an estimated 90 million to 95 million cubic yards of dredged sediment, providing at least 30 years of capacity.

Historic Funding for the Port's Decarbonization Goals

In October 2024, Governor Moore announced MPA was awarded a historic $147 million in grant funding from the U.S. EPA Clean Ports Program. Working closely with its partners, the MPA began drawing down funding in Fiscal Year 2025 for the U.S. Environmental Protection Agency's Clean Ports Program which will support the procurement of 213 new zero emission vehicles and equipment and charging infrastructure to improve air quality at the Port as well as for our adjacent underserved communities

Investment in Meaningful Relationships with Port Communities

The MPA stakeholder engagement, education and community outreach efforts continue to reach new partners and support neighboring communities. In 2024, MPA reached nearly 21,000 people across 800 education and outreach events. Port outreach programs continue to prioritize environmental justice, diverse representation reflecting the communities the MPA serves, and increase public knowledge about the Port and its benefit to all Marylanders.

A Pipeline for Jobseekers

With support from the MPA, the Baltimore Port Alliance ("BPA") hosted its fifth and largest Hiring & Career Expo, bringing together 43 employers and nearly 300 job seekers.

Major Projects – Infrastructure

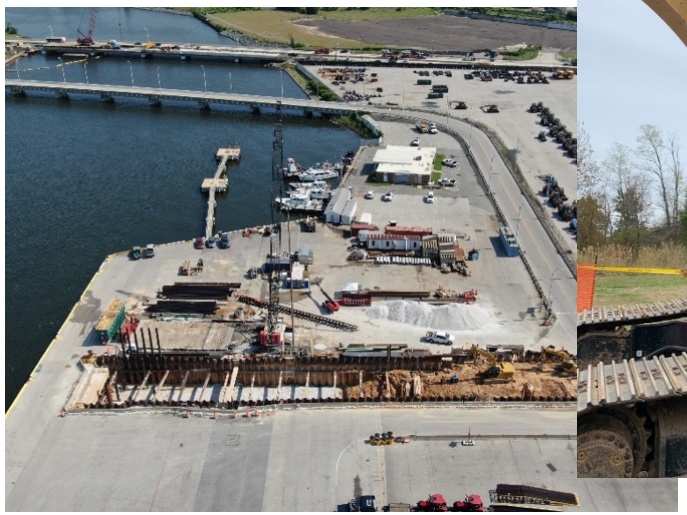
HOWARD STREET TUNNEL PROJECT

Double-stack capability on CSX's rail network has long been a priority for the MPA. The primary obstacle to achieving that goal has been CSX's Howard Street Tunnel ("HST"), a 130-year-old, 1.7-mile-long railroad tunnel through the heart of Baltimore City that is approximately 18 inches too low to accommodate double-stack intermodal trains. For years, it was thought that improvements to the existing tunnel would cost billions of dollars and be highly disruptive to the surrounding communities. Using advances in engineering technology, the MPA and CSX have developed a solution that can be delivered at a fraction of the original cost estimate with limited impacts to the public.

The HST Project is estimated to cost $566 million and consists of vertical clearance improvements to the HST and 21 bridges located between Baltimore, Maryland and Philadelphia, Pennsylvania.

DUNDALK MARINE TERMINAL CLIMATE RESILIENCY PROJECTS

MPA has initiated a series of projects at the Dundalk Marine Terminal, strategically designed to enhance resiliency and flood mitigation. These $71.4 million series of projects are strategically designed to provide storm surge protection and prevent catastrophic flood damage for up to 318 acres, representing 72 percent of Dundalk's open storage area.



SEAGIRT MARINE TERMINAL

In 2009, MPA entered a 50-year Public-Private Partnership with Ports America Chesapeake (“PAC”), which continues to make investments at Seagirt Marine Terminal. Since taking operational control of Seagirt Marine Terminal, PAC has invested over half a billion dollars in capital improvements. The total PAC investment totaled $535 million by the end of January 2025.

In the past year, PAC has completed installation of additional radiation portal monitors and US Customs workstations, making these improvements operational in November 2024. The completion of this project has allowed an average of 500 transactions per day be conducted at New Vail Street, relieving congestion on the Broening Highway gate.

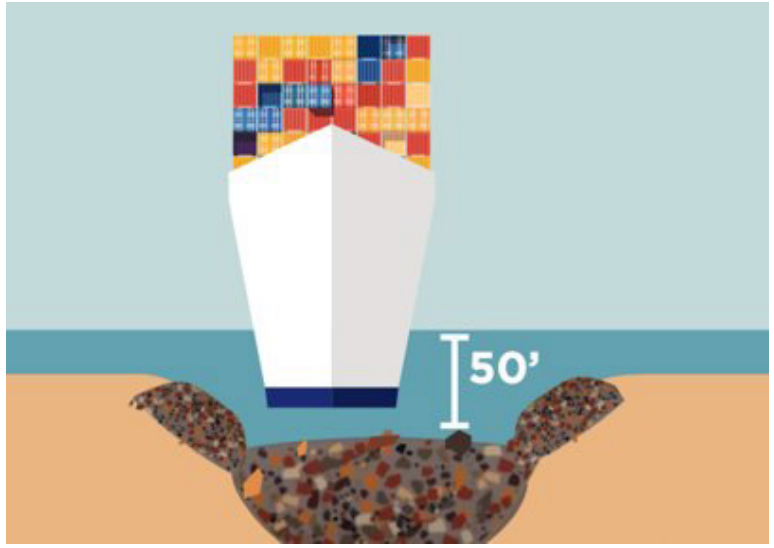
FAIRFIELD MARINE TERMINAL - RECONSTRUCTION OF PIER 4

The original pier was constructed in 1943, primarily for shipbuilding and repair purposes and now serves as a main hub for RoRo operations. In 2020, the pier was deemed structurally unsound, prompting the development of a reconstruction plan. The $19.7 million FMT Pier 4 Reconstruction project commenced construction in 2023, marking a significant step forward. We are pleased to share that this project was completed on July 28, 2025.

Major Projects –
Dredged Material Management Program

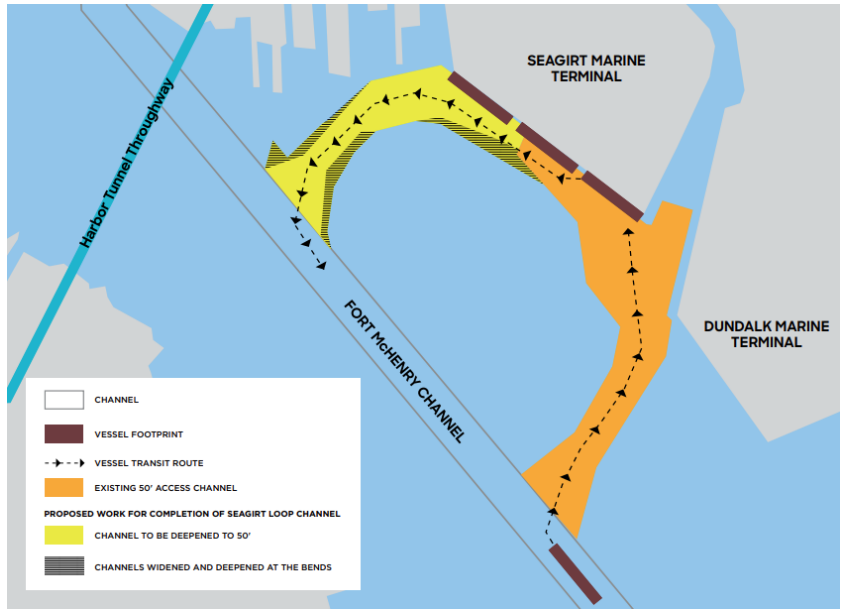
DREDGED MATERIAL MANAGEMENT PROGRAM

To get cargo to and from the Port of Baltimore there must be safe and efficient passage for ships. The 50' channel system serves as our marine highway. And like any highway it requires maintenance. Sediment builds-up in the channels over time due to wind and tidal actions, as well as land uses. To ensure we are maintaining the depths needed for the large ships to travel safely, we must maintain our marine highway through the act of dredging. Each year, the Port partners with the U.S. Army Corps of Engineers to remove nearly 5 mcy of dredged material from the channels; which is enough sediment to fill up Raven's Stadium twice each year. The MPA is charge with managing the sediments that are removed from the channel system each year.



SEAGIRT LOOP CHANNEL DEEPENING PROJECT

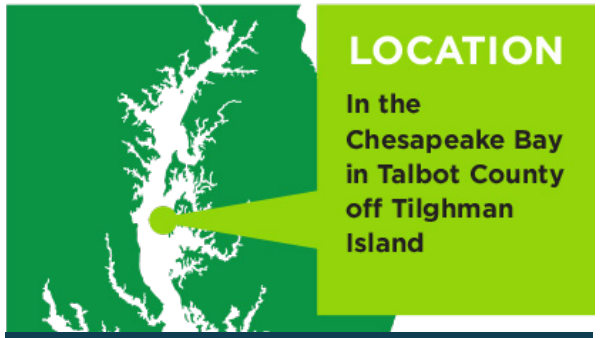
Working with the U.S. Army Corps of Engineers, MPA is expanding the Seagirt Loop Channel by deepening the channel to 50 feet and widening the channel at bends. Progress on this transformational project continued as construction authorization was approved by Congress and planning began. The proposed improvements will enable a continuous loop of ship traffic, resulting in safer and more efficient navigation to help meet the demand for future capacity at Port facilities, including increased container volume at the Seagirt Marine Terminal expected from the Howard Street Tunnel Project. The preconstruction, engineering, and design phase for this project is expected to be completed in 2026



POPLAR ISLAND
ECOSYSTEM RESTORATION PROJECT

Poplar Island is an international model for the beneficial use of dredged material located in the mid-Chesapeake Bay. The US Army Corps of Engineers and Maryland Port Administration began the project to restore Poplar Island in the 1990s. In 1996, less than five acres remained of the 1,140 acres that were documented in 1847.

Poplar Island now receives approximately 2 million cubic yards (mcy) of dredged material each year, drawn from the approach channels to the Baltimore Harbor and C&D Canal southern approach channels. At completion, the project will allow for the placement of approximately 71.1 mcy of dredged material.



1,715 acres

Total restoration footprint

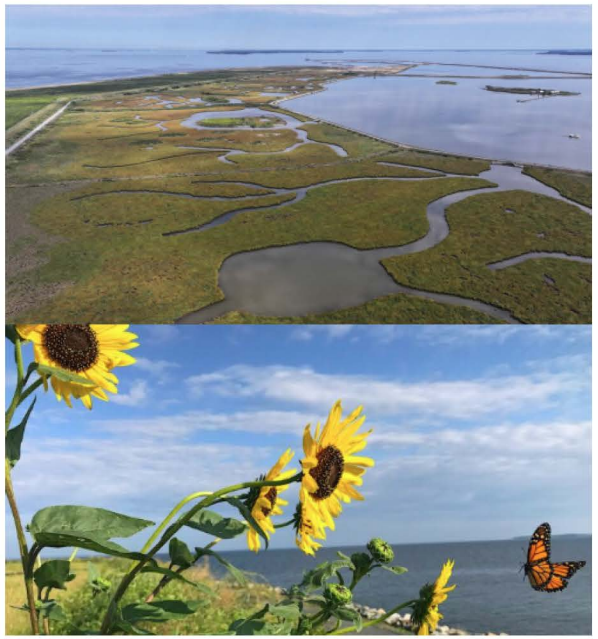
71.1 million cubic yards (mcy) of capacity

Total anticipated capacity

1997

2019

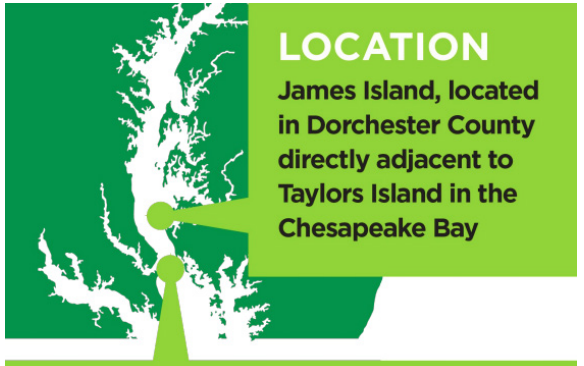
2024



MID-CHESAPEAKE BAY ISLAND ECOSYSTEM RESTORATION PROJECT

The MPA's innovative approach to environmental restoration using dredged material is the foundation for the Mid-Bay Project. Sediment dredged from navigation channels will create wildlife habitat and restore the ecosystem of the severely eroding James and Barren Islands, both located in Dorchester County. The entire project will provide more than 30 years of capacity for material dredged from Maryland Chesapeake Bay approach channels.

Given the success of the Paul S. Sarbanes Ecosystem Restoration Project at Poplar Island, the restored islands are expected to provide valuable habitat to a diverse array of wildlife while maintaining the economic viability of the Port of Baltimore



LOCATION

James Island, located in Dorchester County directly adjacent to Taylors Island in the Chesapeake Bay

LOCATION

Barren Island, located in Dorchester County near Blackwater National Wildlife Refuge and directly adjacent to Upper Hoopers Island in the Chesapeake Bay

2,144 acres

Total anticipated restoration footprint

90–95 million cubic yards (mcy) of capacity

THE MID-CHESAPEAKE BAY ISLAND ECOSYSTEM RESTORATION PROJECT

2,144 acres

of land and tidal wetlands on James and Barren Islands are being restored.

Through its dredging program, the MPA – Port of Baltimore is Maryland's leading creator of wetlands, while the Port of Baltimore remains one of Maryland's top economic engines.

MARYLAND DEPARTMENT OF TRANSPORTATION

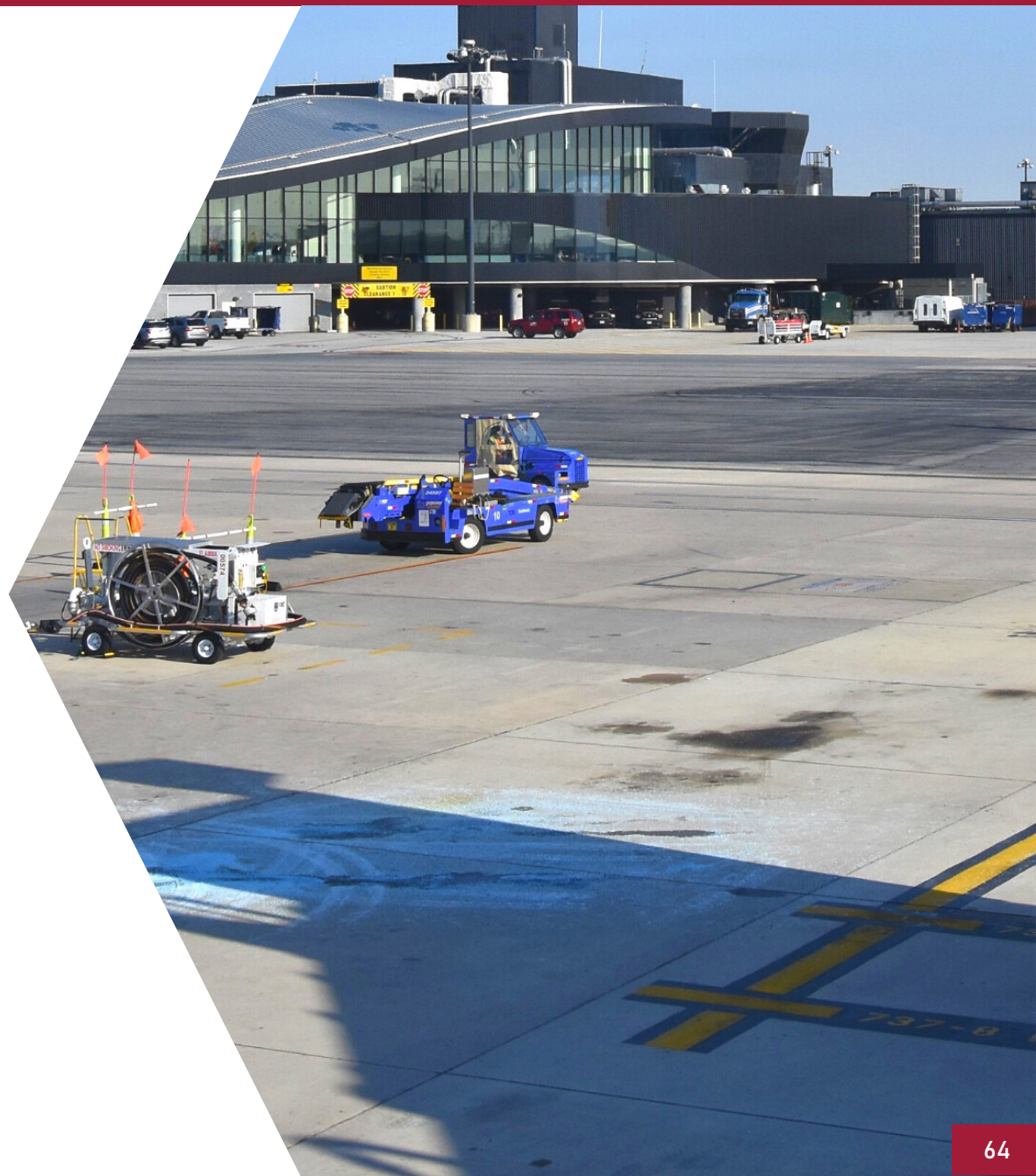
MARYLAND AVIATION ADMINISTRATION

BWI Thurgood Marshall Airport and Air Cargo

December 8, 2025

Agenda

- BWI Marshall
- Air Cargo & the Region
- Air Cargo at BWI Marshall



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MARYLAND AVIATION ADMINISTRATION

BWI MARSHALL

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MARYLAND AVIATION ADMINISTRATION

Maryland Aviation Administration

MAA fosters the vitality of aviation statewide and promotes safe and efficient operations, economic viability and environmental stewardship.

MAA operates Baltimore/Washington International Thurgood Marshall Airport and Martin State Airport, and licenses and supports 32 other public use airports throughout the state.

MARYLAND DEPARTMENT OF TRANSPORTATION

BWI Marshall Connects Marylanders to Life's Opportunities – for work, family and fun.

27 Million
Total Passengers in CY2024

1+ Million
International Passengers in CY2024

23rd Busiest Airport
in the U.S.
(CY2024 Enplanements)

667
Daily Flights to 89 domestic & international markets

Largest U.S. Air Mobility Command Airport
for Global Military Travel

J.D. Power 2024 North America Airport Satisfaction Study ranked BWI Marshall **14th among Large Airports** for overall **customer satisfaction**

MARYLAND DEPARTMENT OF TRANSPORTATION

BWI Marshall's Passenger Airlines

Fourteen domestic and international airlines serve BWI Marshall

Many Process "Belly Cargo"

- Alaska
- American[1]
- Avelo
- BermudAir
- British Airways[1]
- Copa (Panama)
- Delta[1]
- Frontier[1]
- Icelandair
- Southwest[1]
- Spirit[1]
- Sun Country[1]
- United[1]

[1] Signatory carriers, along with Air Canada, Condor (Germany), and JetBlue
Source: Cirium Schedules Data through Diio Mi

MARYLAND DEPARTMENT OF TRANSPORTATION
MARYLAND AVIATION ADMINISTRATION

BWI Marshall's Cargo Airlines

Ten Airlines Operate With "All-cargo Aircraft" at BWI Marshall Airport

- Amazon and DHL contract out their flying to cargo operators; Atlas recently stopped flying for Amazon
- UPS has taken over the mail contract for the U.S. Postal Service

Source: MAA

BWI Marshall Cargo Expansion

Amazon - A Success Story

- Fast-track development, opened October 2019
- New **200,000 square foot** cargo building
- Rehabilitated taxiways and new runway connector
- Midfield Cargo improvements
- Expanded local bus service to site
- **Approximately 1,500 new jobs** to the region

13 WJZ Baltimore

"Amazon's Baltimore location is one of the top 5 busiest Amazon Air facilities in the world."
(WJZ-13, 6/8/21)

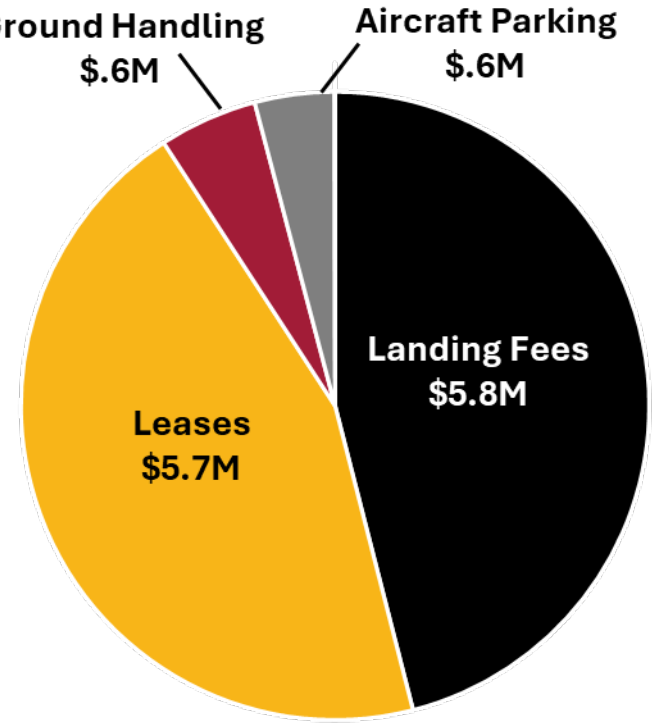
BWI Economics

ECONOMIC IMPACT OF BWI MARSHALL FY 2023

BWI Cargo Financials

- Cargo generated **$12.7M** of total Airport revenues ($354.0M)
- Over 90% of BWI Cargo revenues generated from landing fees and lease
  - Average flight can be around $1-2K in landing fees
- Cargo generates roughly **1,800 jobs & $75.5M** in wages

FY25 BWI Cargo Revenue By Source



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AIR CARGO & THE REGION

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Air Cargo Markets

Major customers include the manufacturing industries such as:

- Industrial and automation components (manufacturing)
- Fast-moving consumer goods (FMCG)
- Retail
- Healthcare
- Perishables
- Pharmaceuticals
- Chemicals

Global Trade Value

35%

Of the value of goods traded internationally are moved by air.

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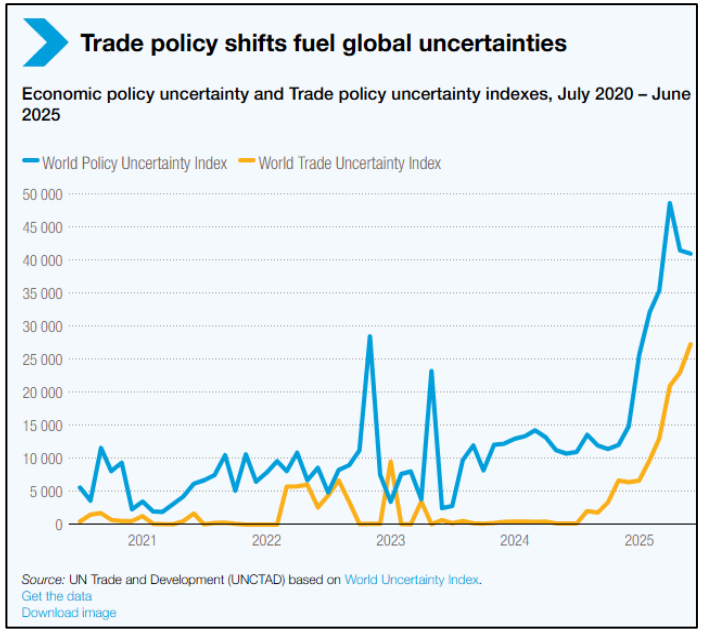
Challenges to Air Cargo Industry

- Capacity constraints
- Aging Infrastructure
- Limited funding
- Rising costs
- Airport truck congestion/parking
- Geopolitical tensions
- Tariffs
- Skilled Labor
- Sustainability concerns
- Security threats



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Trade Pressures on Air Cargo Demand

North America: Experienced a substantial 8.3% decrease in demand due to U.S. trade tensions and tariffs.

Good News: Jet fuel prices dropped 21.2% year-on-year and 4.1% month-on-month, the third consecutive monthly decrease.

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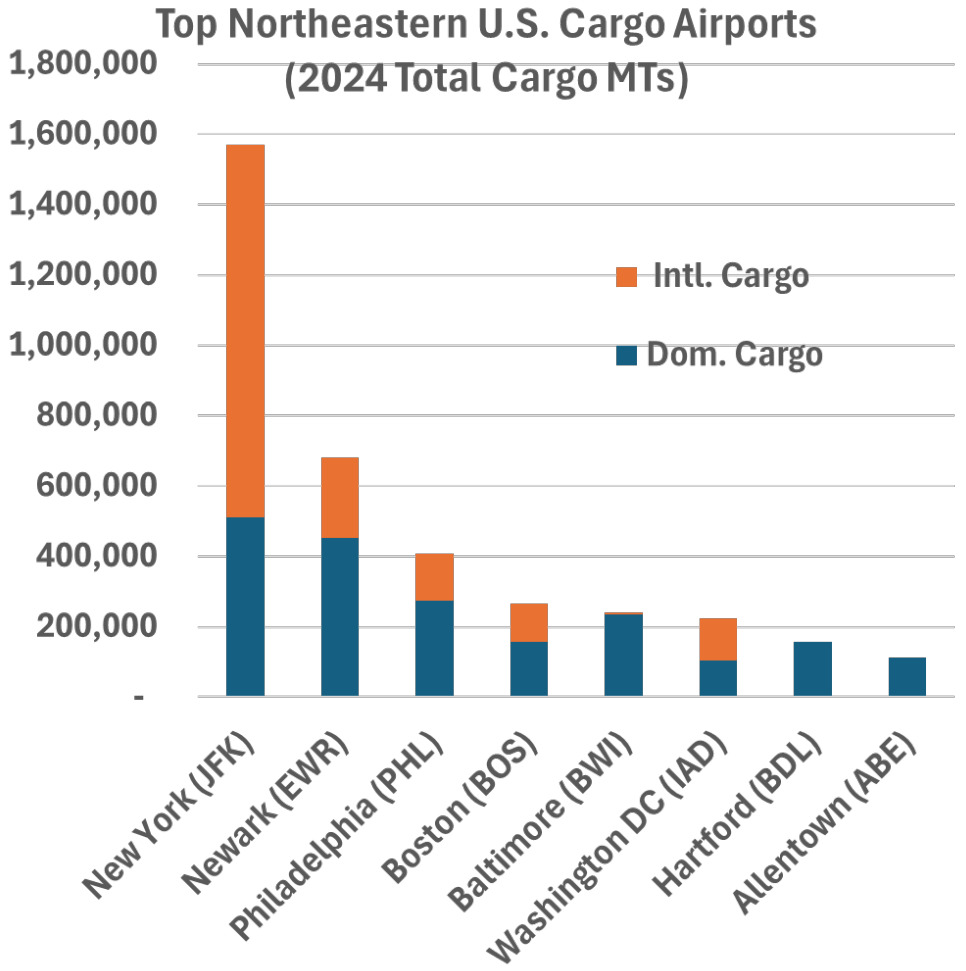
Top Cargo Airports - Northeast

- New York JFK is by far the largest international cargo gateway in the U.S. Northeast with most of its cargo being international
- EWR and PHL are regional hubs for integrators (FedEx & UPS, respectively) and major international gateways for U.S. passenger airlines (United & American, respectively)
- BOS and Dulles (IAD) offer significant international belly cargo capacity but no scheduled international freighters
- BWI & IAD overlap to serve the mid-Atlantic with BWI being the preferred airport for domestic integrators and Amazon freighters, while IAD mostly serves international belly cargo.
- BDL & ABE grew as alternatives to heavily land-constrained BOS & (until recently) PHL for integrators & Amazon



Data Source: Airports Council International with analysis by Webber Air Cargo

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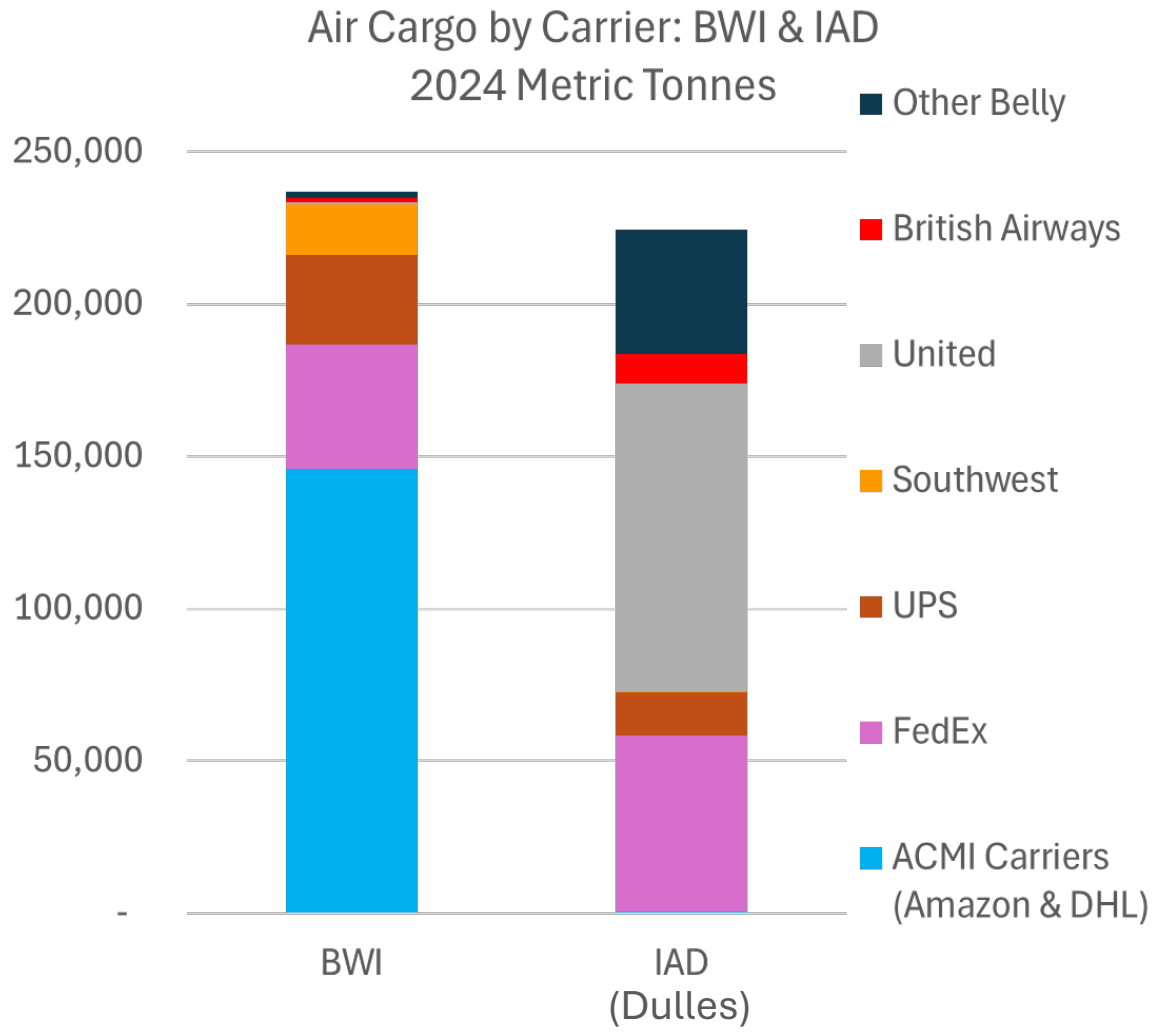
MARYLAND AVIATION ADMINISTRATION

BWI & Dulles (IAD): Contrasts

2024 Cargo Market Concentration

- After decades of regional market dominance by IAD, BWI's total cargo first passed that of IAD in 2020 and has held that advantage ever since
- Among the traditional integrators, FedEx accounts for about 50% more annual tonnage at IAD than at BWI, while UPS accounts for more than double the tonnage at BWI over its total at IAD.
- ACMI carriers serving Amazon and DHL, as well as other unscheduled freighters accounted for nearly 2/3 of all cargo processed at BWI but make almost no contribution at IAD
- With 7.9% of a belly cargo total of 8.5%, domestic carrier Southwest is BWI's sole belly cargo carrier exceeding a 1% market share
- In sharp contrast, IAD's leading cargo carrier is United with about 36% market share of the belly cargo carriers' total market share exceeding 70%



Data Source: FAA T-100 with analysis by Webber Air Cargo

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AIR CARGO AT BWI MARSHALL

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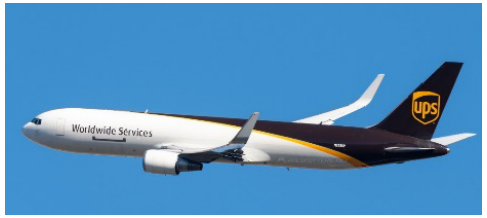
MARYLAND AVIATION ADMINISTRATION

Types Of Air Cargo at BWI Marshall

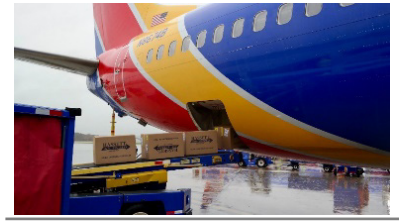
BWI Marshall is equipped to handle all types of cargo



Integrators

Heavy Air Freight

E-Commerec/Next Day



Belly

International

Integrator Feeders

Live Cargo

Source: MAA

BWI Foreign Trade Zone #73

- Sponsored by the Maryland Department of Transportation (MDOT)
- (5) general purpose sites
  - Air Cargo Industrial Park Complex
    - **101,000 sf of space in Cargo bldgs. A, B C**
    - *not currently activated*
  - Maryland Route 176
    - 13 ac undeveloped land near Taxiway T
    - *not currently activated*
  - Route 100 Industrial park
    - 4 ac w/ 73,000 sf of warehouse space
    - *not currently activated*
  - Carroll Industrial Park
    - 29 ac parcel
    - *not currently activated*
  - Belt's Corporation
    - 5 ac w/ 205,000 sf of warehouse
    - ***96,000 sf activated***
- (3) general purpose/company specific subzones
  - Northrop Grumman (***active***)

Source: MAA

BWI FTZ Underutilized

- Established in 1981
- Baltimore City (FTZ #74) proximity
- Airport campus sites are not optimal
  - *Exploring redesignation*
- State offers other incentives

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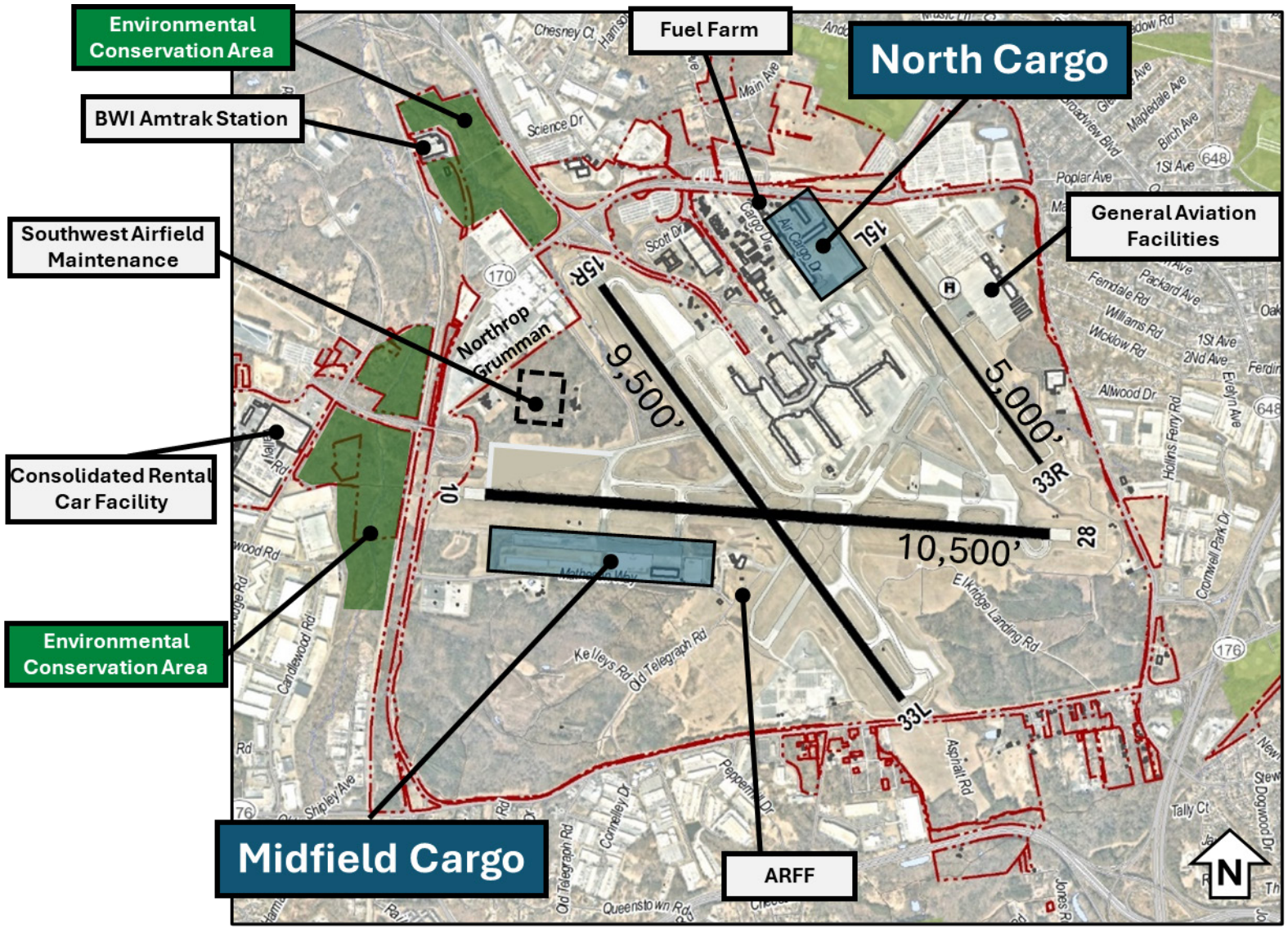
BWI Marshall – Existing Facilities



- Approximately 3,800 acres
- 2+ million square foot terminal
- 75 gates
- 2 “intersecting” commercial service runways
- 1 commuter, small commercial service runway
- 30,000 parking spaces

BWI Marshall – Cargo Facilities

North Cargo

Midfield Cargo

Building	Size (SF)
North Cargo Complex	
124 (Building A)	19,483
125 (Building B)	51,692
126 (Building C)	64,634
127 (Building D)	69,500
128 (Building E)	72,181
102 (Building F)	50,227
107	33,508
111	14,251
112	31,030
Total	**406,506**
Midfield Cargo Complex	
176 (Building G)	58,834
178 (Building H)	200,001
Total	**258,835**
Grand Total	**665,341**

Constructed 1970's - 1990's

AGING

Constructed 2000's - 2010's

MARYLAND DEPARTMENT OF TRANSPORTATION
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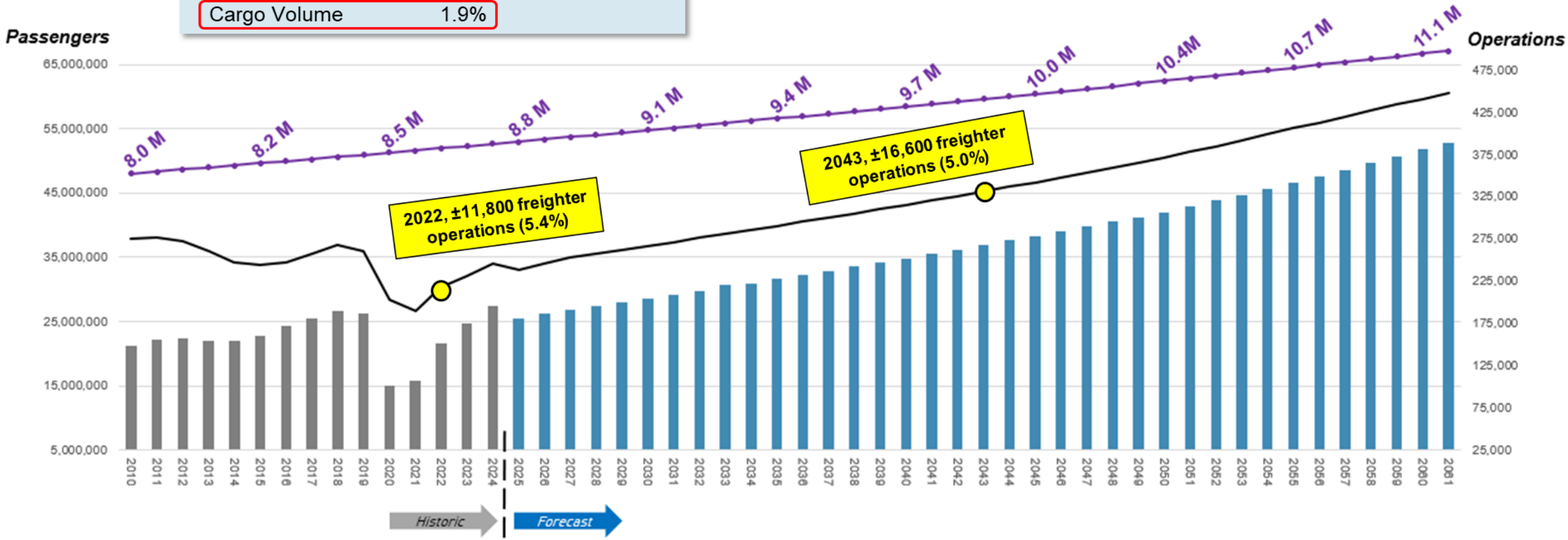
Projected Demand and Airport Capacity

Growth Projections – AAGR 2025-2045		
Regional Population	0.7%	
Aircraft Operations	1.8%	(freighters – 1.6%)
Passengers	2.0%	
Cargo Volume	1.9%	



Source: FAA 2024 Terminal Area Forecast (issued January 2025)
MAA Draft Capacity Analysis Dec 2024
BMC, MWCOG Round 10 Cooperative Forecast, 2023

BWI Marshall – Cargo Facility Requirements

Cargo Type / User	Existing SF	Recommended SF	% Increase (CY 2045)
Integrator	145,500	200,000 (200,00 footprint and possible upper-level office in two buildings)	38%
Ground Handlers	68.000	70,000	6%
Southwest Operations	77,000	Excluded from Gap Analysis	N/A
Amazon	259,000	415,000	60%
General Airport Support (Direct and Indirect Tenants near passenger terminal)	56,159	70,000	25%

Source: AECOM analysis and MAA Facility Information from year 2023.

Where do we grow cargo at BWI Marshall?

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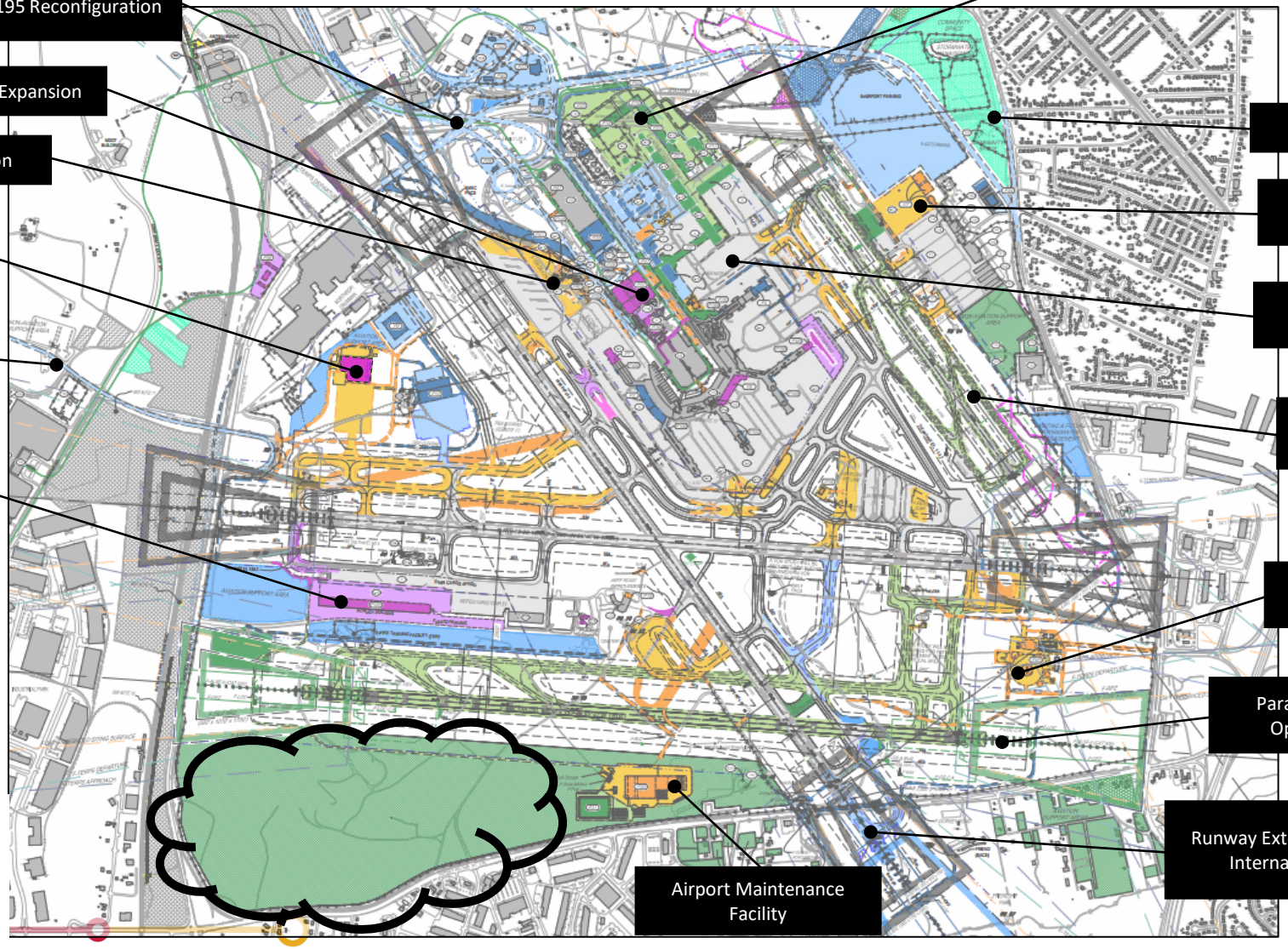
Current Airport Layout Plan

PHASING LEGEND	
Recent or Ongoing	
Phase 1 (1-5 years)	
Phase 2 (5-10 years)	
Phase 3 (Ultimate)	



I-195 Reconfiguration

Parking Garage Expansion

Deicing Pad Expansion

Airline Maintenance (Existing)

I-295/Hanover Rd. Interchange

Midfield Cargo (Existing)

Air Cargo Relocation & Expansion

Community Buffer

GA Expansion

Terminal & RON Parking Expansion

Reconstruct Runway to Current Design Standards

MAA & Regional ARFF Training Facility

Parallel Runway 10-28 for Operational Resiliency

Runway Extension to Enhance International Service

Airport Maintenance Facility

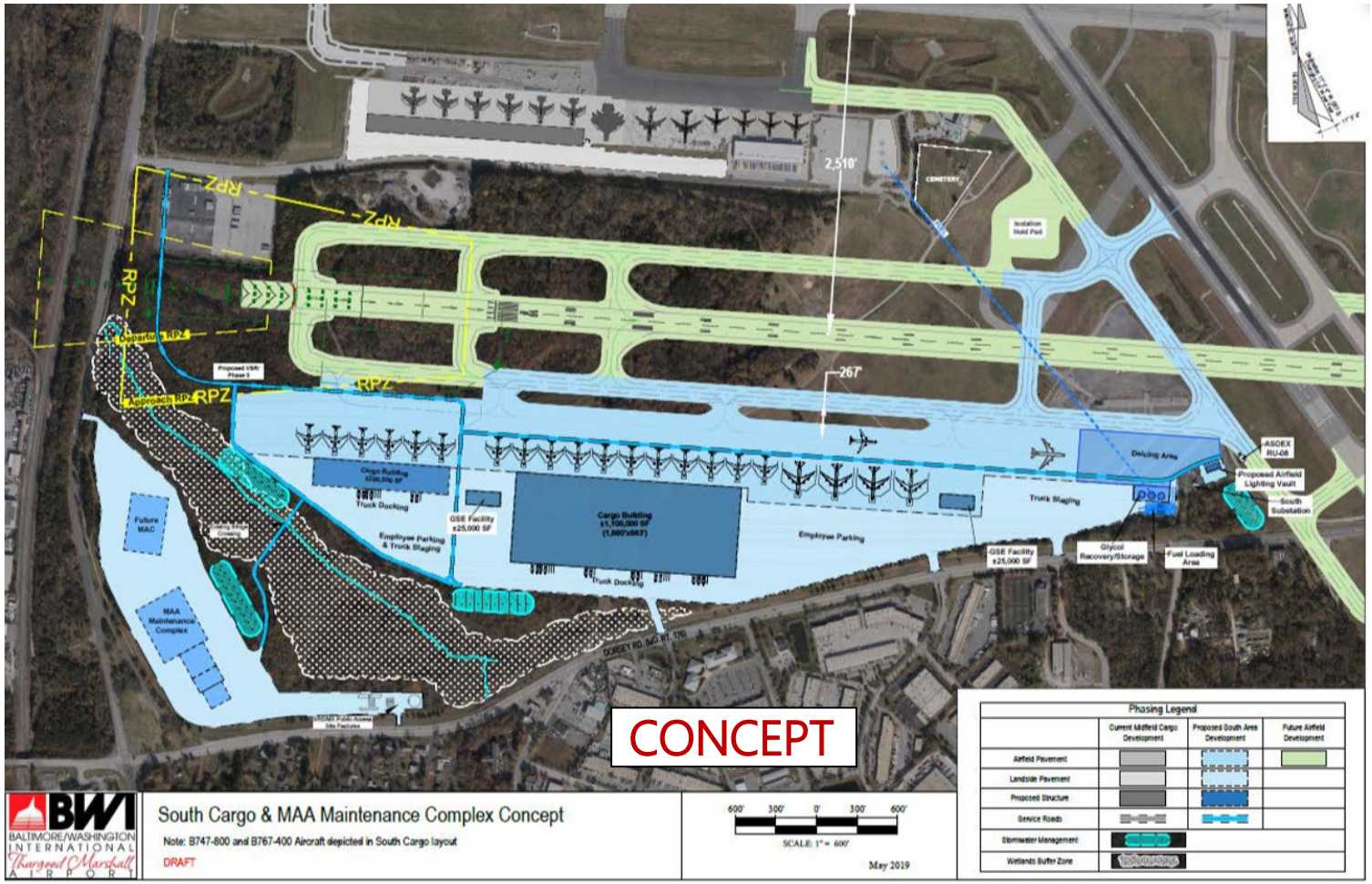
Limited Development Opportunity

Source: MAA

Land of Opportunity

Balance growth & long-term capacity

- 400 to 500-acre site
- Preserve capability for future parallel runway
- Mixed commercial, aviation and support uses
- Currently in planning phase



Source: MAA

Antonov An-124 Ruslan
Currently the largest operating cargo aircraft.

THANK YOU
Questions?

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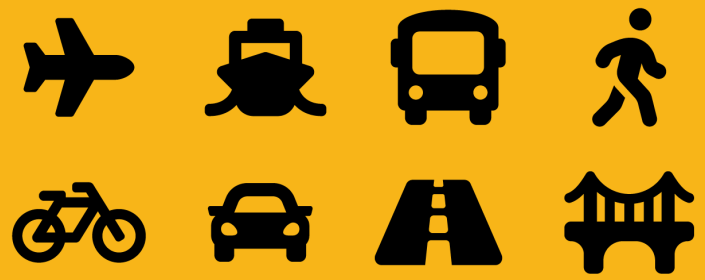
State Highway Administration



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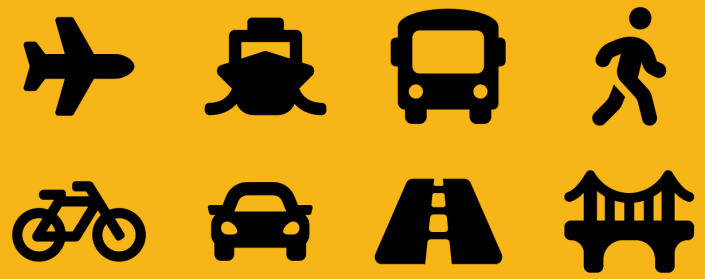
Break

10 minutes



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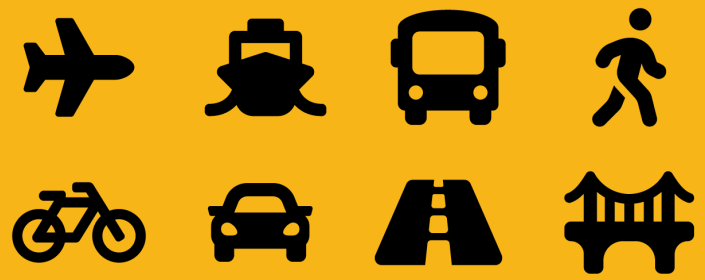
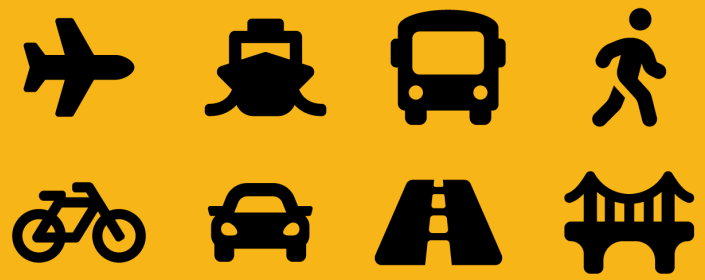
Private Sector Perspective and Reactions Panel



MARYLAND DEPARTMENT OF TRANSPORTATION

Lunch & Luncheon Speaker



Part 2. Successes and Solutions

MARYLAND DEPARTMENT OF TRANSPORTATION

Presentation to the

Maryland Freight Summit

December 8, 2025

Howard Street Tunnel Project

Presenters: Bradley Smith, MPA Brian Hammock, CSX

HOWARD STREET TUNNEL (HST)

- The Howard Street Tunnel is a single-track rail tunnel in Baltimore City
  - Built in 1895
  - 1.7 miles long
  - Owned, maintained and used by CSX
  - Tunnel was approximately 18 inches too short for double-stack intermodal rail

- The HST Project will break a long-standing rail bottleneck and create a double-stack rail network to/from the Port of Baltimore and along the entire I-95 Rail Corridor

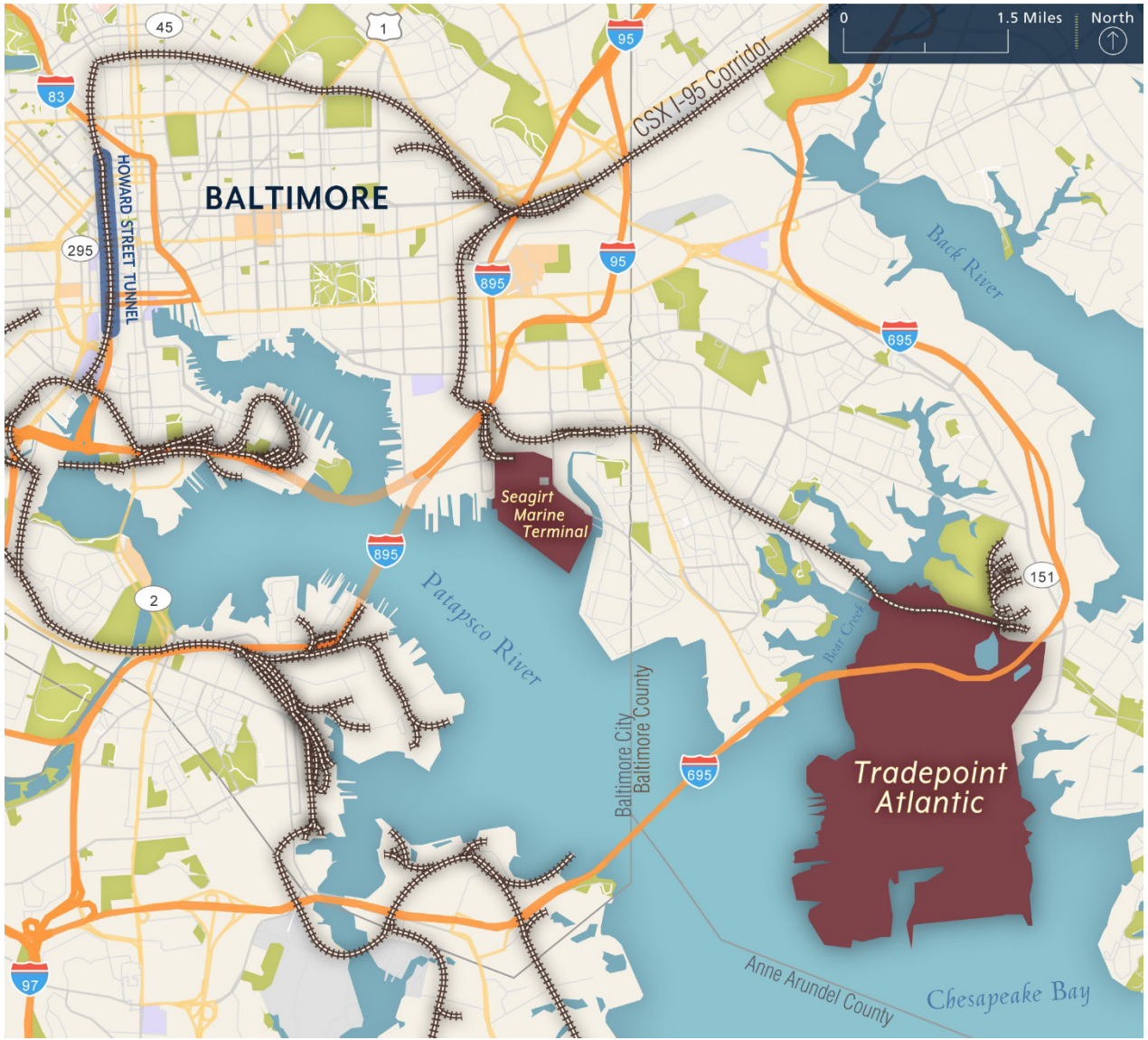
HST Project

- The HST Project consists of double-stack clearance improvements at 22 locations between Baltimore and Philadelphia
  - Tunnel modification – Howard Street Tunnel (MD)
  - Bridge modification – North Avenue (MD)
  - Bridge replacement – Guilford Avenue (MD) and Harford Road (MD)
  - Track lowering – 18 locations in MD (8), DE (2) and PA (8)

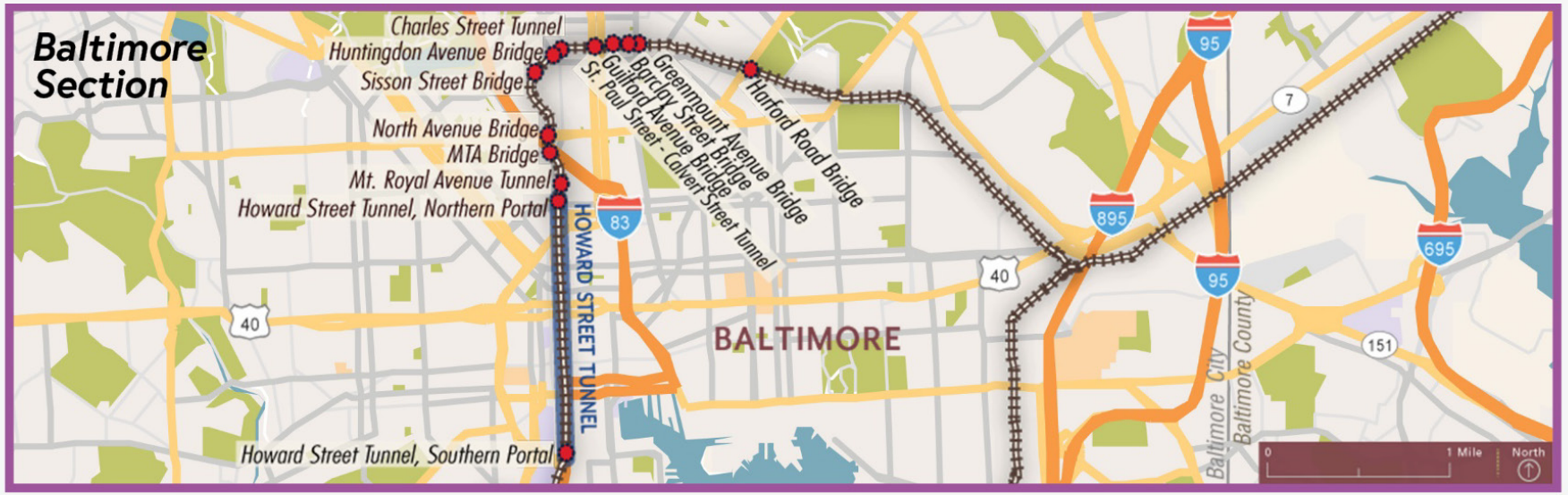
- The project is grouped in ten packages for design and construction

- Project has been under construction since 2022, with final completion expected in 2026

PORT OF BALTIMORE



HST Clearance Locations



Tunnel Package Construction

- CSX shut down tunnel to train traffic on February 1, 2025
- Crews worked 24/7 to replace existing brick invert with approximately 1,200 precast concrete panels at a lower elevation within the tunnel
- Construction was completed ahead of schedule and tunnel was reopened to train traffic on September 26, 2025

Ongoing Clearance Work

- 20 of the 22 sites currently have double-stack clearance

- Last two sites are bridges in Baltimore City
  - North Avenue Bridge
  - Harford Road Bridge

North Avenue Bridge

Harford Road Bridge

What's Next?

Howard Street Tunnel project improves existing customer experience and unlocks new service offerings

- Howard Street Tunnel project completed in late September
  - Effective 9/26, CSX restored service between Florida/ Savannah & New Jersey thru tunnel, eliminating temporary reroutes & improving speed between markets
  - Separate city bridge clearances underway and on track to finish Spring 2026 for full double-stack clearance
- CSX working to expand service offerings in near future connecting Southeast to Northeast markets
  - Prospective lanes include Atlanta to/from Baltimore, Chambersburg, New Jersey, and Philadelphia
- Upon full double stack clearance late Q1 2026, CSX will route Chicago-Baltimore traffic direct route thru tunnel
  - Fastest most direct route from West Coast & Chicago to Baltimore

What's Next?

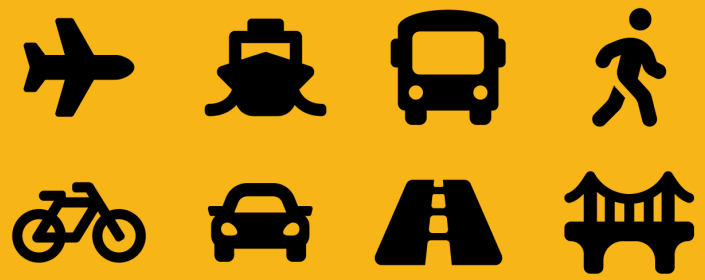
- CSX and MPA are working together on joint marketing and outreach to ensure shippers are aware of project status and timing of full double-stack service into/out of Baltimore

- MPA, CSX and Ports America Chesapeake held a town hall on November 12, 2025, to provide project update to over 200 shippers
  - Another Town Hall is being planned for early 2026

Thank You

MARYLAND DEPARTMENT OF TRANSPORTATION

Innovative Solutions



DISTRICT DEPARTMENT OF TRANSPORTATION

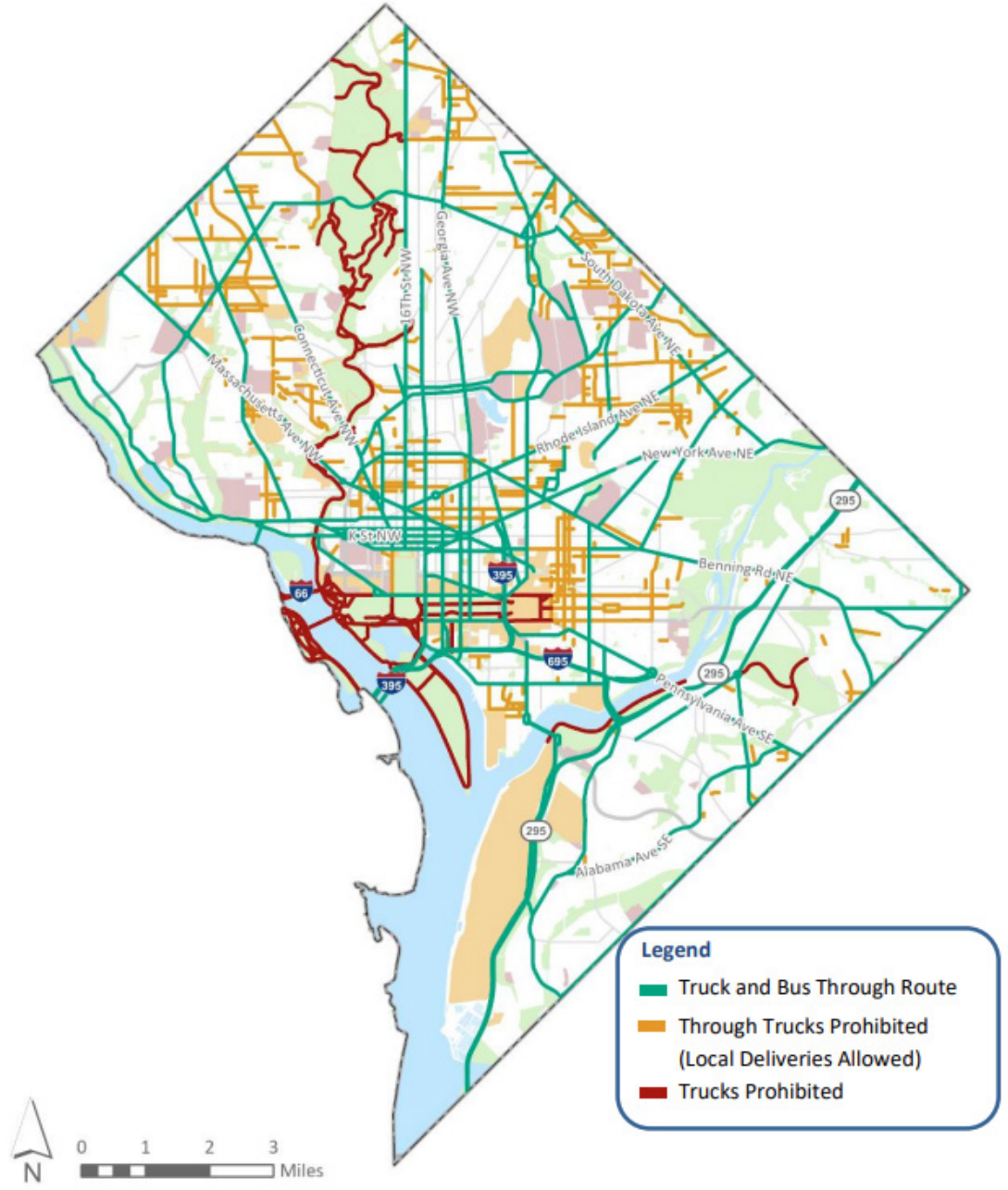
Freight Complete Streets

Samuel Brooks
Curbside Management Division
December 8, 2025

Introduction

- The District of Columbia is the nation's capital, a compact city adjacent to Virginia and Maryland. With approximately 670,000 residents, 25,000 businesses, and 480,000 employees, the District serves as the center of the National Capital Region. It covers 61 square miles, encompassing both the nation's federal hub as well as local community businesses and destinations.

- The District is entirely an urban area — and contains no rail intermodal yards or airports, and only two small docks — the freight network is dominated by roadway.

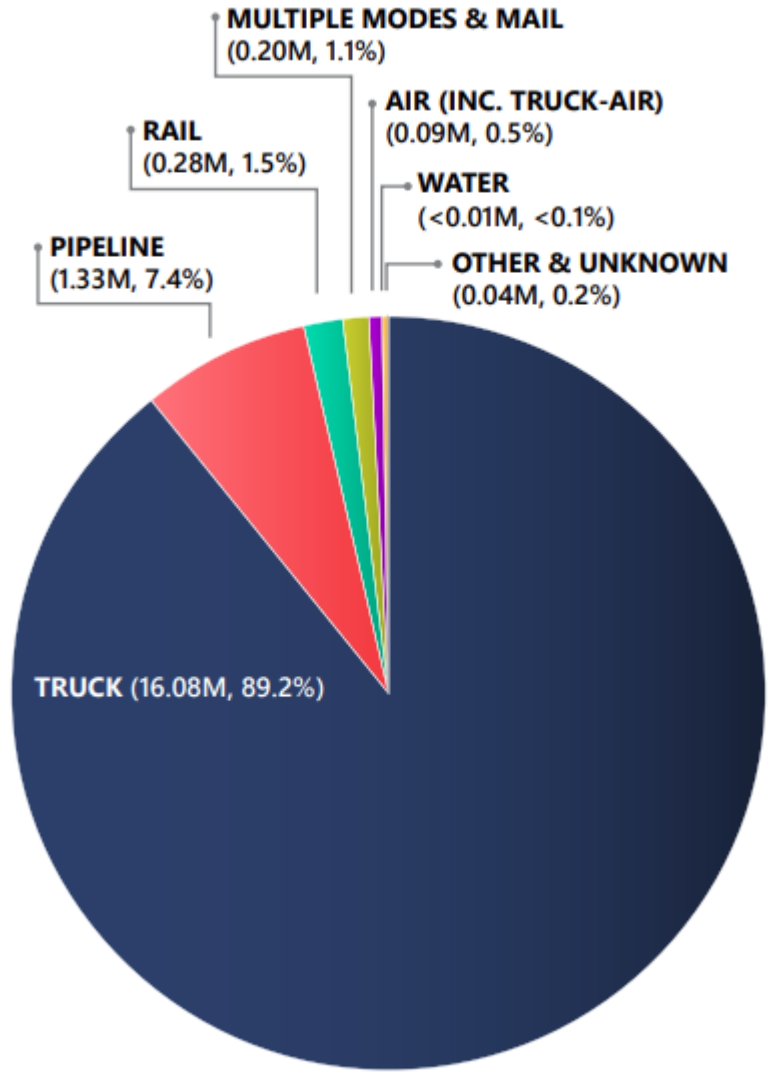


Source: Open Data DC, 2022

Commodity Statistics

- The majority of freight movements in the District are handled by truck (more than 89% of freight by tonnage, which is more than 16 million tons).
- The largest commodity was nonmetallic mineral products. This includes many types of goods, but is often associated with cement/concrete production, reflecting the size of the construction industry in the District.
- Waste/scrap is the next top commodity, accounting for 2.6 million tons of freight, or 15% of the 2017 total.
- Mixed freight, the third top commodity, are goods (including food) for grocery and retail stores, fast food establishments, office supplies, and miscellaneous goods.

Commodity District Mode Share by Tonnage (Millions), 2017

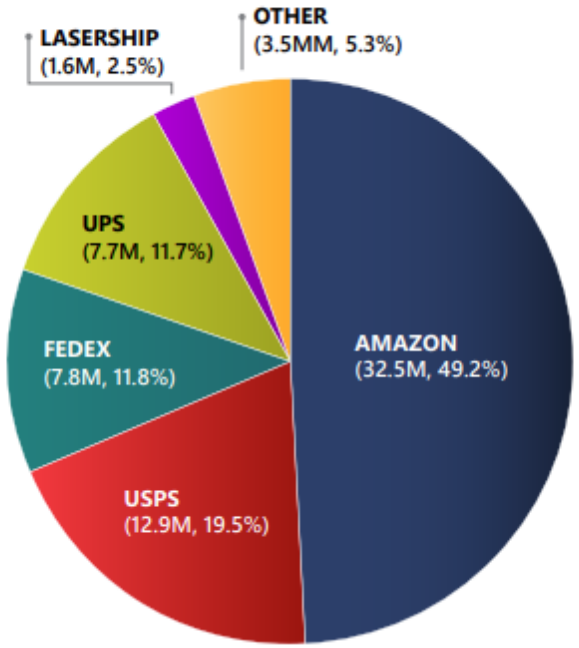


Source: Bureau of Transportation Statistics, FAF5, 2023. Analysis by Cambridge Systematics, 2023.

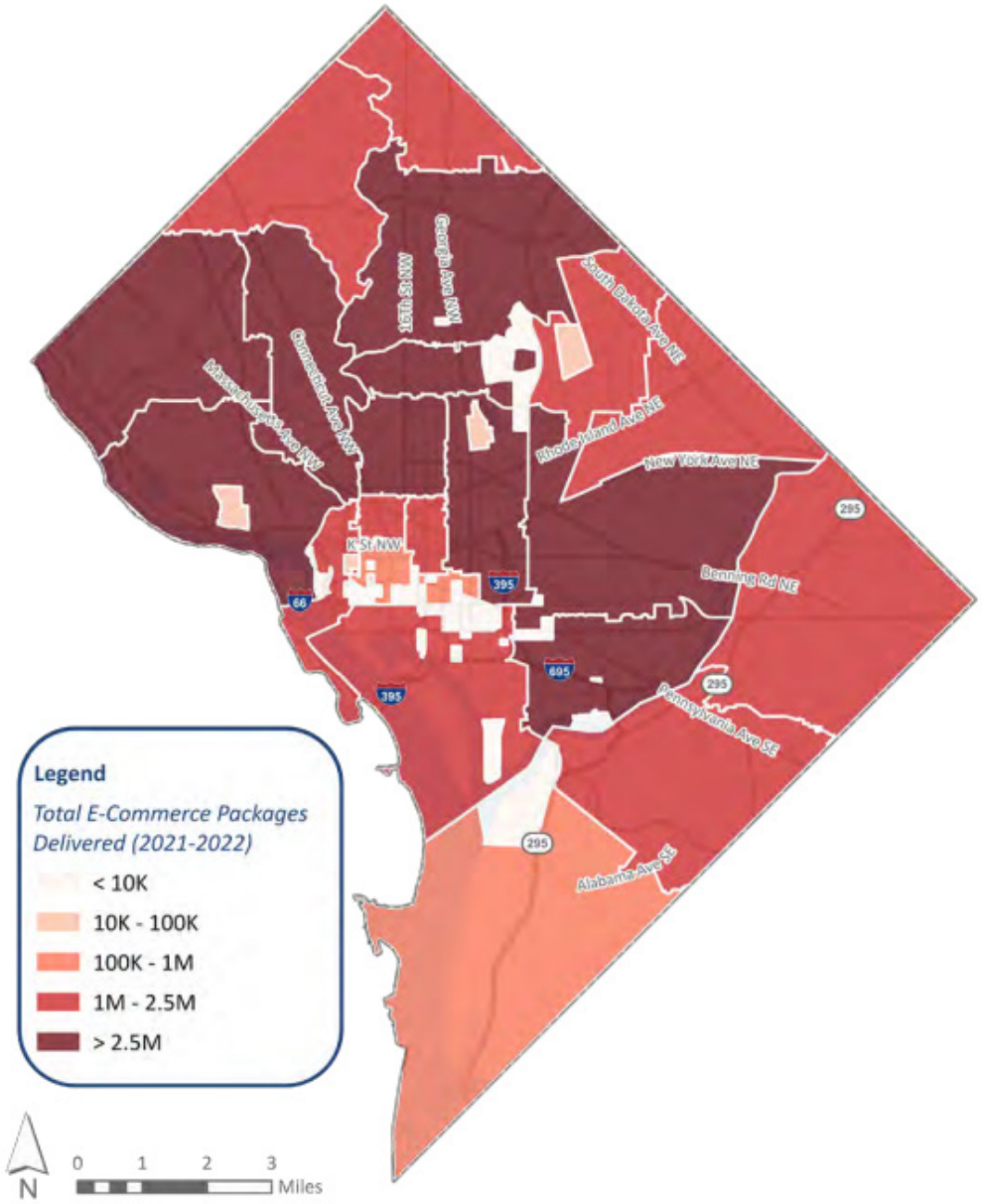
E-Commerce

- Over the past decade, e-commerce has grown rapidly. The last leg of delivery, often referred to as the "last mile"—or in a highly urban environment such as the District, the "last 50 feet"—is increasingly dominated by the e-commerce sector.
- Increasing home deliveries has increased demand for limited curb space and the need to design for these uses

E-Commerce Packages by Carrier, 2021-2022



Total E-Commerce Packages Delivered by Zip Code, 2021-2022



Source: NielsenIQ, 2021-2022; Analysis by Cambridge Systematics, 2023.

An Evolving Curb

1960s-2000s – Cars, Bikes, Parcel/Freight

2010 – Bikeshare, Food Trucks, Rideshare

2012 – Point-to-Point Carsharing

2016 – On-Demand Delivery

2017 – Dockless Bikeshare and Scooters

2019 – Mopeds

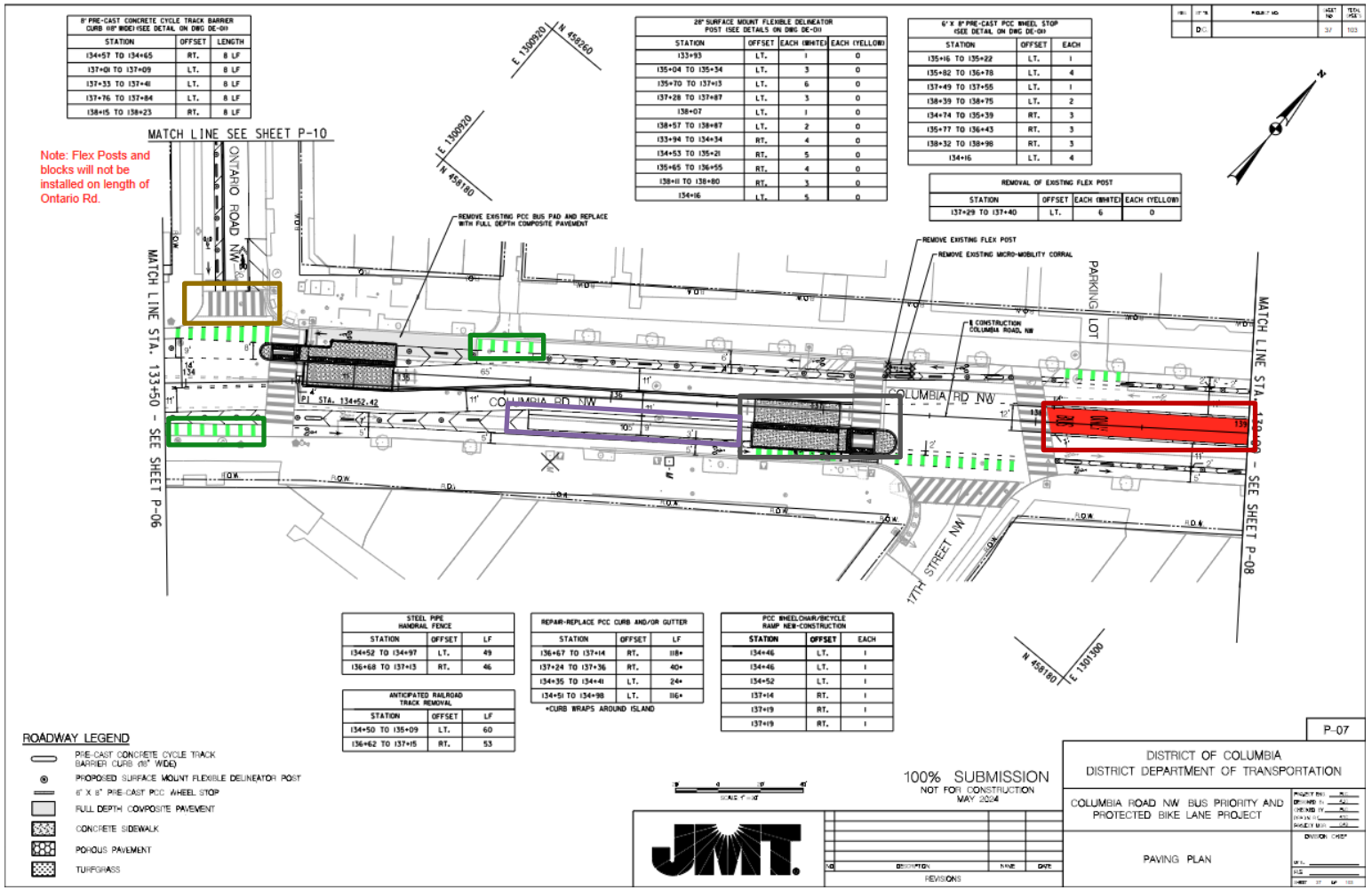
The Freight Complete Street

- **Multimodal Transportation Design**
  - Transit (Metrobus, commuter bus)
  - Active Transportation (cycle tracks, multimodal paths, bike racks, sidewalks etc.)
- **Curbside Access**
  - Passenger loading/unloading (Uber/Lyft/taxi)
  - Goods loading/unloading (freight, parcel service, on-demand delivery)
  - Vending (stationary vendors, food trucks)
  - Parking Policy (residential, commercial, carsharing)
- **Enforcement**
  - Asset management (signs, meters, pay-by-cell)
  - In-person enforcement (DDOT, DPW, MPD, DFHV)
  - Automated enforcement
- **Looking Forward to Mode Shift**
  - E-bike Deliveries
  - Micro-Freight Vehicles

A freight Complete Street integrates the operational needs of freight vehicles—such as deliveries, waste removal, and emergency services—into the design and maintenance of streets that are planned to be safe and accessible for everyone, including pedestrians, bicyclists, transit riders, and motorists.

Street Design:

- Transit Infrastructure: (Metrobus, commuter bus)
  - Dedicated Transit Lanes
  - Extended Bus Stops
- Non-Vehicular Infrastructure:
  - Dedicated signal phases
  - Clear identification of conflict zones
  - Parking protection or another buffer
- With all these uses, there is little room left for parcel delivery and pickup.



Curb Regulation:

- Commercial Loading Zones: Paid zone used for goods delivery
  - Requested by businesses/BIDS in areas of high commercial activity
  - Payment Options: Annual Permit, Daily Permit, or ParkMobile payment.
  - Goal: to reserve space for commercial freight operations.

- Short-term Parking Zone: (formerly PUDO)
  - Vehicles pay to park at the curb for up to 10 minutes.
  - Allow space for quick stops by private vehicles, rideshare, and food delivery vehicles.
  - Goal: increase turnover and allow access to businesses

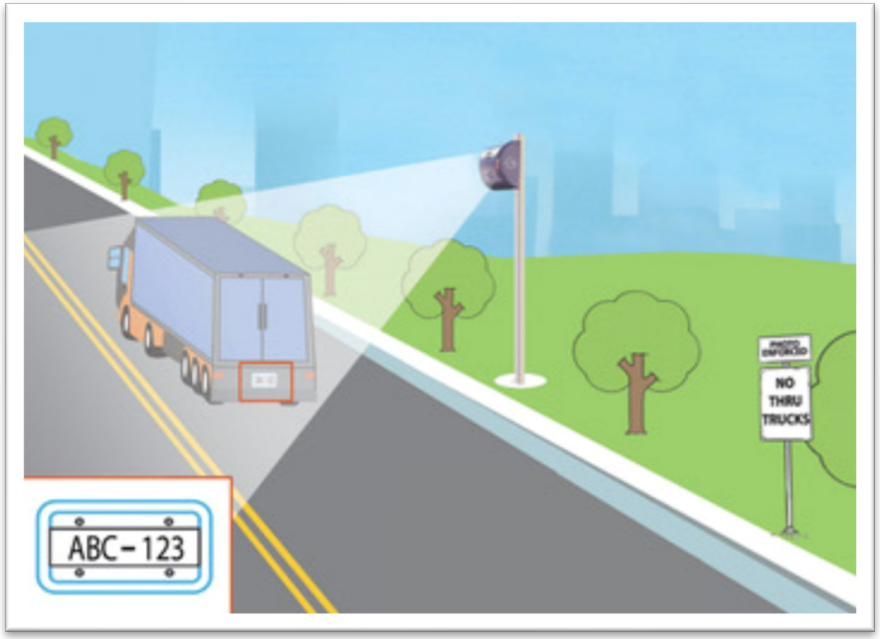
- Performance Parking Zones:
  - Areas of demand-based parking rates.
  - Goals:
    - Encourage parking turnover in commercial areas
    - Promote transportation modes other than driving
    - Decrease motor vehicle congestion

Existing Vehicle Enforcement:

- Citywide Enforcement:
  - Partnership with Department of Public Works, the Metropolitan Police Department, and Department of For-Hire Vehicles

- DDOT Traffic Control Officers (TCO):
  - DDOT provides additional enforcement in:
    - Known problem areas and high-commercial areas
    - Areas with newly installed street designs

- Camera Enforcement:
  - Truck Restrictions:
    - Utilized on through-truck restricted routes
    - Signs are placed at decision points
    - Cameras are rotated on a regular basis:
      - Proactive: hotspot/crash analysis
      - Reactive: citizen/agency requests
  - Clear Lanes: Bus Lane Enforcement
    - Bus mounted cameras enforcing violations of bus stops and lanes.



Automated Curbside Enforcement

- DDOT's number one complaint from commercial vehicle operators is commercial loading zones are occupied by non-commercial vehicles.

- Program Goals:
  - Increased short-term use of the curb (10 minutes or less) has made consistent in-person enforcement non-viable.
  - Close the gap in enforcement that cannot be met through personnel

- Desired Functionality:
  - Using license plate readers, provide seamless charging for eligible stays and automated citations for violations
  - Identify and ticket unauthorized users
    - Commercial Loading Zones
  - Ticket authorized users who overstay
    - Commercial Loading Zones
    - Short-Term Parking Zones

Impacts of ACE in Pittsburgh

- 95% reduction in double parking
- 23% decrease in dwell time in loading zones

Freight Mode Shift: eBike Delivery Pilot

- DDOT's E-Bike Food Delivery Pilot is designed to get more app-based food deliveries in the District of Columbia from gas-powered vehicles onto e-bikes, with the intention of learning how DDOT can support this shift in the long-term.

- Pilot Goals:
  - Reduce Emissions
  - Improve Street Safety
  - Reduce Traffic Congestion
  - Support Local Workforce

- Pilot Actions:
  - Provide 70 pilot participants with highly subsidized e-bikes for food delivery, including a bike lock, a helmet, and a food delivery service bag
  - Provide pilot participants with free battery charging via battery swapping cabinets in two District locations

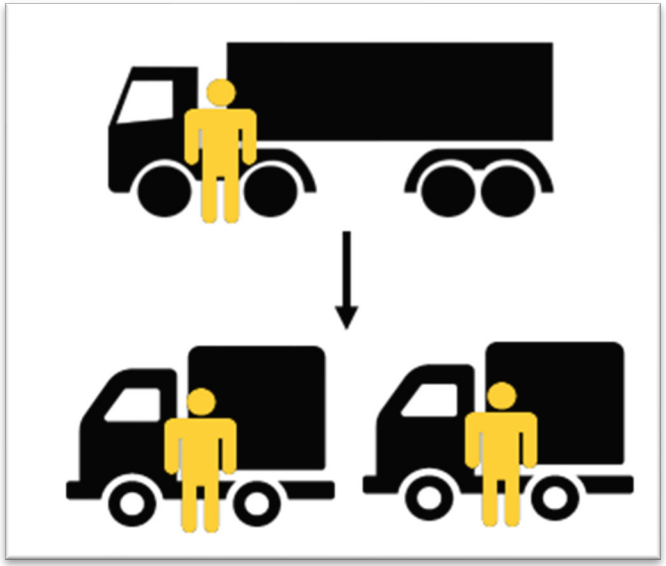
Freight Mode Shift: Delivery Microhub Pilot

- Pilot Goals:
  - Reduce truck VMT
  - Improve road safety outcomes by improving traffic visibility and reducing unsafe truck parking
  - Improve delivery efficiency within the District

- Microhub: A space located within the public right-of-way or private property where freight, merchandise, or other commercial goods are transloaded by companies to micro freight vehicles or other zero emission vehicles for final delivery.

- Micro-Freight Vehicle:
  - 4-wheeled motorized bicycle with cargo hold
  - used or maintained for transporting freight, merchandise
  - Max speed 15mph
  - Can be operated in bike lanes and multi-use paths

- Status: Updating legislation and regulations.



District Department of Transportation

250 M St SE | Washington, DC 20003 | 202.673.6813

DDOT.Freight@dc.gov

SHA Truck Parking Updates

DECEMBER 8, 2025

SHA Truck Parking Update

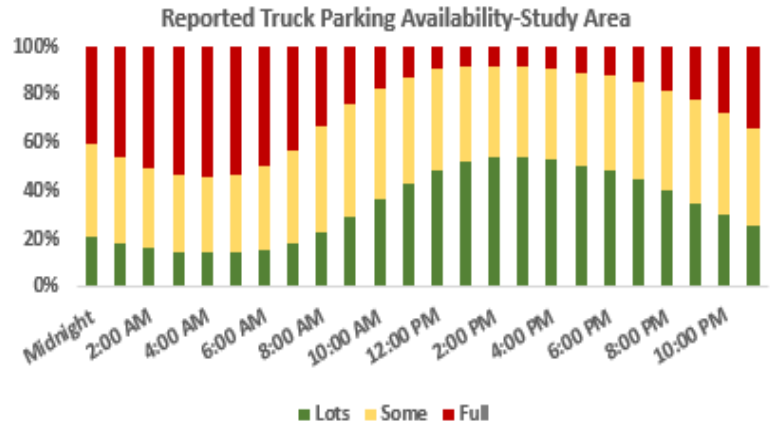
1. Background on Truck Parking Activities - L'Kiesha Markley
2. Emergency Truck Parking and Implementation Plan Update - Billy Hwang
3. Truck Parking Visualization Tool Overview, Uses, and Demo - L.D. White

What MDOT SHA is Doing…

Statewide Truck Parking Survey

Truck parking is most difficult to find overnight

- 4pm to 4am spaces are filling



The Local Challenge

In general, people do not want truck parking near them. They do not understand the need.

Lack of truck parking sometimes means trucks are parked in places people do not like (i.e., residential areas, roadway shoulders, etc.).

Economic growth means more trucks.

- More trucks means more issues with parking.
- Trucks need delivery accommodations.

Changes in land use types and trends (e.g., densification, multi-use) create spaces that need to be served by many trucks.

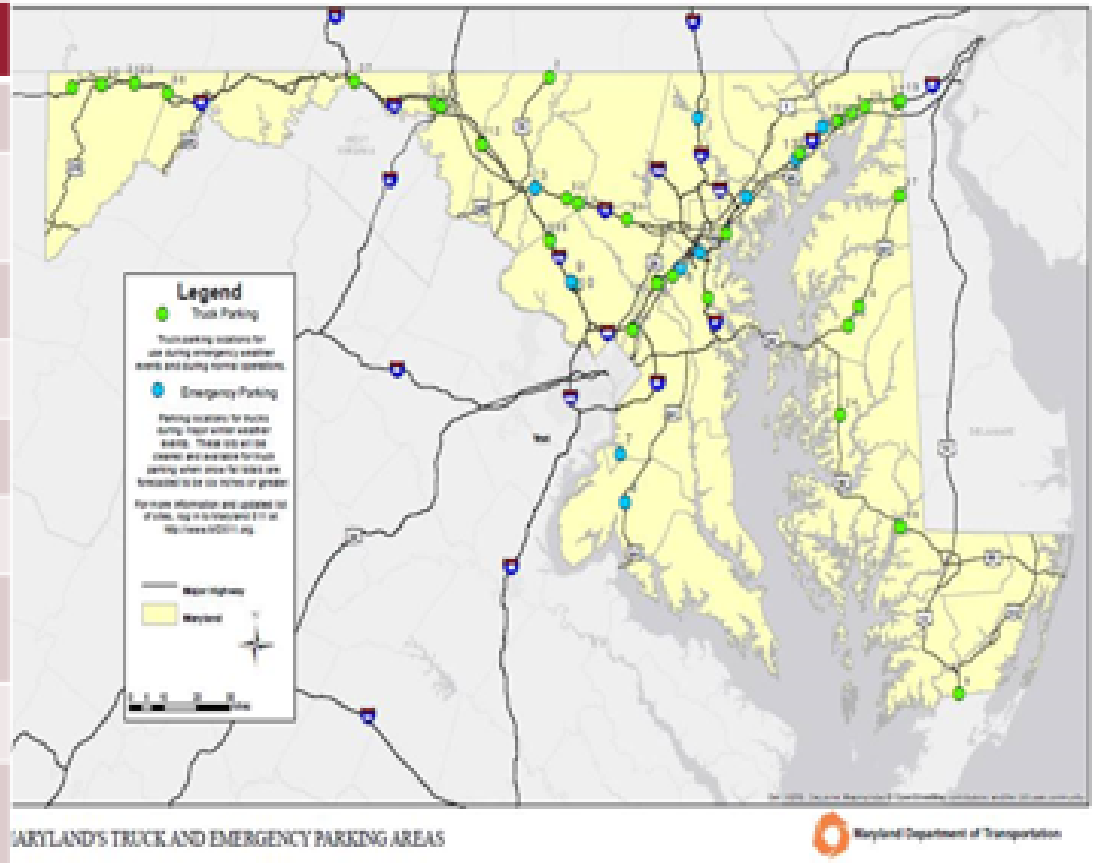
Increases in delivery, e-commerce create increased need for delivery parking/stopping.

Regional Challenges

Truck Parking Statewide	Public (owned/operated)	Private
Welcome Centers/Rest Areas	12	
Truck Weigh and Inspection Stations (TWIS)	14	
Private Facilities (i.e., TA, Pilot/Flying J, Love's truck stops)		27
Total = 53	**26**	**27**

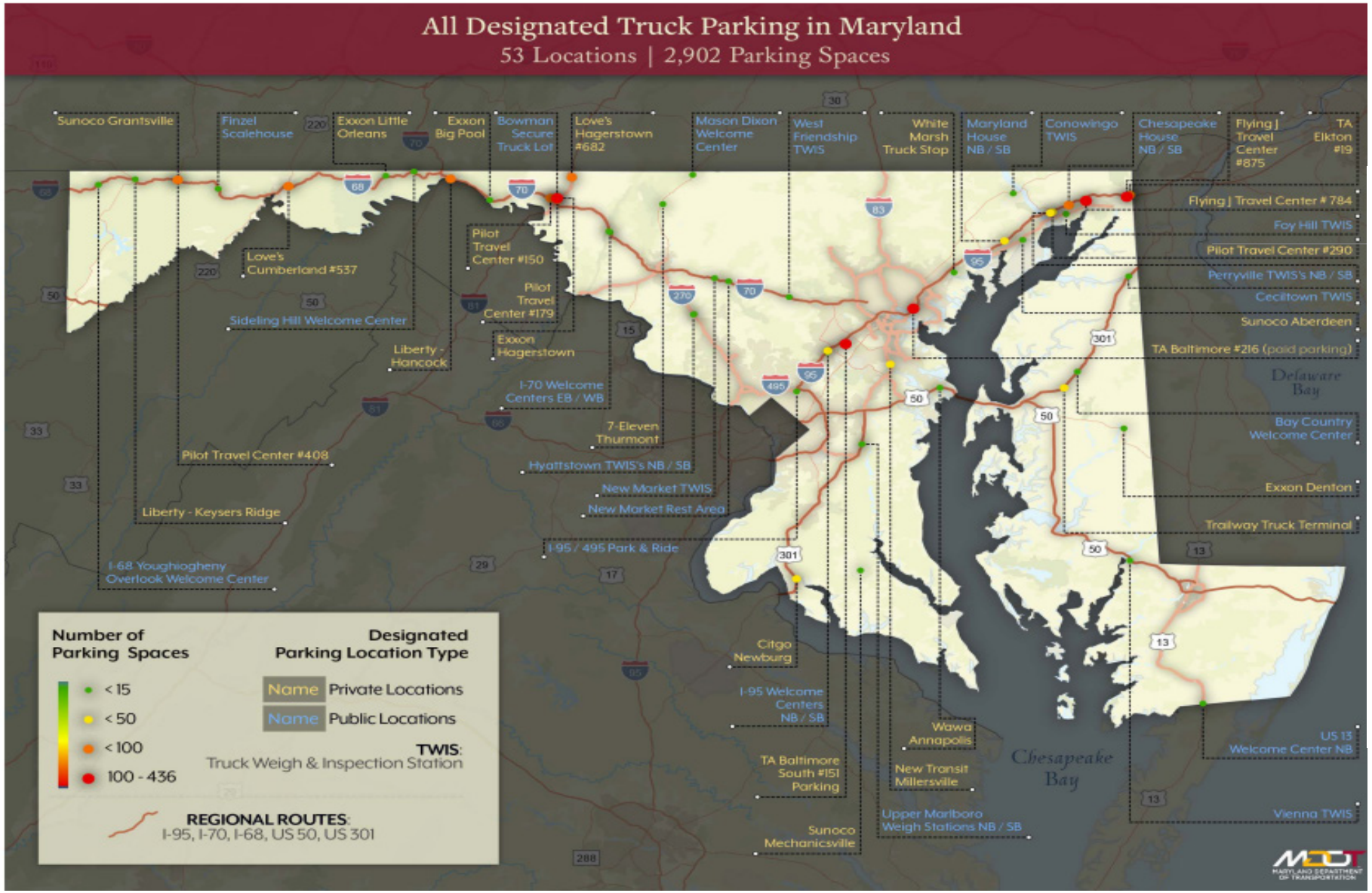
Truck Parking Expansions in Maryland – Public Parking

Location	Spaces
I-95 SB Welcome Center (Laurel)	41
I-95 NB Welcome Center (Laurel)	*0* (4F issues)
I-495/I-495 Weigh Station/P&R	9
US 301 Bay Country Rest Area	14
I-95 NB Maryland House	28*
I-95 SB Maryland House	21*
I-95 NB Chesapeake House	35*
I-95 SB Chesapeake House	37*
I-70 EB Welcome Center	10+ (in design)
I-70 WB Welcome Center	10+ (in design)



*MDTA facilities

FIGURE 2: Public and Private Truck Parking in and around Maryland

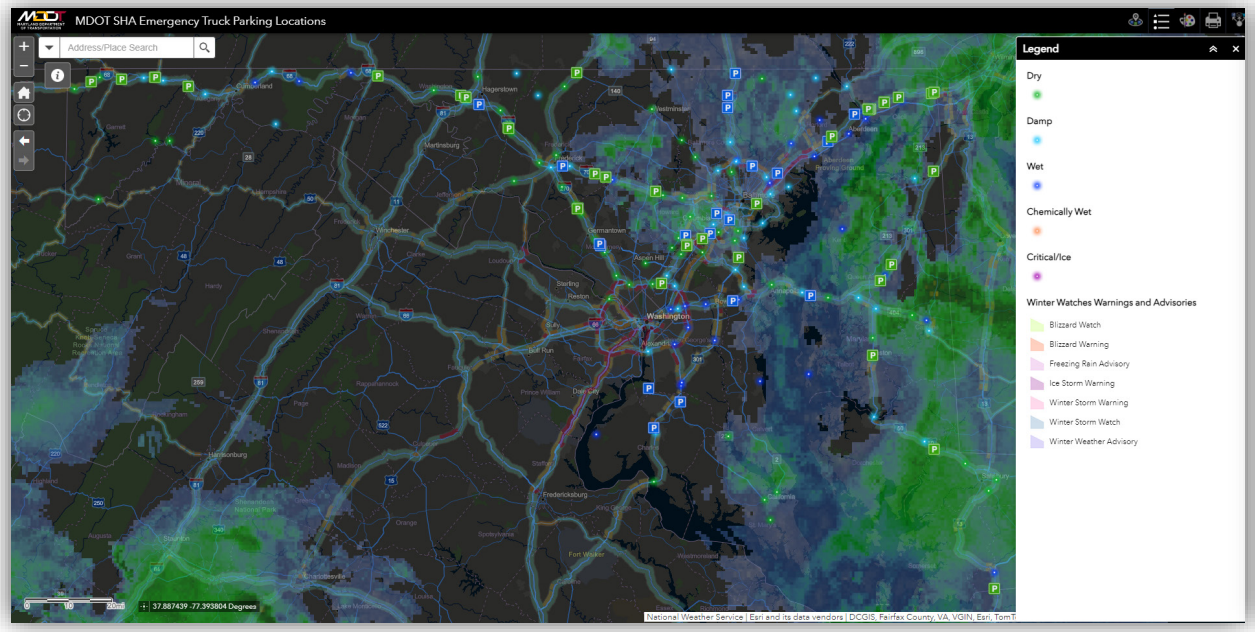


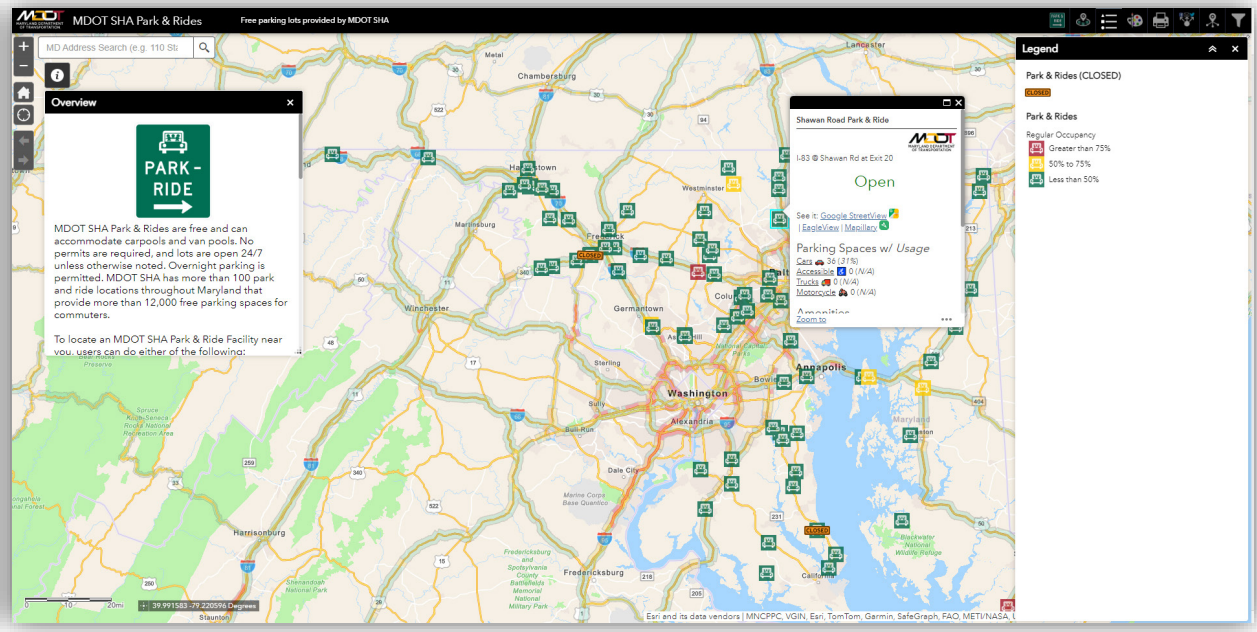
Public and Private Designated Parking Challenges/Concerns/ Recommendations

Emergency Truck Parking & Implementation Plan Update

BILLY HWANG, TEXAS A&M TRANSPORTATION INSTITUTE

Emergency Truck Parking Update: Existing Conditions





SHA Emergency Truck Parking Map

SHA Website:
https://roads.maryland.gov/mdotsha/pages/Index.aspx?PageId=856
Map:
https://maryland.maps.arcgis.com/apps/webappviewer/index.html?id=9c824917259a4dda8bf4d993f46cc5bb

SHA Park & Ride GIS Layer

https://maryland.maps.arcgis.com/apps/webappviewer/index.html?id=346cc9c1f3b949b5a5104e0303129a95

Emergency Truck Parking Update: Methodology

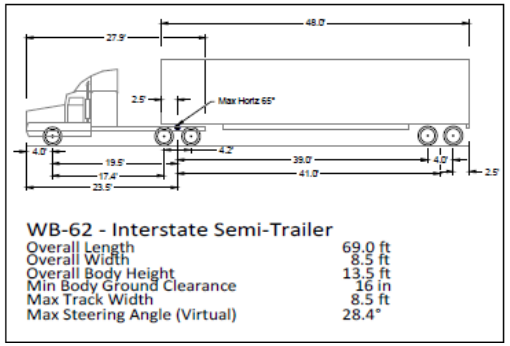
SCREENING CRITERIA

1. **SHA District Input**
   - Keep or remove location from list
2. **Feasibility Analysis**
   - Site Feasibility
   - Property / Regulatory Analysis

OTHER KEY CRITERIA

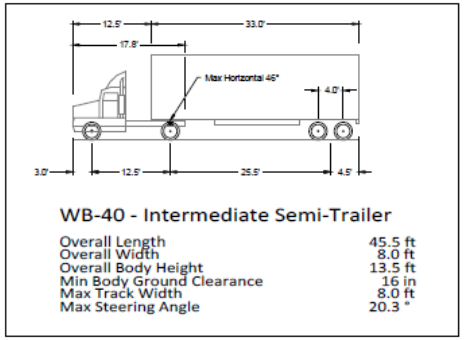
1. **Policy Priority**
   - Less than 5 miles from a 2020 Truck Parking Study Cluster
2. **Capacity**
   - More than 50 passenger vehicle (not truck) spaces
   - Less than 50% utilization
3. **Amenities/Access**
   - Lighting
   - Near services
   - Access to the NHFN

P&R GIS LAYER_NAME	ETP APP/MAP_Name	LOCATION / DETAILED ROUTE	COUNTY	SHA District	Area (Acres)	Whether the proposed site is suitable for Emergency Truck Parking
		US 50 Weigh Station East of Vienna Bridge	Wicomico	1	0.59	YES - ALL
		Temporary Weigh Station, Snow Hill (milepoint 9.9N)	Worcester	1	0.2	YES - ALL
Port Deposit		I-95 Exit-93, Perryville, MD 21903	Cecil	2	0.81	YES - ALL
Millington		US 301 @ MD 291	Kent	2	1.5	YES - ALL
Kent Island Thompson Creek Rd.	Stevensville	US 50 @ MD 8 (Kent Island); MTA 922, 950 bus service	Queen Anne's	2	3.2	YES - ALL
Wye Mills Park & Ride (Lot A)		US 50 @ MD 404 (East Lot)	Queen Anne's	2	0.6	YES - ALL
NA		Bay Country Rest Area Hayden rest area.	Queen Anne's	2	5.07	YES - ALL
NA		US 301 Truck Rest Area	Queen Anne's	2	?	YES - ALL
NA		MD 404 P&R (MD 404 @ US 50)	Queen Anne's	2	4.7	YES - ALL
NA		Trailway Truck Stop - MD 304 Northbound	Queen Anne's	2	32.7	YES - ALL
Georgia Avenue-Intercounty Connector		MD 200 @ MD 97 (MDTA)	Montgomery	3	5.4	YES - ALL
Brandywine		MD 5 @ US 301	Prince George's	3	7.88	YES - ALL
Mt. Carmel	Hereford	I-83 Southbound Exit 27 at MD 137 Hereford	Baltimore County	4	2.7	YES - ALL
Old York Road	Maryland Line	I-83 @ MD 439 (Old York Rd)	Baltimore County	4	1.2	YES - ALL
Middletown Road	Parkton	I-83 @ Middletown Rd	Baltimore County	4	0.8	YES - ALL
Southwest	Southwest	I-195 @ MD 166 (Rolling Rd); MTA 320	Baltimore County	4	5.52	YES - ALL
Bel Air Hickory		MD 23 @ US 1	Harford	4	6.95	YES - ALL
Davidsonville	Davidsonville	US 50/301 @ MD 424 Davidonsville; MTA 921	Anne Arundel	5	8.2	YES - ALL



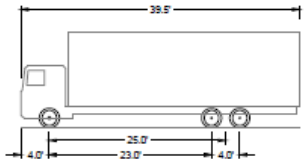
WB-62 - Interstate Semi-Trailer

Overall Length	69.0 ft
Overall Width	8.5 ft
Overall Body Height	13.5 ft
Min Body Ground Clearance	16 in
Max Track Width	8.5 ft
Max Steering Angle (Virtual)	28.4°



WB-40 - Intermediate Semi-Trailer

Overall Length	45.5 ft
Overall Width	8.0 ft
Overall Body Height	13.5 ft
Min Body Ground Clearance	16 in
Max Track Width	8.0 ft
Max Steering Angle	20.3 °



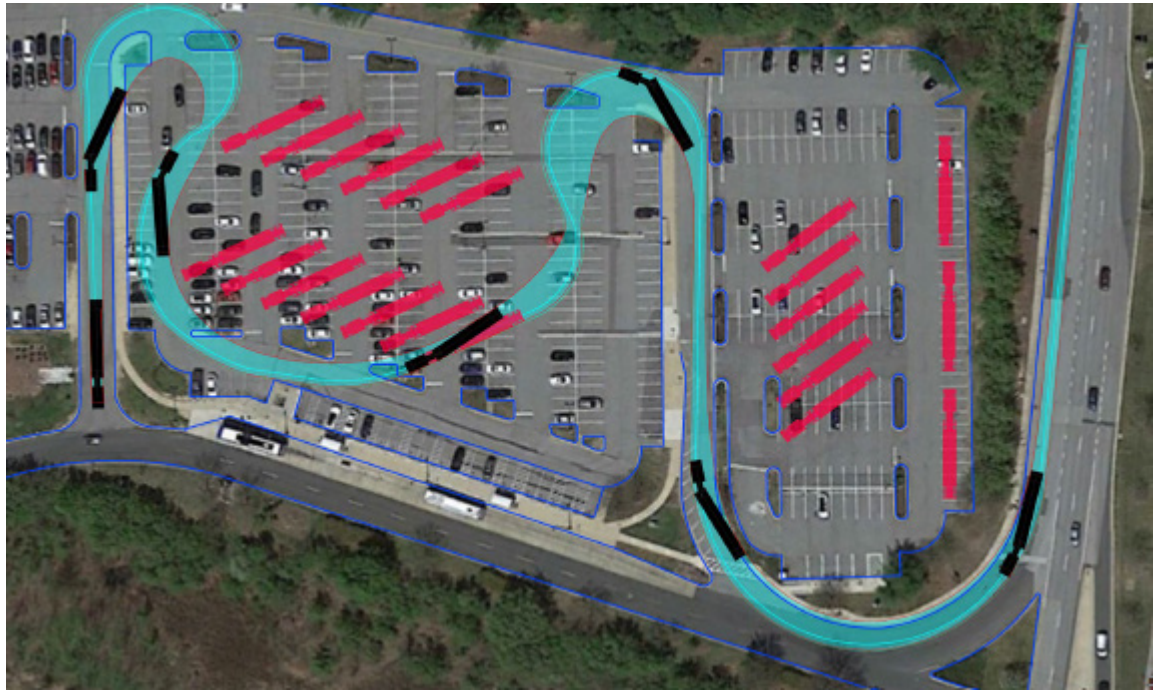
SU-40 - Single Unit Truck

Overall Length	39.5 ft
Overall Width	8.0 ft
Overall Body Height	13.5 ft
Min Body Ground Clearance	16 in
Track Width	8.0 ft
Max Steering Angle (Virtual)	31.80°

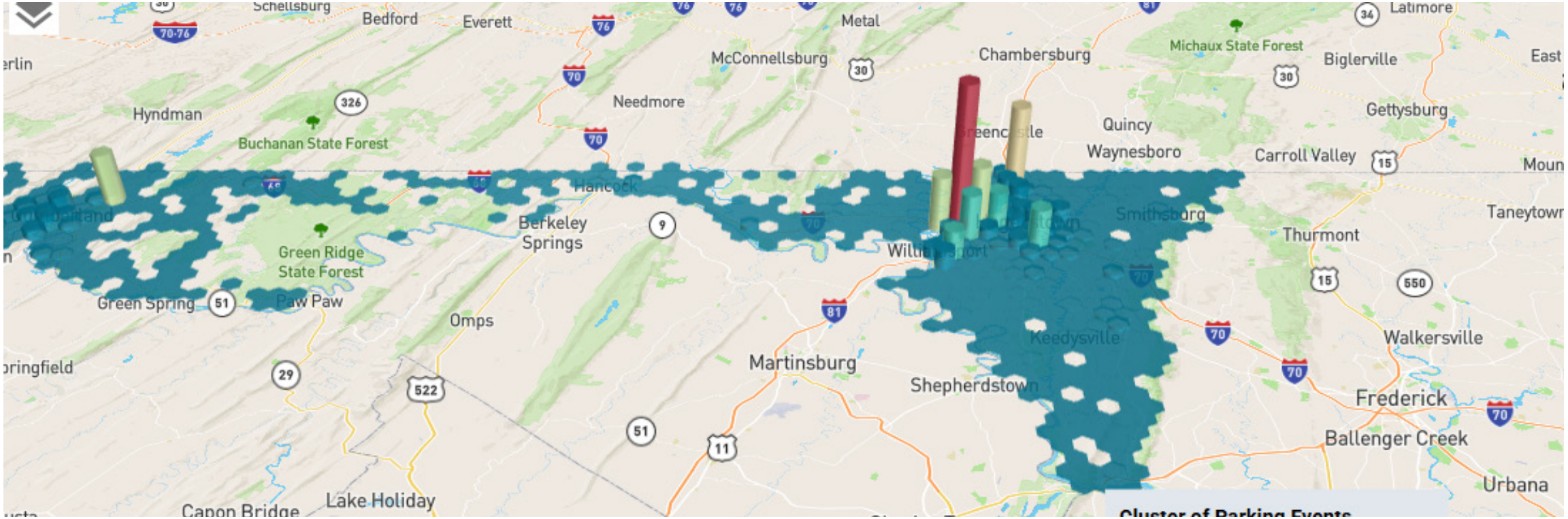
Conococheague		Lappans Rd, WILLIAMSPORT, MD 21795	Washington	6	1.84	YES - ALL
Mount Airy		MD-27 (Ridge Rd) north of I-70	Carroll	7	2.52	YES - ALL
Myersville		IS 70 @ MD 17	Frederick	7	2.76	YES - ALL
New Design Road		IS 70 @ MD 355 (New Design Rd)	Frederick	7	1.91	YES - ALL
Urbana (South Lot)		IS 270 @ MD 80	Frederick	7	2.96	YES - ALL
North Frederick		US 15 @ Monocacy Blvd.	Frederick	7	NA	YES - ALL
Columbia Broken Land Pkwy (East Lot)	Broken Land East Lot	MD 32 @ Broken Land Pkwy (East Lot)	Howard	7	4.13	YES - ALL
Scaggsville		US 29 @ MD 216	Howard	7	3.92	YES - ALL
Columbia Snowden River Pkwy		MD 175 @ Snowden River Parkway	Howard	7	8.46	YES - ALL

Emergency Truck Parking Update: Next Steps

- Update of P&R Layer, ETP app/map
- Communication and outreach
- Expansion to other locations (e.g., private facilities)



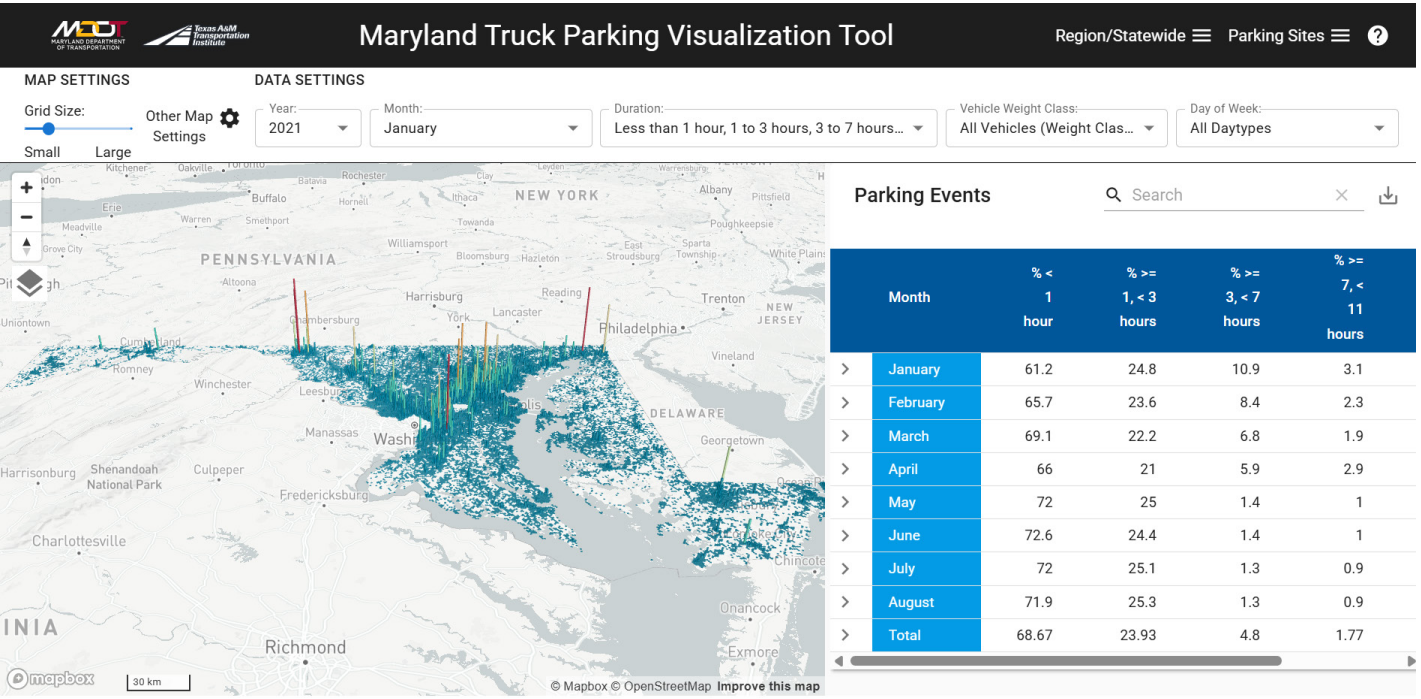
Truck Parking Implementation Plan Update



Truck Parking Visualization Tool Overview, Uses, and Demo

L.D. WHITE, TEXAS A&M TRANSPORTATION INSTITUTE

Truck Parking Visualization Tool



Month	% < 1 hour	% >= 1, < 3 hours	% >= 3, < 7 hours	% >= 7, < 11 hours
January	61.2	24.8	10.9	3.1
February	65.7	23.6	8.4	2.3
March	69.1	22.2	6.8	1.9
April	66	21	5.9	2.9
May	72	25	1.4	1
June	72.6	24.4	1.4	1
July	72	25.1	1.3	0.9
August	71.9	25.3	1.3	0.9
Total	68.67	23.93	4.8	1.77

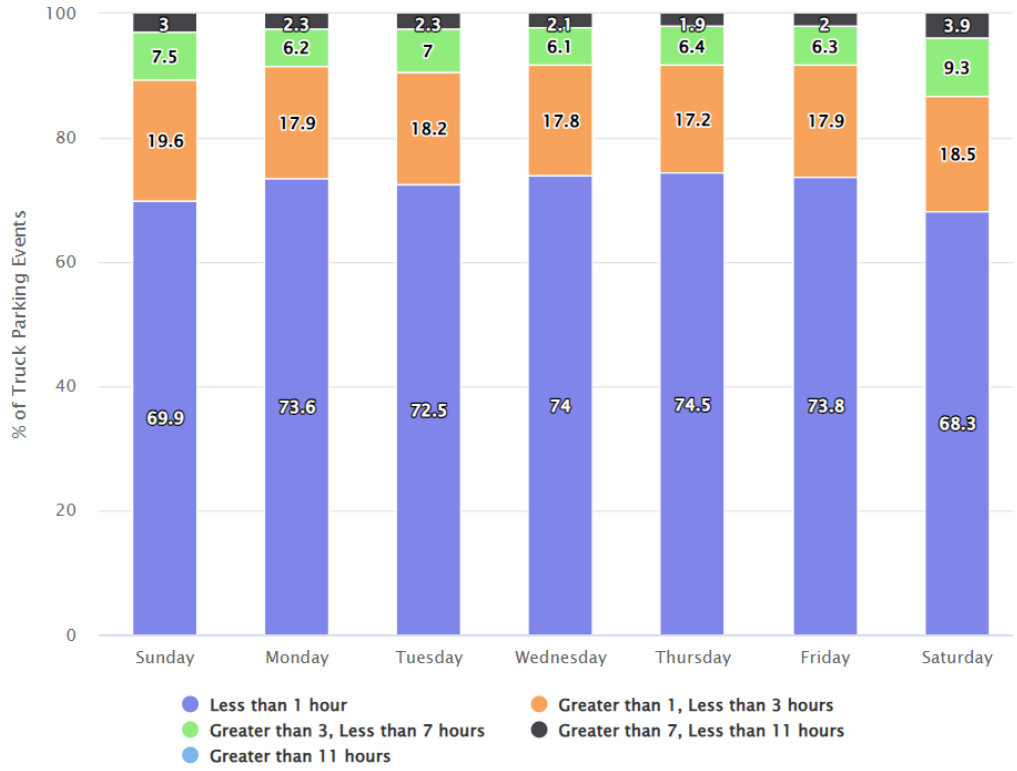
- Planning tool for providing insights into truck parking
  - Demand - Where do we have clusters of truck parking?
  - Utilization - What can we know about specific facilities?
- Underlying Data
  - INRIX non-moving trips
  - Traffic volumes (expansion factors)

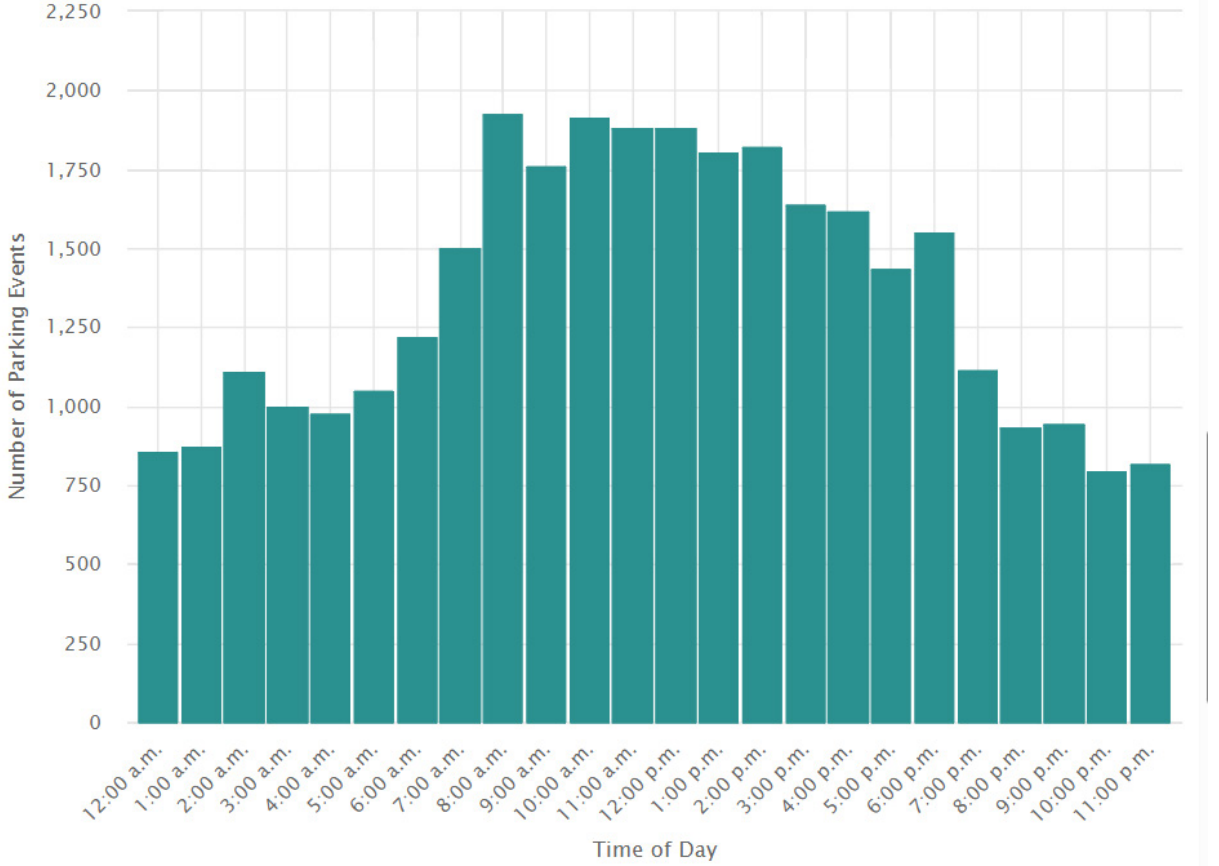
Demand – Where are trucks parking?

Multiple years/months/day types to establish trends.

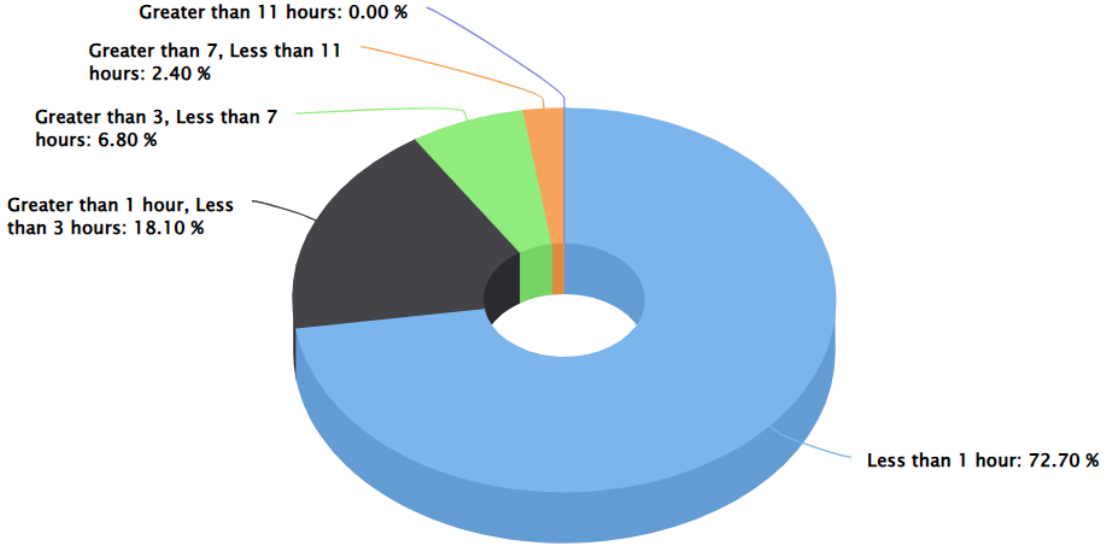
Different basemaps allow for visual analysis – what could be causing the dense number of truck trips.

Over 10 million parking events per year of various time durations and vehicle sizes (box trucks to tractor trailers).





Demand – Are there any trends?



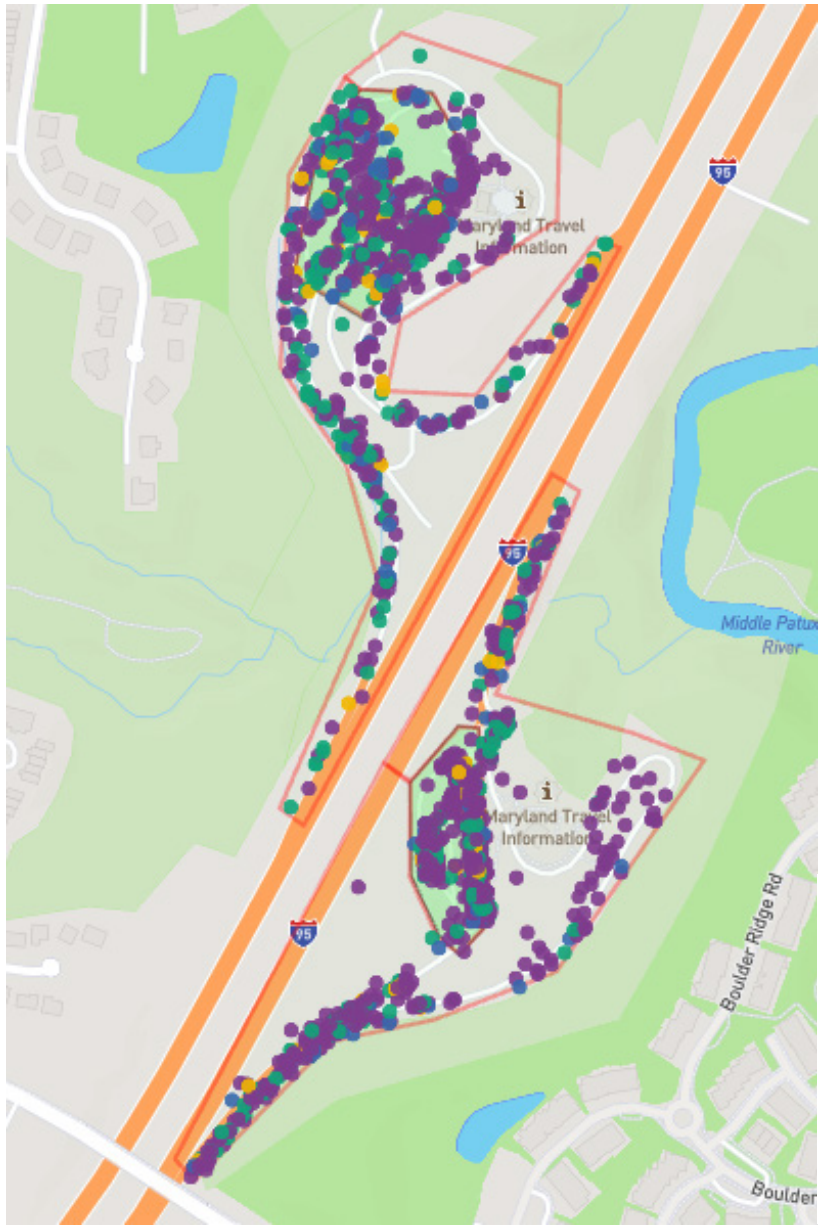
Statistics By:

Parking duration

Time-of-day

Day type

Month



Laurel – I-95 Welcome Center

Visual analysis for examining parking durations and where trucks are parking (authorized versus unauthorized areas).

Data provides insights into authorized/unauthorized area parking, parking durations, utilization by hour and day.

Parking Duration:
- Less than 1 hour
- 1 to 3 hours
- 3 to 7 hours
- 7 to 11 hours
- Greater than 11 hours

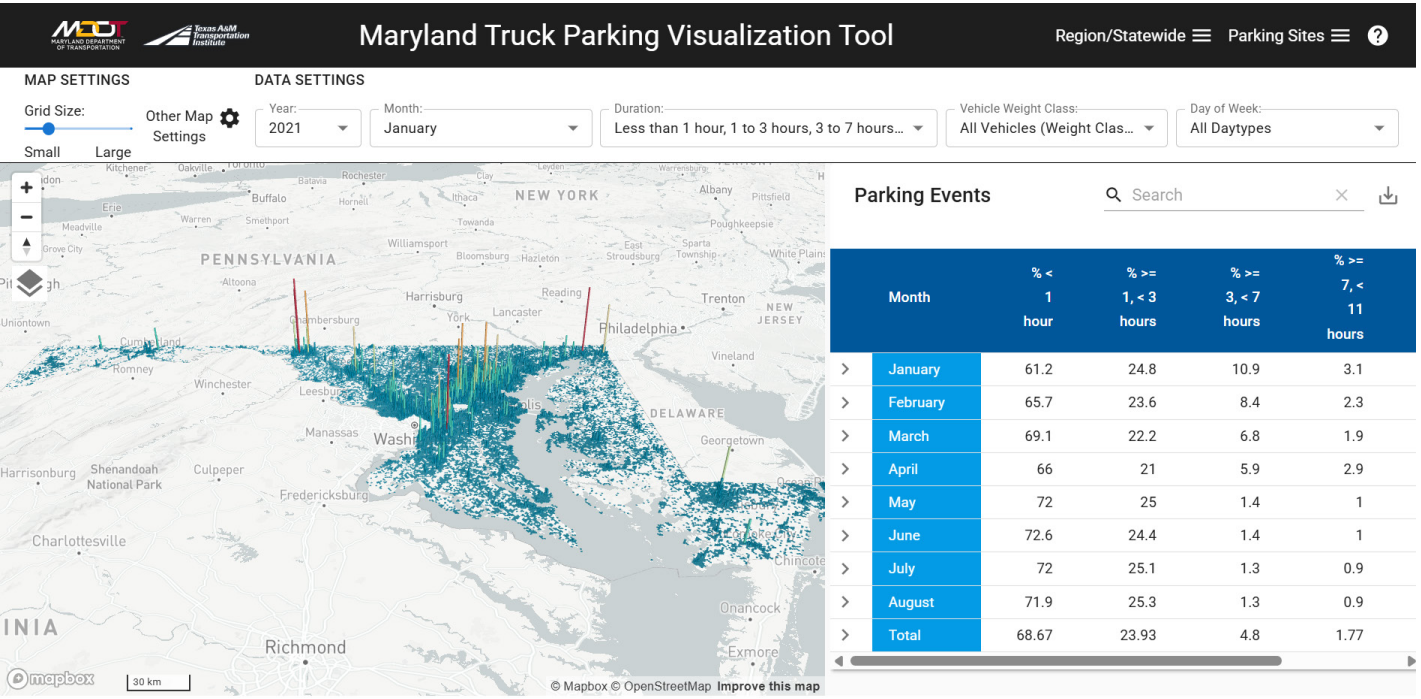
Parking Areas:
- Authorized Parking
- Unauthorized Parking

Parking Category	Total Count	Official Location Count	Unofficial Location Count	Official Rate (%)	Unofficial Rate (%)
less than 1 hour	1,391	927	464	66.6	33.4
1-3 hours	463	263	200	56.8	43.2
3-7 hours	217	151	66	69.6	30.4
7-11 hours	91	63	28	69.2	30.8
greater than 11 hours	0	0	0	0.0	0.0
Total	2,162	1,404	758	64.9	35.1

Average Hourly Count and Space Ratio

Direction	Unexpanded Count	Expansion Factor	Expanded Count	Parking Spaces	Space Ratio (%)
Northbound	3.52	4.00	14.06	21	66.95
Southbound	3.65	4.00	14.61	46	31.76

Truck Parking Visualization Tool – Next Steps



Parking Events

Search

Month	% < 1 hour	% >= 1, < 3 hours	% >= 3, < 7 hours	% >= 7, < 11 hours
January	61.2	24.8	10.9	3.1
February	65.7	23.6	8.4	2.3
March	69.1	22.2	6.8	1.9
April	66	21	5.9	2.9
May	72	25	1.4	1
June	72.6	24.4	1.4	1
July	72	25.1	1.3	0.9
August	71.9	25.3	1.3	0.9
Total	68.67	23.93	4.8	1.77

- Data updates?
- Overviews with MPOs and other presentations
  - Opportunities with local jurisdictions and conversations.
- Linkage with other MDOT truck parking initiatives.
- Feedback welcome.

MARYLAND DEPARTMENT OF TRANSPORTATION

Freight Vehicle Electrification: I-95 and I-81/78 Corridor Charging Projects

Morgan Ellis

Office of EVs, Climate Change, and Air Quality, Director

October 9, 2025

Setting the Scene – State Goals

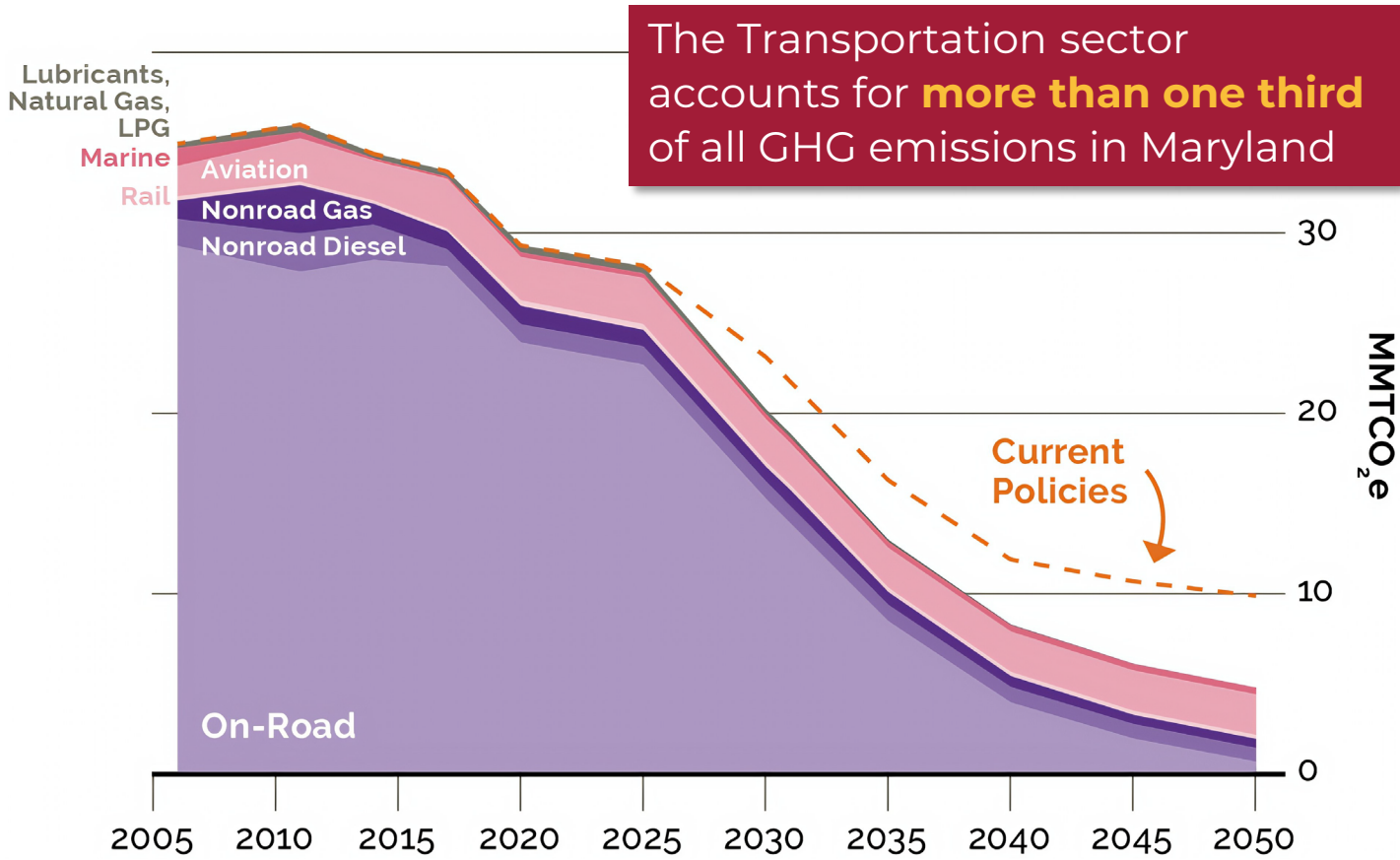
Climate Solutions Now Act

Greenhouse Gas (GHG) Emission Reduction Target

- 60% reduction from 2006 levels by 2031
- Net zero by 2045

Advanced Clean Trucks *(pending)*

- Increasing sales percentage through model year 2035 for Class 2b-8 vehicles



MARYLAND DEPARTMENT OF TRANSPORTATION

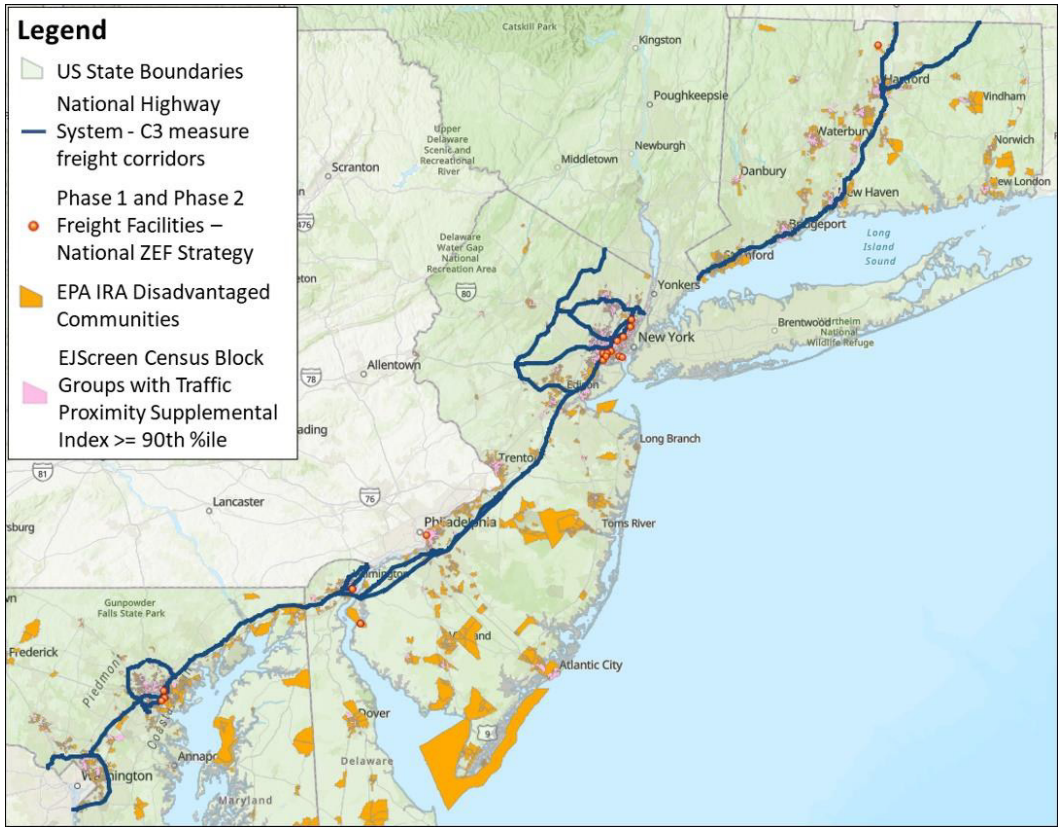
Clean Corridor Coalition

A multi-state project to deploy MHDV charging infrastructure along I-95

- $249 million EPA Climate Pollution Reduction Grant awarded in July 2024
- Includes training and support services to establish a skilled workforce in the region
- Maryland will invest $80 million with no state match
- **Expected Impact:** 8 MHDV charging depots (~150 chargers) in Maryland

Maryland Department of the Environment

MARYLAND DEPARTMENT OF TRANSPORTATION



MARYLAND DEPARTMENT OF TRANSPORTATION

Clean Corridor Coalition

Project Timeline

Task Description	Anticipated Date
Release an RFI to inform program design	August 2025
Community engagement regarding site selection and project design	August - October 2025
Host a public webinar to share RFI results and develop model RFP for Coalition states	November - December 2025
Each state will publish a separate RFP for charging stations located within their respective jurisdiction	January - March 2026
Project awards	April - December 2026
Workforce development program RFP	April - December 2026
Issue second round of RFPs and award contracts	Jan. 2027 - Dec. 2029

We are here

MARYLAND DEPARTMENT OF TRANSPORTATION

Clean Corridor Coalition Request for Information

***41 responses** received in total*

- The RFI was issued on August 27, 2025, and closed on September 30, 2025.
- C3 RFI was informed by prior MHDV RFIs distributed by CEC and FHWA.
- The table to the right displays the respondent categories and counts.
  - "Other" category includes government agency staff, NGOs and energy sector companies.

Category	Total	Sub-Category	Sub-Total
Charging	**20**	Charging Provider	13
		Charging Hardware	5
		Charging Software	1
		Truck Stop Operator	1
Advocates/Consultants	**13**	Advocacy/Industry Group	10
		Consulting Firm	3
Vehicles/Users	**5**	Fleet/Logistics	3
		Vehicle Manufacturer	2
Other	**3**		

Sample Key RFI Findings

Fleets prefer a **hybrid charging network**:

- **Frequent, smaller stations** for coverage, flexibility, and faster deployment
- With **larger hubs at key freight nodes** to provide economies of scale, redundancy, and support for high-power charging

10-15 ports/station typically constructed within 12-18 months

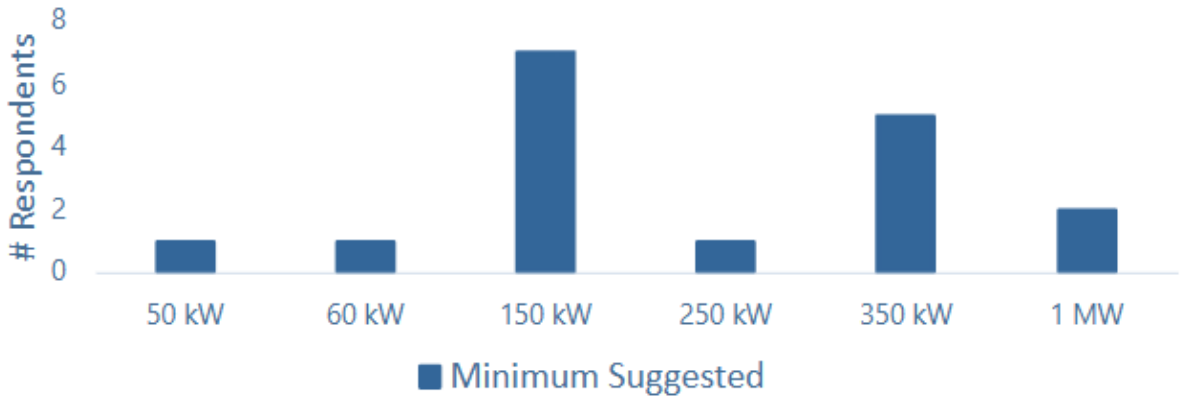
30-40+ ports/station typically constructed within 24-36 months

MARYLAND DEPARTMENT OF TRANSPORTATION

Sample Key RFI Findings

Most respondents were **in favor of the NEVI program's 97% uptime** standard.

Many respondents prefer a required minimum power rating for installed DCFC.



Unaffected by Tariffs to Date

6
Respondents

Delays mainly tied to **permitting** or **utility connections**.

Experiencing Delays

12
Respondents

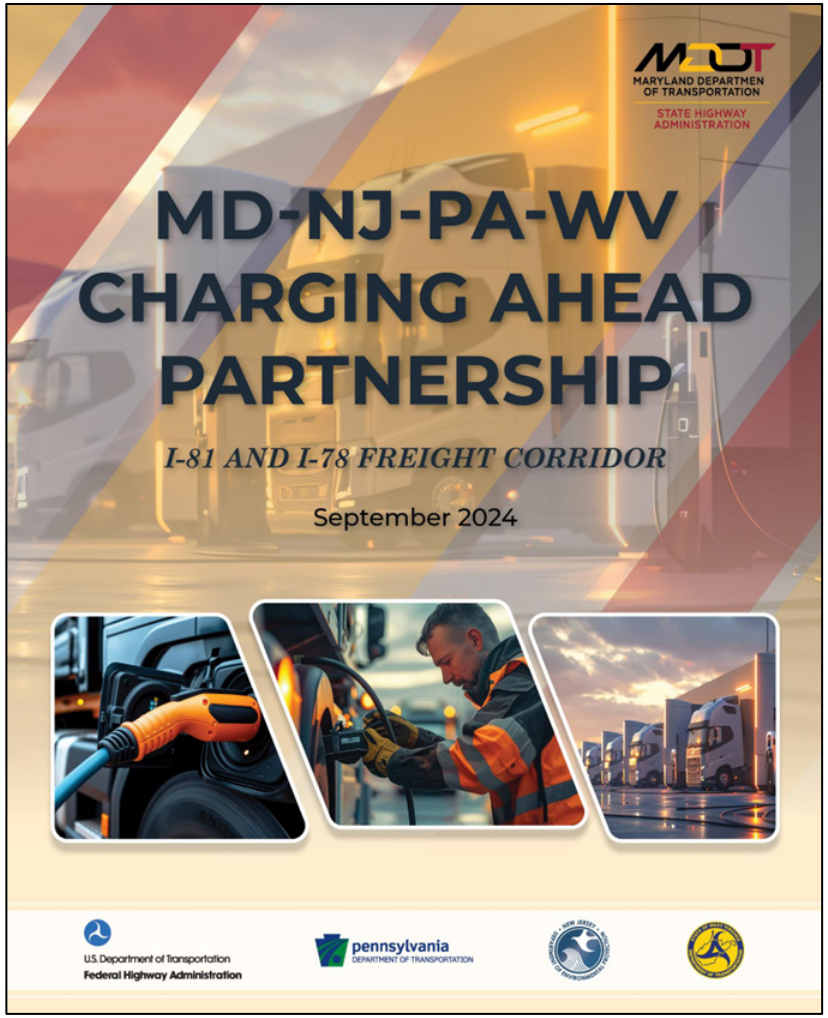
Lead times for switchgear can reach **18 months**, while tariffs on **steel** and **aluminum** are increasing project costs.

MD-NJ-PA* Charging Ahead Partnership

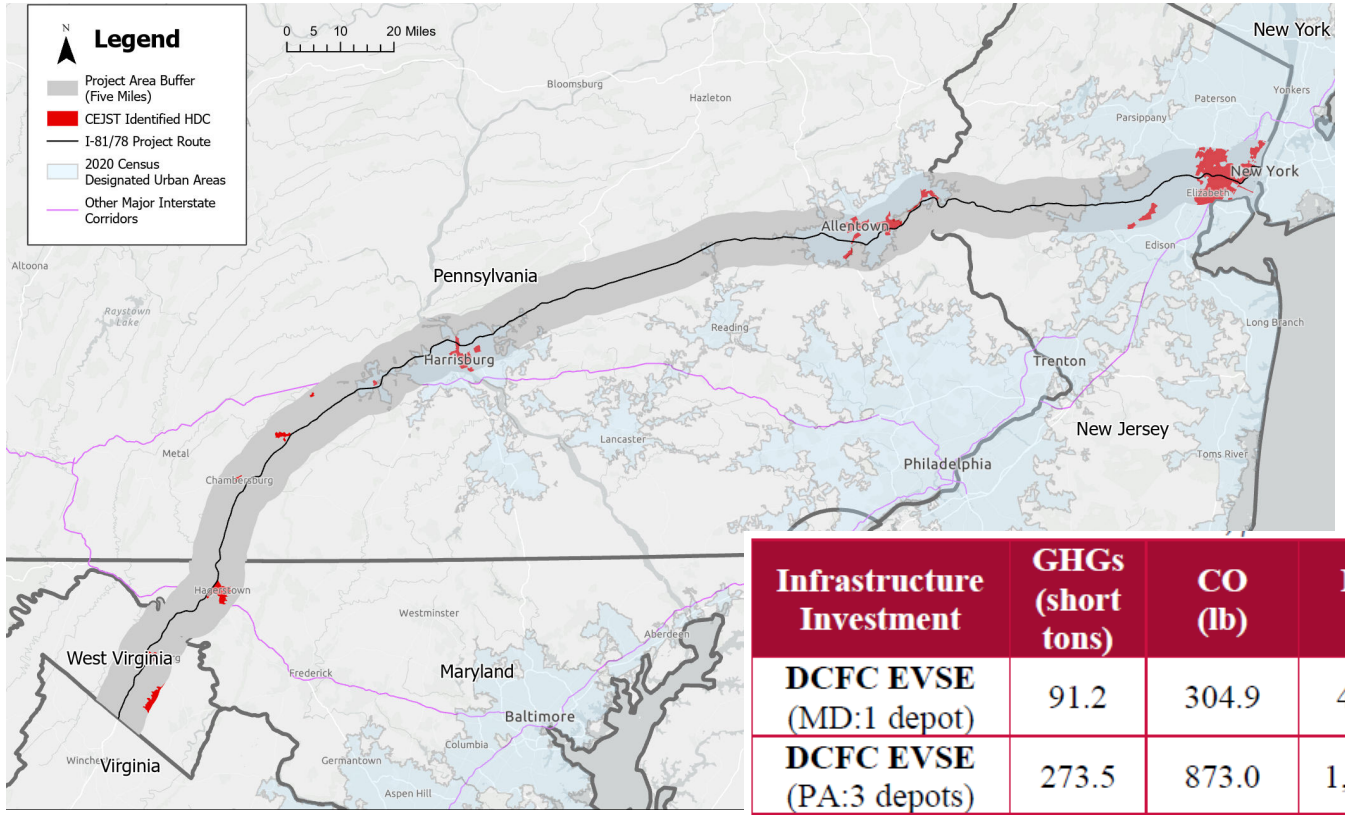
Multi-state project to deploy MHDV charging infrastructure along I-81/I-78

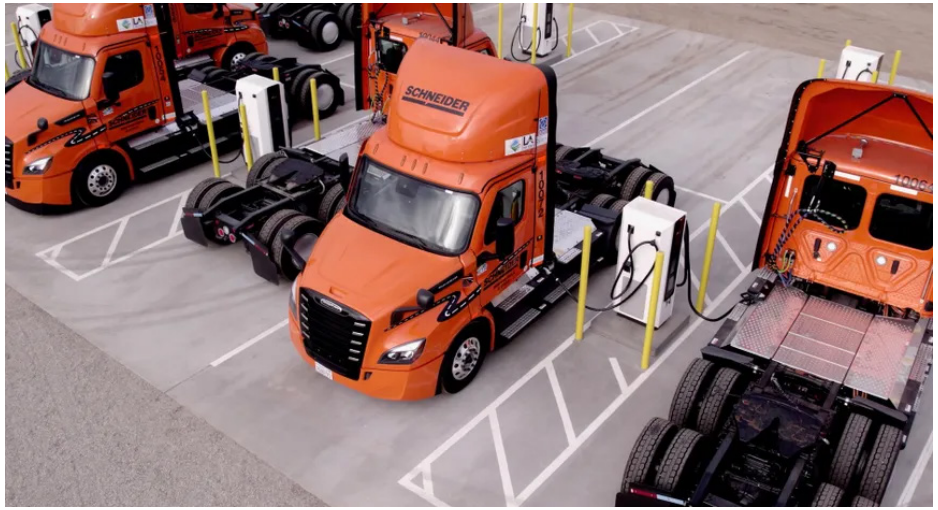
- $18.6 million FHWA Charging & Fueling Infrastructure (CFI) Discretionary Grant awarded in January 2025 for deployment
- Clean Corridor Coalition will serve as a model
- Maryland will invest $3.4 million with minimal state match (majority private sector match)
- **Expected Impact**: 1 MHDV charging depot along MD's I-81 segment

*West Virginia DOT is not moving forward with a deployment only grant.



MD-NJ-PA Charging Ahead Partnership





Infrastructure Investment	GHGs (short tons)	CO (lb)	NOx (lb)	PM10 (lb)	PM2.5 (lb)	VOC (lb)	SOx (lb)	Fuel Dispensed (fuel unit)	Fuel Unit
DCFC EVSE (MD:1 depot)	91.2	304.9	481.3	4.1	3.7	23.1	0.9	208,000	kWh
DCFC EVSE (PA:3 depots)	273.5	873.0	1,388.1	11.7	10.6	69.8	2.6	624,000	kWh
DCFC EVSE (NJ:2 depots)	182.3	638.0	1,018.3	8.2	7.9	49.5	1.7	416,000	kWh
Project Total	**547.0**	**1,815.9**	**2,887.7**	**24.0**	**22.2**	**142.4**	**5.2**	**1,248,000**	**kWh**

MARYLAND DEPARTMENT OF TRANSPORTATION

Transportation, Distribution, and Logistics Institute

CCBC
Transportation, Distribution & Logistics Institute

Skills for Tomorrow, Truck and Port Worker Training

MDOT SFAC Freight Summit
Monday, December 8, 2025

Remember this about careers in transportation, distribution, and logistics……

As long as people buy stuff,

there will always be transportation jobs.

A Dynamic Industry in the Baltimore Region

Overall statistics

<u>Port of Baltimore</u>
20,000 direct
273,000 indirect/linked jobs
Economic Impact $51B

<u>BWI Airport</u>
10,000 direct
107,000 indirect/linked jobs
Economic Impact $11.3B

All others in region (trucking trade transportation sector)248K jobs

Response to disruptions

Labor disputes and strike

Key Bridge (congestion, fuel costs, transit times)

HST project and intermodal coordination

National geo-political policies, funding and changes

Environmental concerns (coal dust, air quality, energy demands)

Labor Fluctuations

Labor shortages in specific sectors

Technological advancements and labor impacts

Infrastructure Investments

FSK Bridge Replacement

Maritime Terminal Improvements (Fairfield, Dundalk, Seagirt, Sparrows Point)

Rail Projects (CSX Double Stack, HST, B&P)

Airport Terminal and Runway Enhancements / ATC Tower

Technology Investments

Electrification and Sustainability

Security Screening

B Smart/Smart City Sensors

Marine and Air Terminal Upgrades

MDOT CAV / Autonomous Vehicles / Automation / Robotics

AI / Wireless / Virtual Reality

Current Labor Challenges and Considerations

Challenges

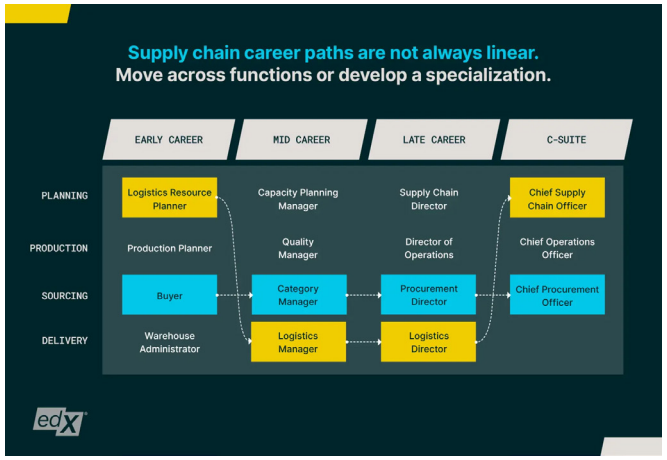
- Negative stigma / image of working in industry
- Policy driven changes
- Generational divide
- Technical and critical skills gaps
- Specialized sector employment shortages
- New and changing technologies

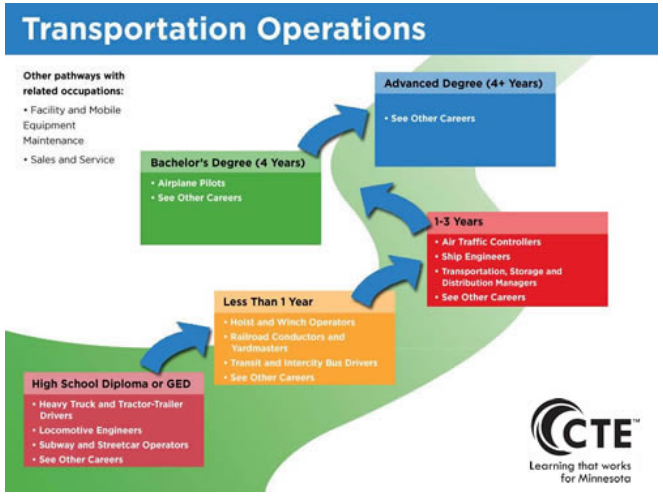
Considerations

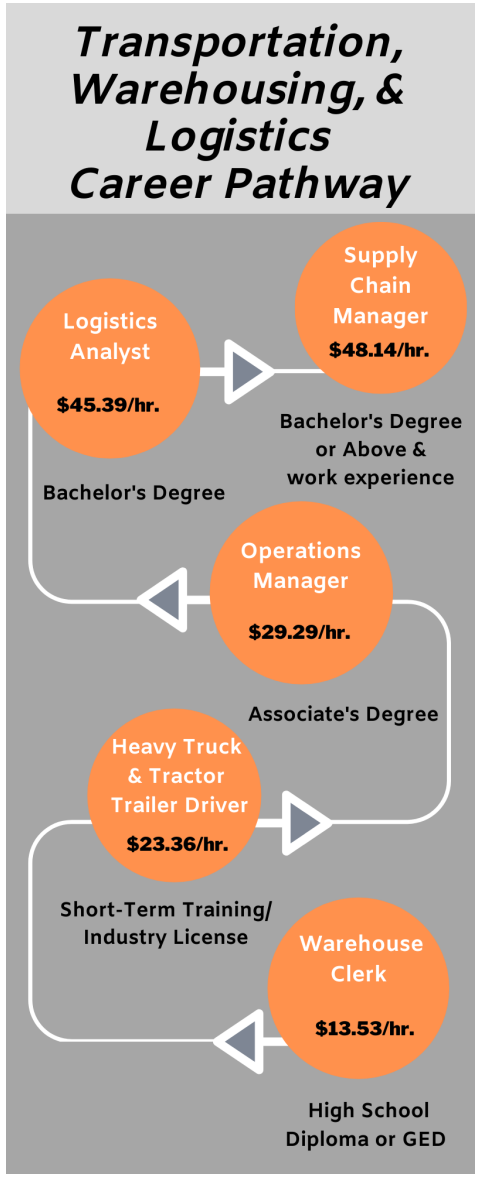
- Workforce development and training
- Adapting business practices to various generations of workers
- Multimodal transferrable skills
- Work-life balance

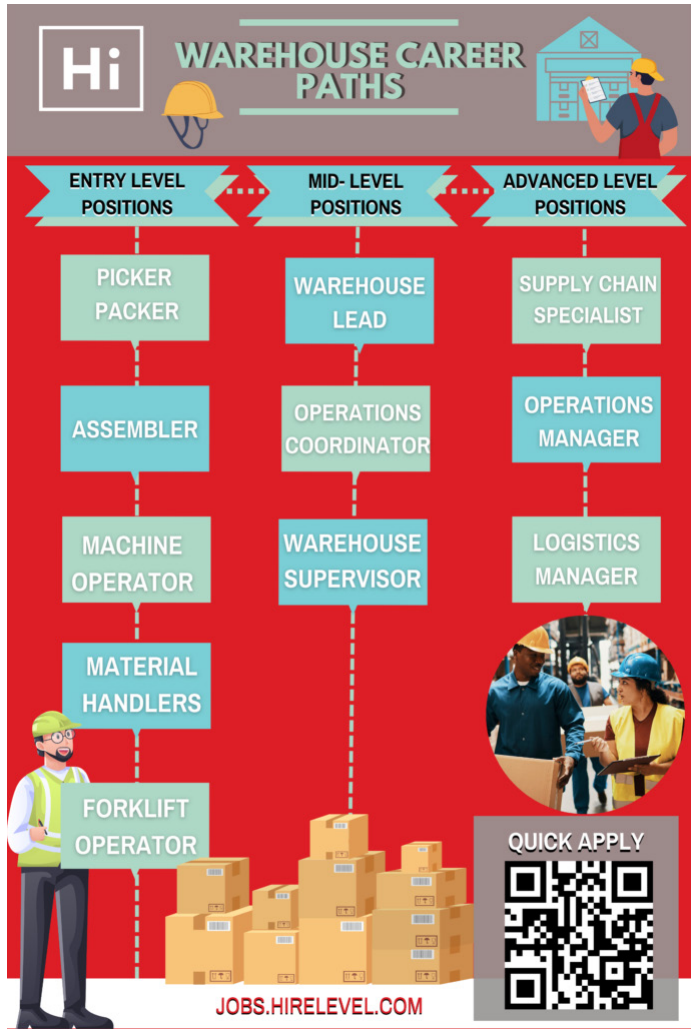
The Vast TDL Training Industry Sectors

Modes of Transportation	Air, Rail, Trucking, Maritime, Pipeline
Logistics Components	Warehousing, Distribution, Procurement, Quality
Public vs. Private Sector	Transit, Policy, Engineering, Regulations
Blue Collar vs. White Collar	technical/manual labor vs. management/research/office
Supply Chain Management	Raw Materials, Manufacturing, WIP, Distribution, Retail


Supply chain career paths are not always linear.
Move across functions or develop a specialization.
EARLY CAREER
MID CAREER
LATE CAREER
C-SUITE
PLANNING
PRODUCTION
SOURCING
DELIVERY
Logistics Resource Planner
Capacity Planning Manager
Supply Chain Director
Chief Supply Chain Officer
Production Planner
Quality Manager
Director of Operations
Chief Operations Officer
Buyer
Category Manager
Procurement Director
Chief Procurement Officer
Warehouse Administrator
Logistics Manager
Logistics Director
edX


Transportation Operations
Other pathways with related occupations:
• Facility and Mobile Equipment Maintenance
• Sales and Service
Advanced Degree (4+ Years)
• See Other Careers
Bachelor's Degree (4 Years)
• Airplane Pilots
• See Other Careers
1-3 Years
• Air Traffic Controllers
• Ship Engineers
• Transportation, Storage and Distribution Managers
• See Other Careers
Less Than 1 Year
• Hoist and Winch Operators
• Railroad Conductors and Yardmasters
• Transit and Intercity Bus Drivers
• See Other Careers
High School Diploma or GED
• Heavy Truck and Tractor-Trailer Drivers
• Locomotive Engineers
• Subway and Streetcar Operators
• See Other Careers
CTE
Learning that works for Minnesota


Transportation, Warehousing, & Logistics Career Pathway
Logistics Analyst
$45.39/hr.
Supply Chain Manager
$48.14/hr.
Bachelor's Degree
Bachelor's Degree or Above & work experience
Operations Manager
$29.29/hr.
Associate's Degree
Heavy Truck & Tractor Trailer Driver
$23.36/hr.
Short-Term Training/ Industry License
Warehouse Clerk
$13.53/hr.
High School Diploma or GED


Hi
WAREHOUSE CAREER PATHS
ENTRY LEVEL POSITIONS
MID- LEVEL POSITIONS
ADVANCED LEVEL POSITIONS
PICKER PACKER
ASSEMBLER
MACHINE OPERATOR
MATERIAL HANDLERS
FORKLIFT OPERATOR
WAREHOUSE LEAD
OPERATIONS COORDINATOR
WAREHOUSE SUPERVISOR
SUPPLY CHAIN SPECIALIST
OPERATIONS MANAGER
LOGISTICS MANAGER
QUICK APPLY
JOBS.HIRELEVEL.COM

Academic and Workforce Development Solutions in the Baltimore Region

K-12

Digital Harbor HS (Baltimore City)
Maritime and Logistics

North County HS (AA County)
Transportation Signature

Williamsport HS (Washington County)
CDL / Diesel / Aviation

2-Year / Community Colleges

Transportation Certificate, Diesel

CDL, Automotive, Logistics, Aviation

Transportation and Supply Chain (P-TECH)

Logistics – Certified Logistics

Supply Chain Management

Heavy Bus Operator

4+ Year / College University

Maritime Institute of Technology and Graduate Studies

Stevenson University
Center for the Study of the Port of Baltimore

Morgan State University
Service and Supply Chain Management, Transportation & Highway Engineering

University of Maryland College Park
Supply Chain Management

Mount St. Mary's University
Logistics and Supply Chain Management

Towson University
MS and Graduate Certificate in Supply Chain Management

CCBC
Transportation, Distribution & Logistics Institute

Programming Options

TRANSPORTATION, DISTRIBUTION, AND LOGISTICS CAREER TRAINING OPTIONS:

CTE / CAREER & TECHNICAL TRAINING

Aviation
Drone Pilot Training for the Remote Pilot License
FAA Remote Pilot Certificate
Simulator Training/Rental

Maritime
Maryland Basic Boating Certification
Ordinary Seafarer
Able-bodied Seafarer
US Coast Guard Captain's License—100 Ton
Marine Engine Maintenance Repair
SCUBA
Rigging

Highway / Trucking / Automotive
Maryland Automotive Safety Inspector
Auto Service Attendant
Commercial Drivers' Class A License
Commercial Drivers' Class B License
CDL Endorsements
Manual Transmission Operations/Stick Shift
Basic Car Care for New Owners
Introduction to Preventative Maintenance for Diesel Mechanics
Electric Vehicle (EV) Maintenance

Logistics / Warehousing
Certified Logistics Associate (CLA) Certification
Certified Logistics Technician (CLT) Certification
Certified Supply Chain Professional (CSCP) Certification
OSHA 10
Forklift Operator Training
Purchasing and Procurement Management
Warehouse Technician – Individuals with Disabilities
Freight Dispatcher

Supply Chain Management
Certified Supply Chain Professional (CSCP)
Certified Production Technician (CPT)
Procurement & Purchasing Management
Mechatronics
Robotics Technician

Professional Development / Train the Trainer
Automotive ASE Educator Workshop
Transportation and Logistics Educator Externship
Offshore Wind Educator Workshop

Apprenticeships
MDOT – Diesel / Bus Maintenance Repair
Heavy Equipment Operations – Operating Engineers

ACADEMIC PROGRAMMING

Aviation
Air Traffic Control AAS
Aircraft Dispatcher AAS
Flight Operations Management AAS
Professional Pilot: Airplane AAS
Professional Pilot: Helicopter AAS
Professional Pilot: Unmanned Aircraft Systems AAS
Air Traffic Control Certificate
Aviation Management Certificate
Flight Attendant Certificate
Flight Training Certificate

Highway / Automotive
Automotive Technology (Global Option) AAS / ASE
Automotive Technology (Ford, GM, Nissan) AAS / ASE
Automotive Air Conditioning and Heating Specialist Certificate
Automotive Brake and Suspension Specialist Certificate
Automotive Drive Train Specialist Certificate
Automotive Electrical and Electronic Specialist Certificate
Automotive Engine Specialist Certificate
Automotive Master Technician Certificate
Automotive Service Attendant Certificate

Logistics / Supply Chain Management
Transportation, Distribution, and Maritime Logistics Certificate

Solutions for Industry

- Participate in work-based learning opportunities
  - Internships / apprenticeships / experiential learning
- Promote career pathway awareness
  - Explain full academic and career pathway process
  - Outreach to primary and secondary education (field trips, guest speakers, mock interviews, career fairs)
  - Educate primary sector (K-5) on industry career pathways
- Engage in collaborative initiatives
  - Cross partnerships with education and industry
  - Utilize recruiting and advancement/promotion opportunities
- Support technical skill training with soft/critical skills training
  - Customized training for job skill requirements
- Collaborate with local workforce investment boards and non-profits in underserved populations

Solutions for Industry

- Utilize traditional and non-traditional credential attainment
  - Academic Degrees (Lower-Level Certificates, AA, BA, MA, terminal degree)
  - Industry Association Certifications (MSSC / CSCMP / APICS)
  - High School Dual Credit
  - Short Term Workforce Development credentials
  - Credit for Prior Learning (Portfolio / Course Exam / Veterans / Experience)
- MARAD Center of Excellence For Domestic Maritime Workforce Training and Education (CoE)

CCBC MITAGS ANNE ARUNDEL COMMUNITY COLLEGE CALHOON U&F M.E.B.A. ENGINEERING SCHOOL SEAFARERS HARRY LUNDEBERG SCHOOL OF SEAMANSHIP

- Ships for America Act – Shipbuilding Renaissance
- US Department of Education - Short Term/Workforce Pell Program

Customized Solution Examples

CCBC
December 1 at 11:02 PM ·

ICYMI: CCBC and one of our CDL program's Metallica Scholars were featured nationally on CBS Sunday Morning yesterday!

Thanks to Metallica's All Within My Hands Foundation, CCBC has been supporting students in workforce programs, like CDL-A training, since 2018! #CCBCProud

THE METALLICA ALL WITHIN MY HANDS FOUNDATION

CBS Sunday Morning
November 30 at 10:44 AM ·

Metallica has not only changed lives with their music; they've also changed lives with their philanthropy – from donations to food banks and disaster relief, to the band's charity All Within My Hands, which has donated to workforce education and other critical services.

Luke Burbank caught up with the band and some of the 9,000 Metallica Scholars who have benefited from the band's grants through trade schools and community colleges.

TDLI Maritime Educator Externship

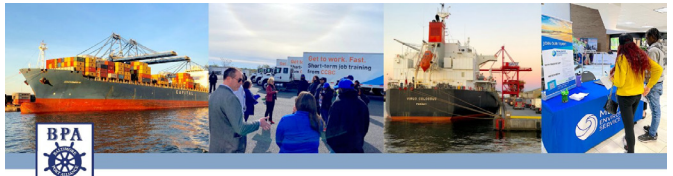
CCBC Transportation, Distribution & Logistics Institute

June 23 - 27, 2025
Community College of Baltimore County and the Baltimore Port Alliance
Baltimore, Maryland

Participate in an immersive 5-day Educator focused Externship where you will...

- Tour public and private Baltimore Port and logistics facilities and learn from employees and employers of port logistics operations
- Learn about environmental aspects of the maritime and freight transportation industry
- Visit local warehouse and distribution facilities and learn about technological advances in material handling
- Gain knowledge and practical tools to promote maritime and port logistics careers
- Learn about career pathways from high school to graduate programs
- Create materials for use in classroom and career counseling opportunities

Who: High school and college STEM or CTE Educators, career coaches, guidance counselors, and high school administrators, college faculty, and promoters of related academic and career pathways
Where: Community College of Baltimore County - Dundalk Campus
When: Monday, June 23 - Friday, June 27, 2025
Cost: $75 which includes lunches, course materials, and field trips
Benefits: Upon successful completion, participants receive 5 CEUs from CCBC.
Course Number: VOA 796 **CRN:** 37960



PORT OF BALTIMORE · 1706 · Helen Delich Bentley

Baltimore Port Alliance Hiring & Career Expo

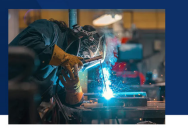
Thursday, May 2 | Free Registration

35+ Featured Employers & 250+ Qualified Job Seekers

CCBC
COMMUNITY COLLEGE OF BALTIMORE COUNTY

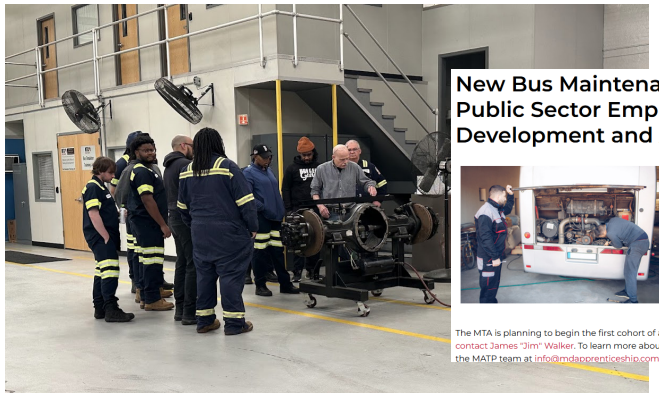
PRESS RELEASE | September 5, 2025

CCBC to Launch Welding Training Center with $1M Grant to Help Rebuild Key Bridge



Backed by the Baltimore Community Foundation, the new center will train welders essential to Key Bridge and regional infrastructure projects.

MARYLAND DEPARTMENT OF TRANSPORTATION
MARYLAND TRANSIT ADMINISTRATION



New Bus Maintenance Apprenticeship Program Creates Path to Public Sector Employment Opportunities - Workforce Development and Adult Learning

The Maryland Apprenticeship and Training Program (MATP) is excited to announce a new Registered Apprenticeship in Bus Maintenance that will create excellent public sector employment opportunities for Maryland workers. Established through a partnership between Maryland Department of Transportation, Maryland Transit Administration, and Amalgamated Transit Union Local 1300, the Bus Maintenance apprenticeship is a three-year program that includes a tota of 6,000 hours of on-the-job training provided by experienced mentors and a minimum of 144 hours of related instructior each year provided by the Community College of Baltimore County and the International Transportation Learning Center. Apprentices will receive progressive pay raises as they reach set milestones in the program. The current salary for an individual that completes all of the program requirements and achieves journeyworker status is $39.86 per hour.

Applicants must be at least 18, must have a high school diploma, and must be physically capable of performing the essential functions of the apprenticeship program with or without a reasonable accommodation. They must also be able to pass a screening for drugs and alcohol.

The MTA is planning to begin the first cohort of apprentices spring of 2024. If you serve any customers who have an interest in this opportunity, encourage them to reach out contact James "Jim" Walker. To learn more about MATP and how the Registered Apprenticeship model works for employers and apprentices, visit the website or reach out to the MATP team at info@mdapprenticeship.com.

StanleyBlack&Decker

RAILROAD B&O MUSEUM

What students need to know about working in the freight transportation industry…

There are more career pathways in TDL other than Commercial Truck Driver. Many many many more.

Not every job in TDL is dirty and hot. Some are just dirty. Some are just hot. And some are neither.

No matter what pathway you choose, you will continue a lifelong path of learning and schooling. Don’t stop with what you just completed.

Dimensional weight calculations require adding and multiplication. Processing shipping documents requires reading.

Kipp Snow

Director – Transportation, Distribution, and Logistics Institute

Community College of Baltimore County – Dundalk Campus

443-840-3034

ksnow@ccbcmd.edu

www.ccbcmd.edu/transportation

@kippcsnow

MARYLAND DEPARTMENT OF TRANSPORTATION

Panel on Industrial Development and Land Use

Planning, Programming, & Project Delivery,

The Secretary's Office

Panel Question: Competitiveness

Is Maryland doing enough to compete for and attract industrial businesses, and what does this competition look like?

What are Maryland's best advantages and shortcomings relating to industrial development? (all topics on the table) Where does land use and development policy within Maryland rank?

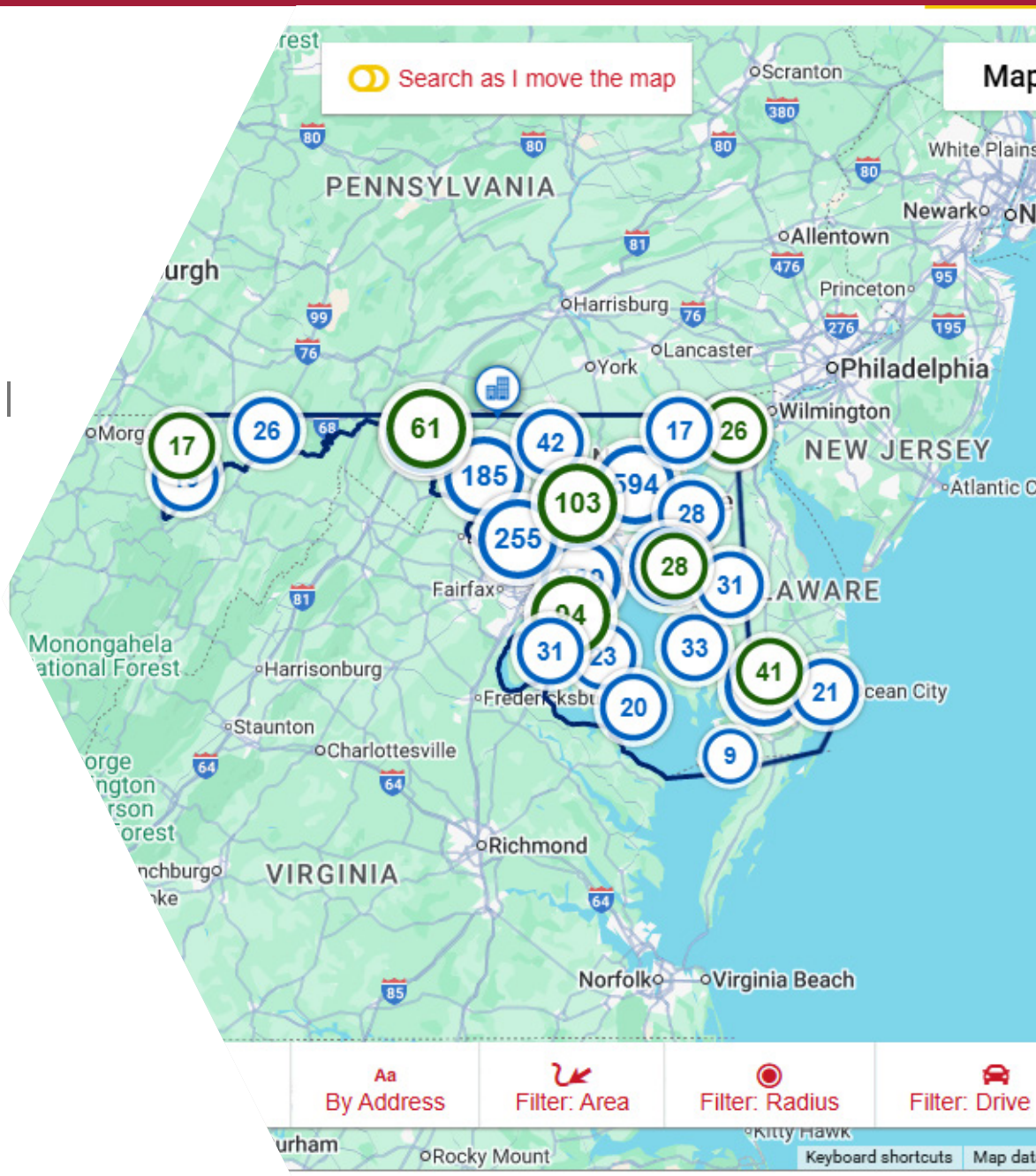
MARYLAND DEPARTMENT OF TRANSPORTATION

Panel Question: Site Selection

What does a competitively developed industrial site look like in size, features, proximity, etc. in 2025?

What are some ways potential sites are qualified?

What were the key ingredients in the creation of these sites and are there examples from other states where this has been done effectively?



MARYLAND DEPARTMENT OF TRANSPORTATION

Panel Question: Transportation

What could state DOT's do to help freight rail operators extend the reach of their services to new or formerly served areas?

Are there any examples from other states or locations where state support proved effective to develop new rail transportation options or support modal conversion?

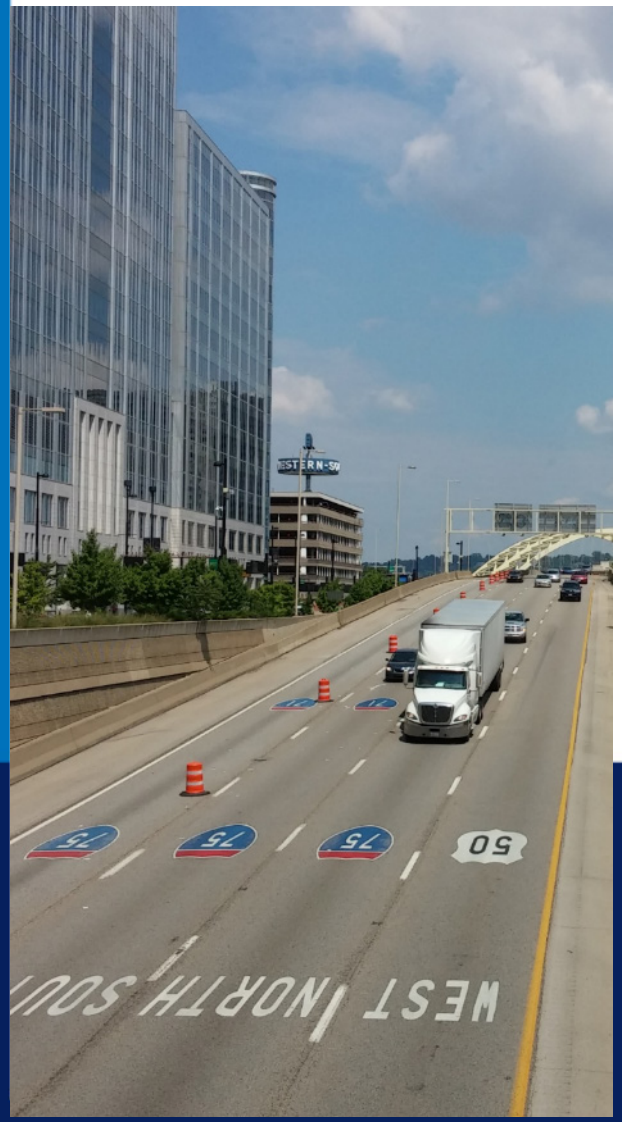
MARYLAND DEPARTMENT OF TRANSPORTATION

Panel Question: Land Use Planning

With the ties between land use planning and transportation network planning becoming more interdependent and less hypothetical, what role could state DOT's play in encouraging the coordination of land use planning wholistically with transportation system planning?

Are there any transportation and development policies in our neighboring states that Maryland should also consider implementing?

MARYLAND DEPARTMENT OF TRANSPORTATION



Source: FHWA.

Freight Transportation and Land Use

Maryland State Freight Summit

December 8, 2025

Jeff Purdy, AICP, PTP
Freight Programs Team Leader
Office of Operations
Federal Highway Administration

U.S. Department of Transportation
Federal Highway Administration

Disclaimers

U.S. Department of Transportation
Federal Highway Administration

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Outline

U.S. Department of Transportation
Federal Highway Administration

- Background
- Planning Freight-Efficient Land Uses
- Mitigating Impacts

U.S. Department of Transportation
Federal Highway Administration

Background

Freight and Land Use

U.S. Department of Transportation
Federal Highway Administration

- Ports and distribution centers are often located in major metropolitan areas
- Consumer demands increase the amount of cargo moving through these facilities
- Surrounding land uses limit ability to expand capacity
- Freight movements result in trucks navigating urban streets
- Trucks interact with other road users
- E-commerce is changing how retailers and consumers interact
- Consumers are demanding faster and cheaper shipping
- Retailers are moving inventory locations near population centers
- Urban truck traffic growth is exacerbating last-mile challenges

Integrating freight and land use planning can help:

- Support supply chains with minimal impact on communities
- Supply goods and services in a manner integrated with community form
- Provide employment opportunities and access to jobs

Impacts on Community

U.S. Department of Transportation
Federal Highway Administration

- Traffic impact
- Roadway infrastructure impact
- Truck traffic in residential neighborhoods
- Outdoor storage and freight operations
- Noise
- Stormwater runoff
- Natural features impact

Source: FHWA.

Site Factors for Freight-Generating Facilities

U.S. Department of Transportation
Federal Highway Administration

- Available suitable land
- Zoning and adjacent land uses
- Site constraints
- Access to key markets
- Access to major highways
- Roadway design and capacity
- Access management
- Truck circulation
- Truck parking and loading areas
- Access to rail intermodal or ports
- Workforce and employee access

Source: Microsoft Bing® Maps™.

U.S. Department of Transportation
Federal Highway Administration

Planning Freight-Efficient Land Uses

Minimize the Private and External Costs of Supply Chains and Their Stages

U.S. Department of Transportation
Federal Highway Administration

Factors:

- E-commerce
- Last-mile delivery
- Public agency effect on private costs
- Site selection
- Automation
- Staging and truck parking
- Freight loading in urban spaces

Source: FHWA.

Reduce the Distance Traveled at Supply Chain Stages; Upstream and Downstream

U.S. Department of Transportation
Federal Highway Administration

- Travel from manufacturing locations to warehouses and distribution centers
- Travel from warehouses and distribution centers to retail locations and households
- Managed access from warehouses and distribution centers to major transportation facilities
- Street connectivity and appropriate truck routing

Source: Microsoft Bing® Maps™.

Mitigate Externalities at Supply Chain Nodes and Large Traffic Generators

U.S. Department of Transportation
Federal Highway Administration

Externalities:
- Safety
- Noise
- Land use compatibility
- Traffic congestion
- Mode conflict
- Truck parking and curb loading
- Unproductive vehicle miles traveled (VMT)

Mitigation approaches:
- Land use
- Transportation
- Design
- Operations and management
- Technological
- Process-based

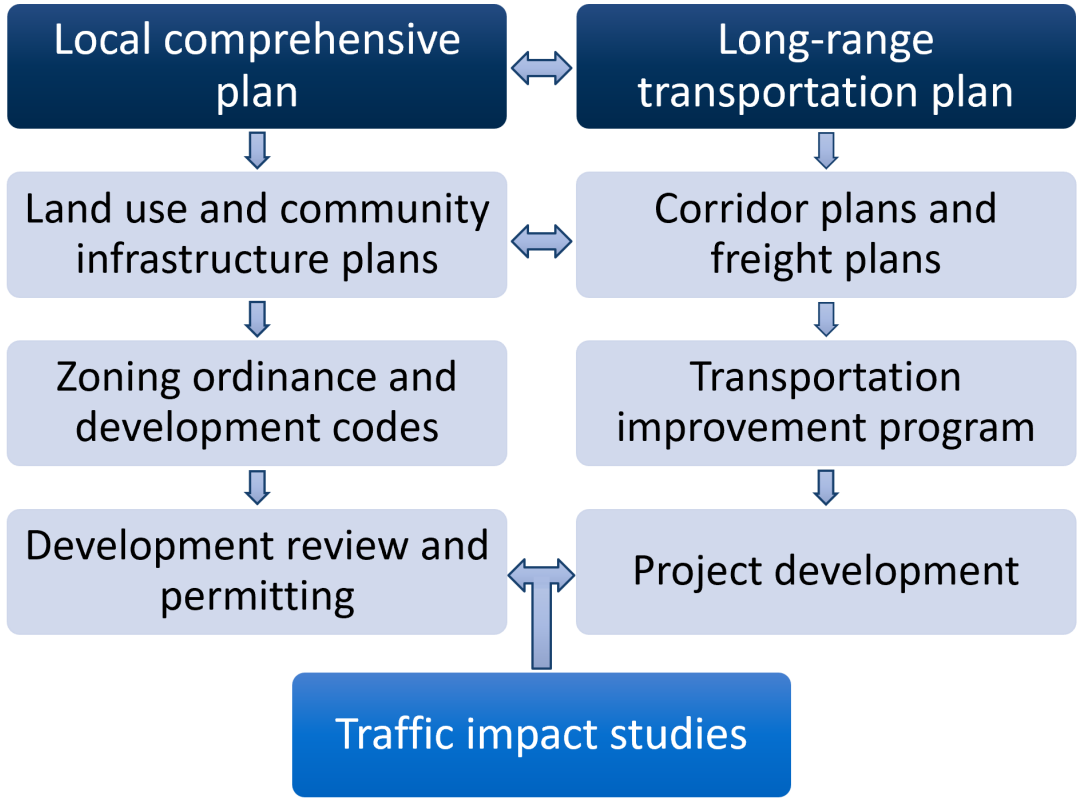
U.S. Department of Transportation
Federal Highway Administration

Mitigating Impacts

Community Planning

U.S. Department of Transportation
Federal Highway Administration

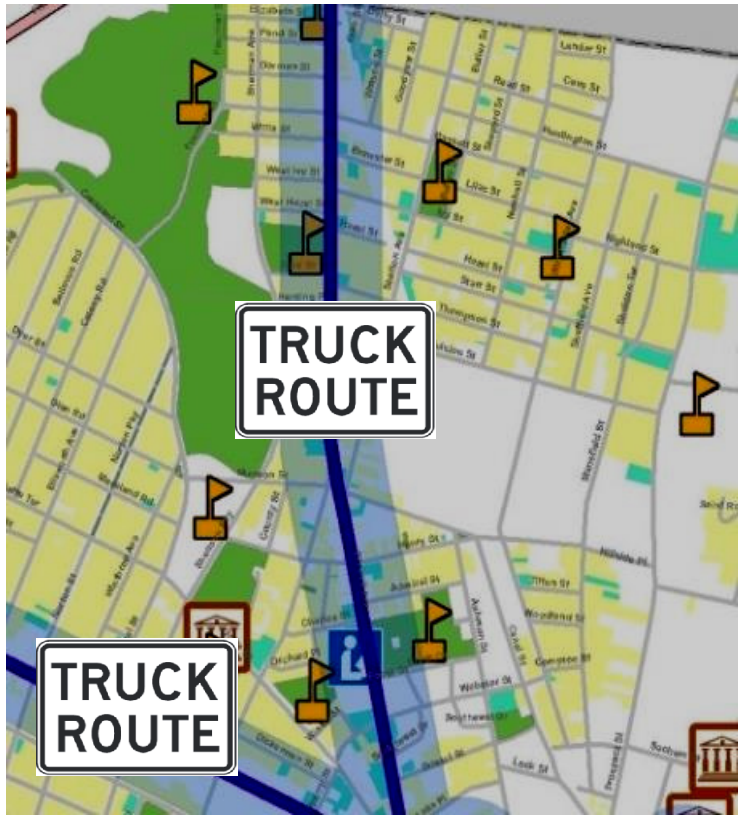
- Comprehensive land use plan
- Zoning code and land development regulations
- Land use permitting issues and process
- Economic development plan
- State, metropolitan, and local transportation plans
- Coordination between development review and transportation agencies
- Public involvement



Effective Truck Route Networks

U.S. Department of Transportation
Federal Highway Administration

- Consider appropriateness of State and local truck routes to minimize:
  - Truck VMT
  - Congestion
  - Conflicts with physical constraints
  - Safety risks
  - Sensitive land uses
- Study land use and truck travel patterns
- Study alternative routes
- Gather industry and community input
- Consider the National Network of Truck Routes



Source: FHWA.

Traffic Impact Analysis

U.S. Department of Transportation
Federal Highway Administration

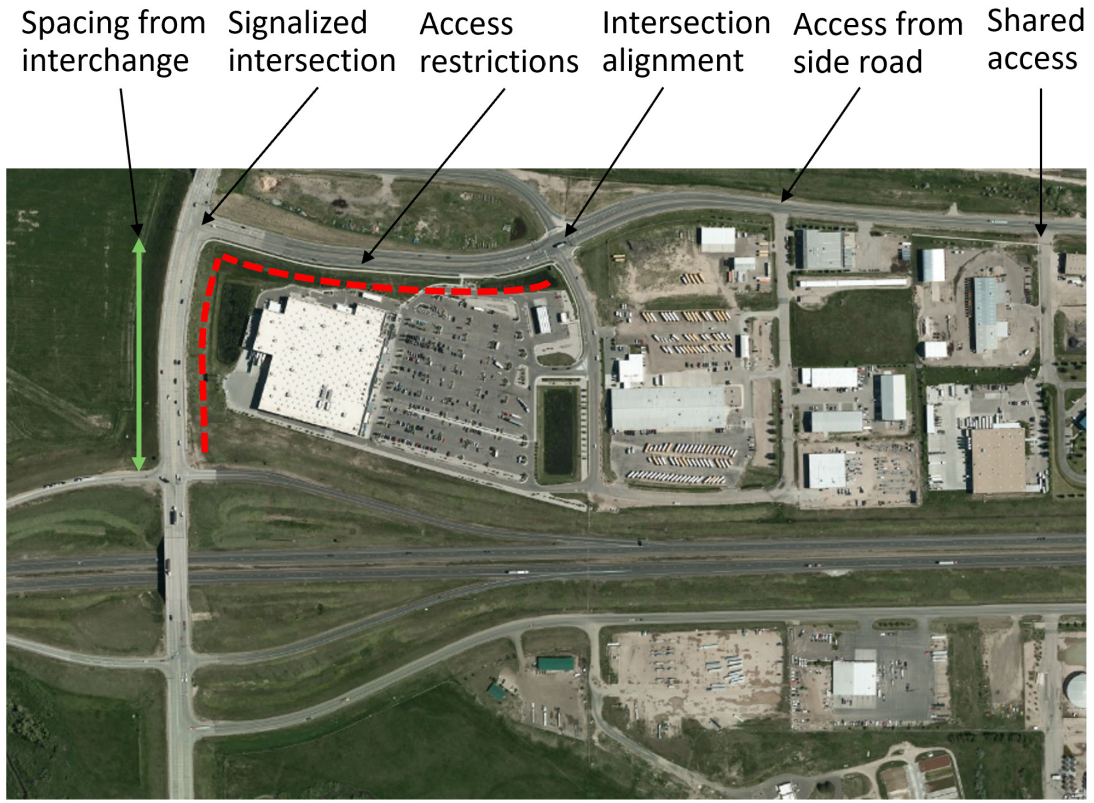
- Estimate traffic-related impacts of a development
- Include anticipated truck volumes at a site and impacts of staging near the site
- Consider specific transportation and truck parking needs
- Ensure new traffic from development can be accommodated on roadway system
- Establish traffic control at access points
- Provide queuing space for trucks at gates
- Improve intersection designs for trucks
- Consider multimodal impacts of truck traffic
- Institute transit access or rideshare for employees
- Mitigate impacts

Source: FHWA.

Access Management at Major Interchanges and Freight Facilities

U.S. Department of Transportation
Federal Highway Administration

- **Access spacing**—spacing driveways from intersections and interchanges
- **Driveway spacing**—aligning opposing driveways and sharing access
- **Safe turning lanes**—providing dedicated left-turn and right-turn lanes, roundabouts, and innovative intersections
- **Median treatments**—limiting left turns and providing directional crossovers
- **Right-of-way management**—restricting access and maintaining corridor sight distance
- **Local planning and coordination**—planning and coordination on:
  - Corridor access management plans
  - Site plans, subdivisions, and access permits



Source: Google® Maps. Modified by FHWA.

Adequate Truck Loading Areas

U.S. Department of Transportation
Federal Highway Administration

- Urban districts:
  - Designated loading zones in commercial and industrial areas
  - Loading areas that are available during peak periods of truck demand
  - Enforce parking and loading zone rules
- Suburban retail centers:
  - Adequate loading dock space
  - Adequate space for truck maneuvering
  - Adequate space to ensure limited interaction with passenger vehicles
  - Truck parking facilities

Source: FHWA.

Truck Parking Development

U.S. Department of Transportation
Federal Highway Administration

Strategies for integrating truck parking with freight-related land uses should:

- Consider both the public and private economic benefits of truck parking
- Estimate truck parking generation needs for freight-related land uses
- Consider factors for proper siting and design of truck parking
- Ensure truck parking areas are safe and secure

Source: FHWA.

Site Design To Mitigate Impacts

U.S. Department of Transportation
Federal Highway Administration

- Buffer zones and setbacks from incompatible land uses
- Walls and screening to reduce noise and aesthetic impacts
- Loading, staging, and storage area locations
- Hours of operation
- Noise limits at property lines
- Lighting with cutoff fixture to confine light onsite
- Landscaping to reduce dust and heat island effect
- Stormwater best management practices[1]

Source: Microsoft Bing® Maps™.

[1] https://www.epa.gov/npdes/national-menu-best-management-practices-bmps-stormwater.

U.S. Department of Transportation
Federal Highway Administration

Source: FHWA.

For more information, please contact:

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Freight Professional Capacity Building Program:
https://ops.fhwa.dot.gov/freight/fpcb/default.aspx.

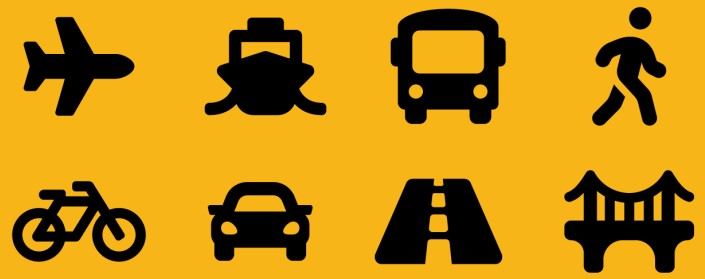
MARYLAND DEPARTMENT OF TRANSPORTATION

Office of Rail & Intermodal Freight

MARYLAND DEPARTMENT OF TRANSPORTATION

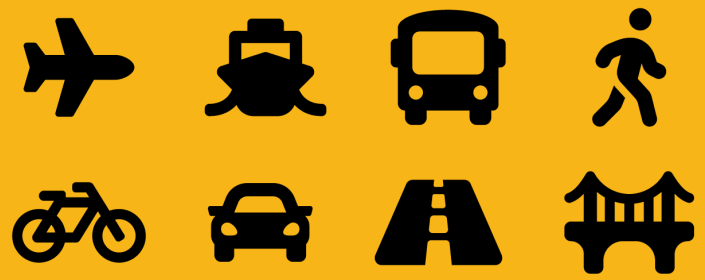
Break

10 minutes



MARYLAND DEPARTMENT OF TRANSPORTATION

Multistate and Regional Freight Planning



THE EASTERN TRANSPORTATION COALITION

CONNECTING FOR SOLUTIONS

The Eastern Transportation Coalition – Supporting Multi-State and Regional Freight Planning

Marygrace Parker

Presentation to Maryland Freight Summit
December 8, 2025

Who is the Coalition?

Collective impact organization working together to solve today's most pressing transportation challenges.

20 States + D.C.

and 250+ agencies

$1.8 T in GDP (16%) dependent on freight transportation

Total GDP ($11.6 T) is **42.2%** of US total

63.2% GDP growth on-par with US average (64.4%)

45.5% of all US jobs

What We Do

PEOPLE

- Create a forum for public agencies to address transportation issues of common interest
- Establish a key network of transportation professionals
- Provide training (e.g., Freight Academy)

DATA & TOOLS

- Support data acquisition and tool development through the Transportation Data Marketplace
- Share use cases on how to turn data into actionable information

RESOURCES

- Subject matter experts serve as an extension of agency staff
- Secure additional funding to address member priorities through external partnerships and grants

EXECUTIVE BOARD
DOT CEOs

COALITION
STAFF

PROGRAM DIRECTOR
CHAIRS

PROGRAM TRACK COMMITTEES

TRANSPORTATION SYSTEMS MANAGEMENT & OPERATIONS (TSMO)

MULTIMODAL FREIGHT

INNOVATION IN TRANSPORTATION

TETC Freight Program

The Coalition Freight Program supports efficient, multimodal freight movement across Eastern states, helping advance seamless and resilient goods movement by highway, rail, and water.

Freight Leadership

Dan Pallme
Freight Leadership
Tennessee Department of Transportation

David Rosenberg
Freight Leadership
New York State Department of Transportation

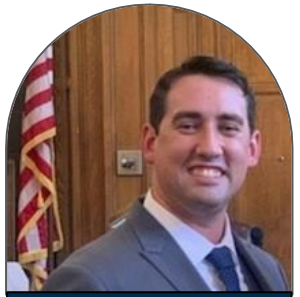
Freight Data & Planning

Sara Walfoort
Freight Data & Planning Working Group
Southwestern Pennsylvania Commission

Truck Parking

Erik Johnson
Truck Parking Working Group
Virginia Department of Transportation

Bridge Hit



Dan Carey
Bridge Hit Working Group
New York State DOT

The Coalition's Freight Committee is comprised of representatives from member agencies within the corridor, including State Departments of Transportation, Metropolitan Planning Organizations, Port and Toll Authorities along with associated entities such as national and state trucking associations. The Freight Program focuses on areas where coordination among multiple modes, jurisdictions and entities would be highly beneficial in furthering freight-related transportation improvements.

Freight Program/Freight Resources

TETC Freight Working Groups

- Truck Parking Working Group
  - Spotlight presentations on truck parking activities for improving safety and expanding capacity.
  - Roundtable discussions with peers sharing solutions and best practices
  - Engagement with federal agencies and motor carriers
  - Legislation updates and debriefs
- Freight Data and Planning Working Group
  - Spotlight presentations to showcase emerging sources, uses, and visualizations of freight data
  - Sharing freight plan status, approaches to content development, stakeholder engagement
- Bridge Hit Working Group
  - Engage member agencies on strategies to reduce commercial vehicle bridge hits.
  - Increase driver awareness (commercial and passenger) of issue through education/outreach
  - Engage navigation companies and vendors as part of the solution

State Freight Plan Matrix

Provides links to reports and quick details on:

- State Freight Plans Overall
- Truck Parking in Freight Plans and Truck Parking studies
- How Resilience addressed in freight plans

TETC State Freight Plans and Trending Themes

January 7, 2025

* Non-TETC State
† Pending FHWA approval

State	Plan Year	Link to Plan	Next Update
Pennsylvania	2023	Pennsylvania Freight Movement Plan 2045	2027
Rhode Island	2022	Freight and Goods Movement Plan - Revised	2026
South Carolina*	2022	South Carolina Statewide Freight Plan Update	2026
Tennessee	2023	Tennessee Statewide Multimodal Freight Plan	2027
Vermont	2022	Vermont Freight Plan	2026

Mileage Based User Fees (MBUF)

Exploration made possible through federal grants.

From this...

HOW MUCH GAS YOU USE

To this...

HOW MANY MILES YOU DRIVE

Overview of TETC MBUF Work

NATION'S FIRST MULTI-STATE & NATIONAL TRUCK PILOTS

14 Passenger Vehicle Pilots*

*6 general public and 8 stakeholder

3,250+ Passenger Vehicles

14 States Represented Among Participants

4,000+ Public Opinion Survey Respondents

- ✓ Education & Outreach Materials
- ✓ Compendium of Revenue Alternatives
- ✓ 3 Peer Exchanges
- ✓ Evaluation & Outreach Plans
- ✓ Participant Surveys & Focus Groups
- ✓ Geographic & Socio-economic Equity Analysis
- ✓ 8 Steering Committee Meetings
- ✓ Tolling, Congestion Mitigation & Rate-Setting Studies

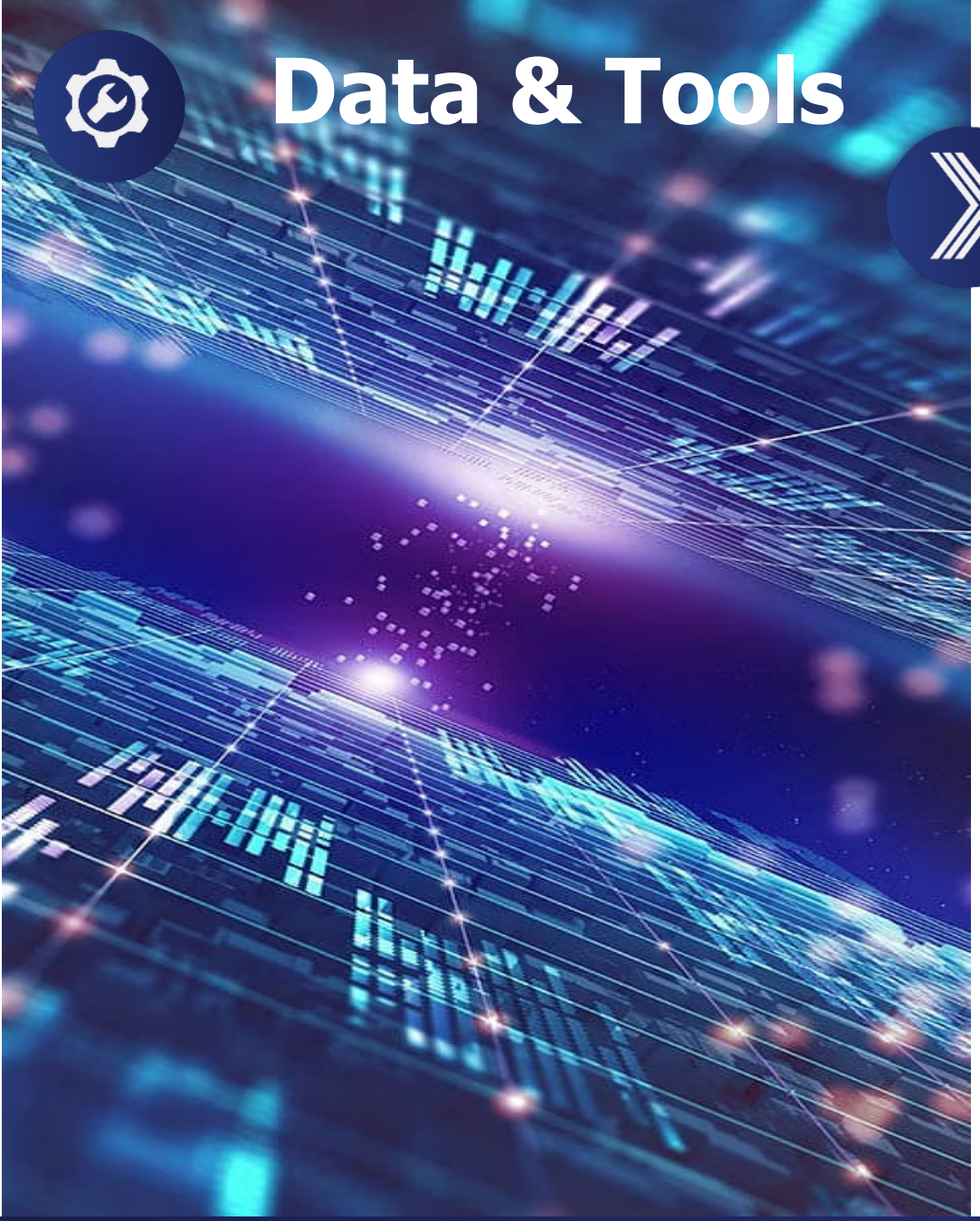
3 Commercial Vehicle Pilots

500+ Commercial Trucks

19M+ Miles traveled

48 States Traveled + Canada

- ✓ Coordination with IFTA/IRP
- ✓ Clearinghouse Workshop
- ✓ Participant Surveys & Interviews
- ✓ 12 Motor Carrier Working Group Meetings
- ✓ Rate-Setting Studies (weight)



Data & Tools

TRANSPORTATION DATA MARKETPLACE

REDUCED COSTS

- Economies of scale for savings on data purchases
- Savings on RITIS data analytics integration

HIGHER QUALITY

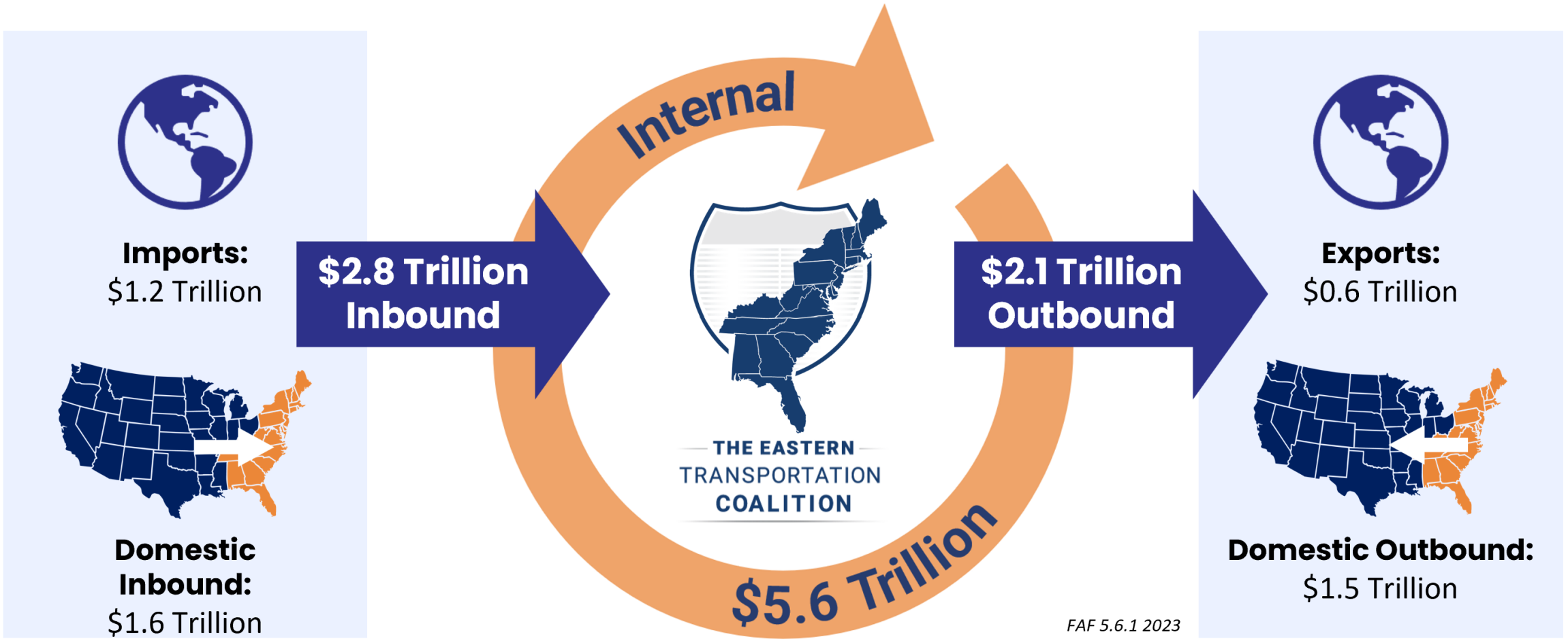
- Strong agency-focused data use agreements (buy for one, share with all)
- Validation studies to ensure quality and drive industry forward
- Subject matter experts to assist agencies

SHARED EXPERIENCE

- Multiple vendor offerings
- Workshops and information exchanges
- Demonstrations
- Best practices and shared use cases

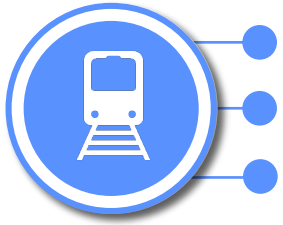
TETC Regional Freight Activity

Coalition Region's Freight Activity Totaled $10.5 Trillion in 2023

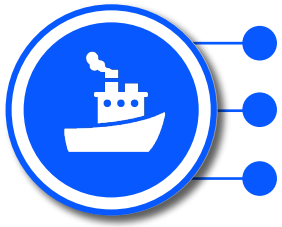


Coalition Freight Activity

- **114 billion** annual truck miles traveled (FHWA Highway Statistics Series)
- **41.9%** of US annual truck VMT (FHWA Highway Statistics Series)
- **$7.8 trillion** value of truck freight (FAF)



- **30,735** miles of Class 1 railroad track (North American Rail Network (NARN) Class 1 View*)
- **58,566** miles of total railroad track (NARN Full Dataset – Miles for all Networks^ – Detail Table)
- **$235 billion** value of rail freight (FAF)



- **28** seaports (10 of top 20 US container ports)(US Army Corps of Engineers Data)
- **11** major inland waterway ports (USACE)
- **$84 billion** value of marine freight (FAF)

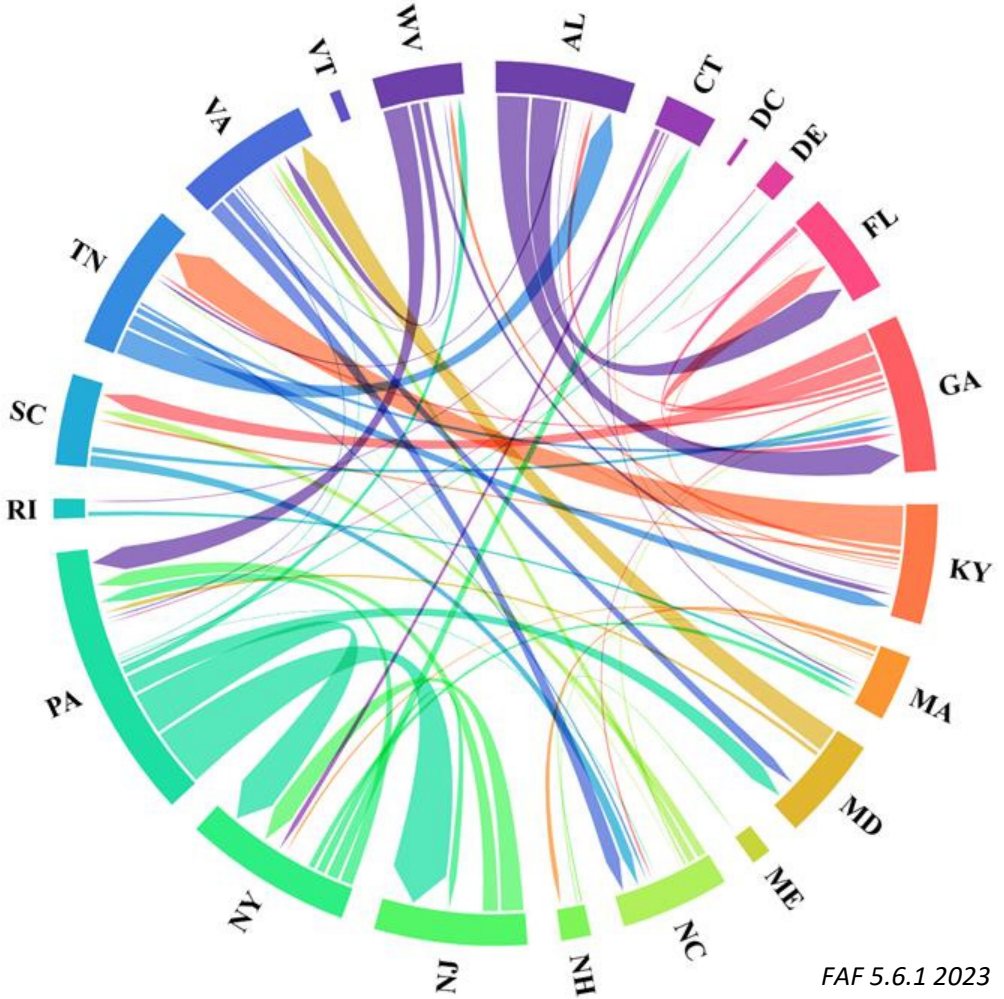
- **21** major airports (Federal Aviation Administration T-100 Data)
- **$318 billion** value of air freight (FAF)

* Includes trackage rights
^ Includes out-of service track

Coalition States Trade $2.4 Trillion in Goods with Each Other

$5.6 trillion worth of goods moved within the Coalition region, representing **4.9 billion tons.**

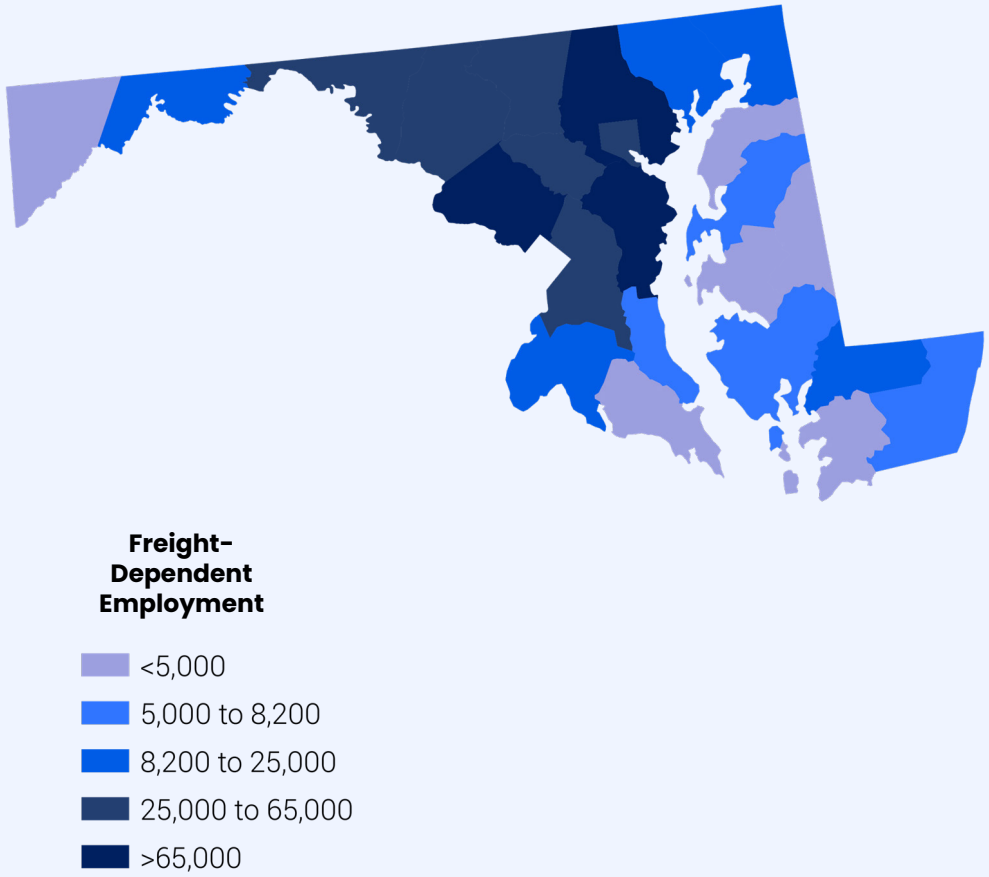
Of that $5.6 Trillion, **$2.5 trillion** (**1.3 billion tons**) is traded between states in the region—the balance representing trade within individual states.



FAF 5.6.1 2023

Maryland

2023 Population: 6.2 M, 85.6% urban



2023 Freight Dependence

Maryland's Top 5 Industries & Totals	Industry Freight Dependence	Dep. GDP ($ B)	Dep. Jobs (1,000s)
1. Wholesale Trade	67%	$14.6	64.6
2. Construction & Buildings	26%	$8.5	67.5
3. Chemical Manufacturing	87%	$6.0	11.3
4. Computer and Electronic Mfg.	82%	$4.6	17.6
5. Health Care and Social Assistance	9%	$3.6	41.8
Rest of Industries	6%	$27.0	242.8
Total	12%	$64.3	445.6

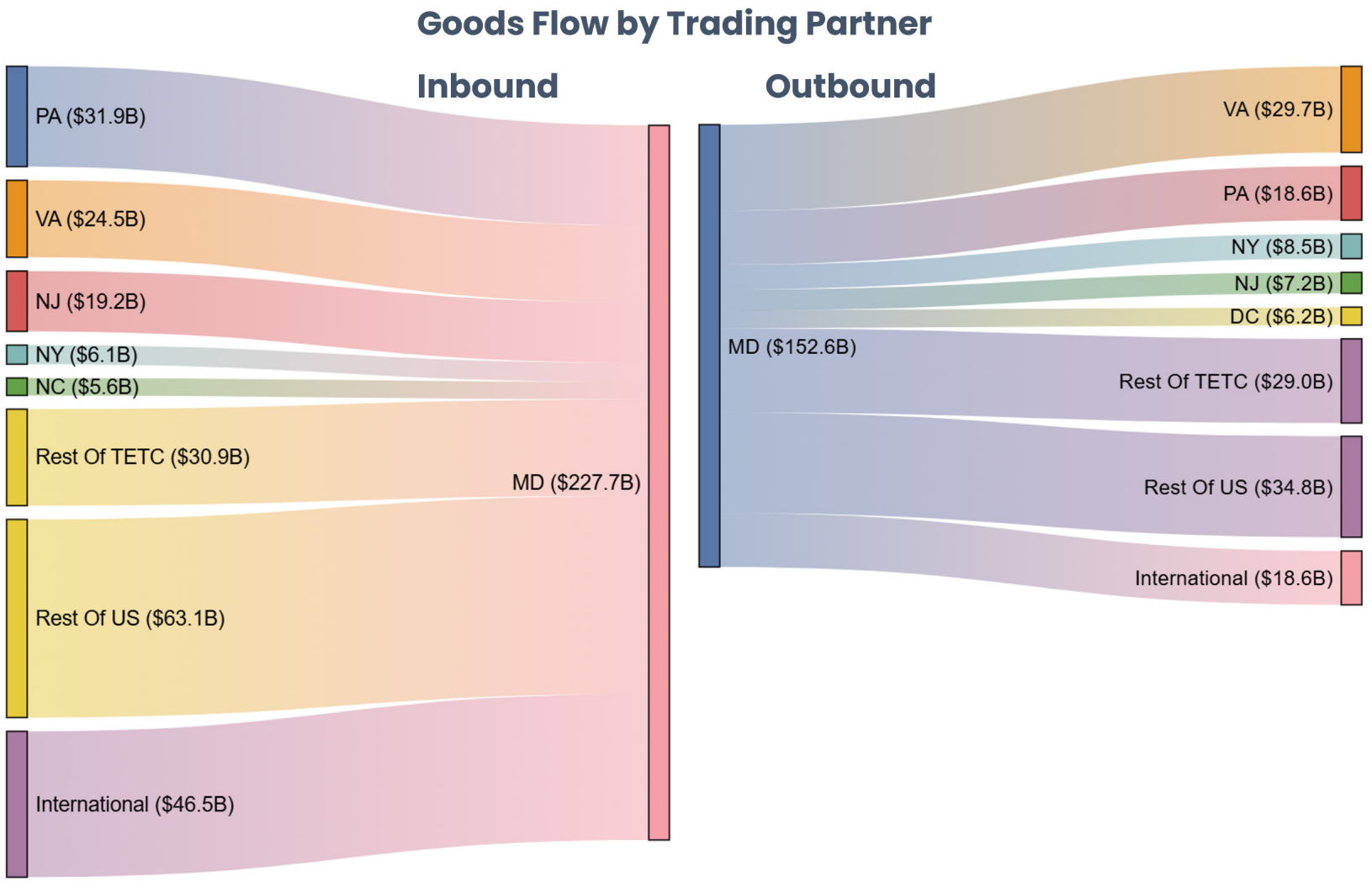
Maryland

$466.5 billion worth of goods traded, representing **282.5 million tons.**

$86.2 billion moved within the state, representing **106.4 million tons.**

Top exported commodities:

- **Machinery**: $2.7 B (7.4 M tons)
- **Transport Equipment**: $2.4 B (3.4 M tons)
- **Coal**: $2.1 B (0.5 M tons)



Maryland

- **3.2 B** annual truck miles traveled
- **$358.3 B** value of MD truck freight

- **706** miles of Class 1 railroad track
- **1,298** miles of total railroad track
- **$6.0 B** value of MD rail freight

- Baltimore ranks **15th** in container traffic and tonnage in US
- **$1.0 B** value of MD marine freight

- Key airport: Baltimore
- **$8.7 B** value of MD aviation/ truck-air freight

$77.5 B value of MD multimodal freight

478 miles of interstates

336 miles of interstates in urban areas

17.0 B annual interstate VMT

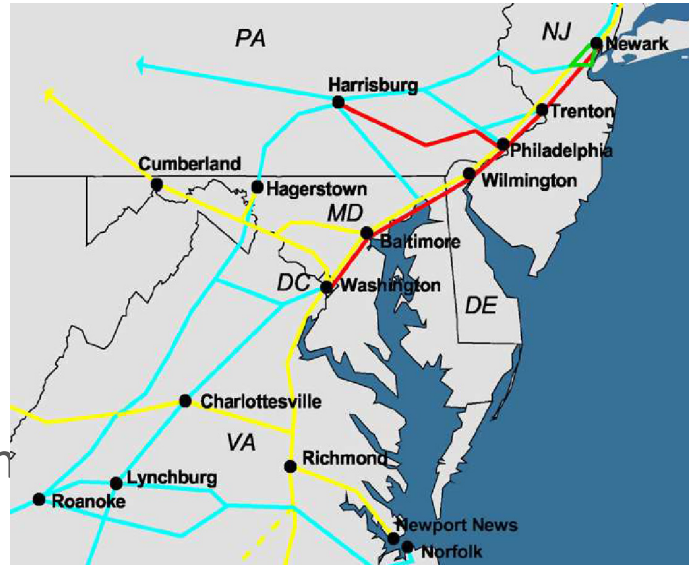
4.3 M licensed drivers

Translating Freight Investments

Translating Freight Investments – “MAROPs collaboration”

2004-10, TETC collaborates with five Mid-Atlantic states and 3 Class 1 Railroads to identify rail projects that could relieve demand on highway, rail and aviation systems in region

- Mid-Atlantic Rail Operations Studies examine:
  - Key rail chokepoints to eliminate to enhance capacity
  - Options that would increase passenger and freight rail service
- Identifies 217 projects, $6.2B projected over 20 years
- Forms basis, in part, for states’ rail plan investments and RRs’ strategic plans including: Crescent Corridor (NS), Heartland Corridor (NS), Nation Gateway (CSX), Northeast Corridor program (Amtrak)

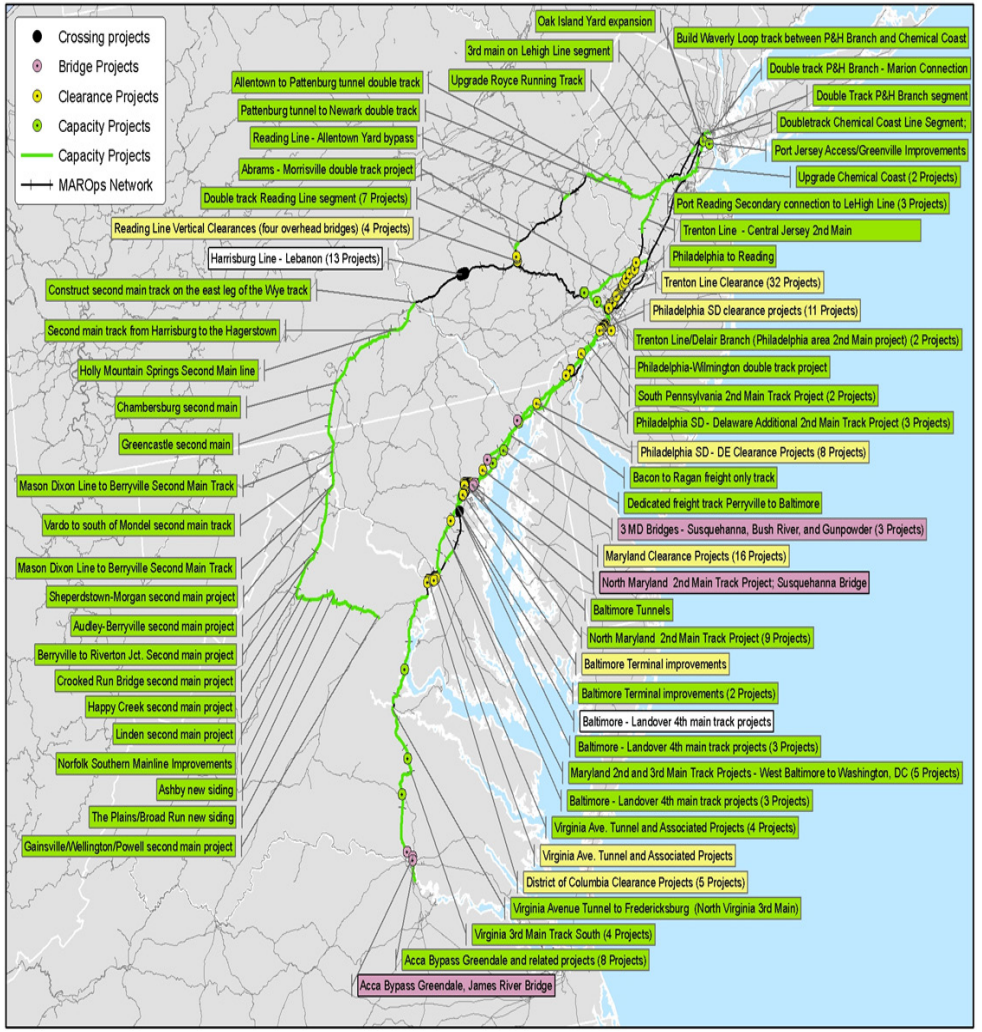


Translating Freight Investment Projects to Multi-State and National Benefits

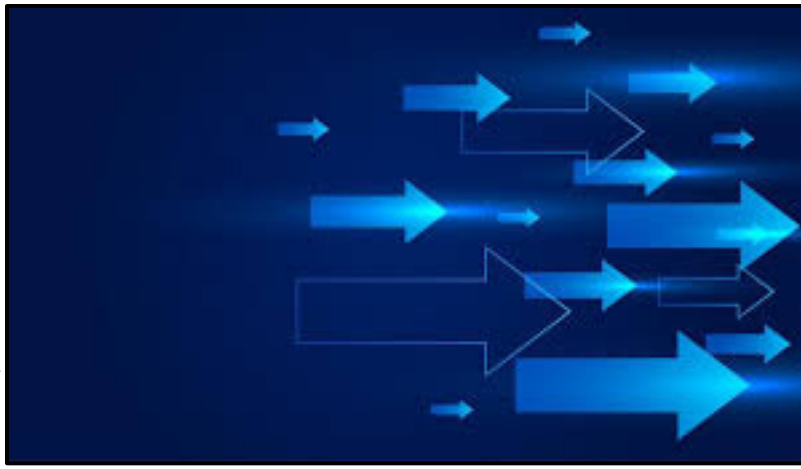
Case studies that illustrate how freight projects accrue benefits well beyond the physical point of investment and contribute to regional and national economies.

- Mid-Atlantic Rail Operations Study (MAROpS)
- CREATE (Chicago)
- Northeast Rail Operations Study (NEROpS)
- Brent Spence Bridge Project (OH/OKI – KY)

Report to be released January 2026



Going forward…Maryland Freight Plan



How can TETC support MD Freight Planning:

- Communication, Collaboration, Coordination
- TETC as a forum to share updates on respective activities/initiatives w other agencies in corridor
  - Share Freight plan progress, challenges, innovative approaches
    - Provide spotlight presentations/support peer exchange /discussion on key topics in TETC Working Groups
    - Access to TETC Resources – Freight Plan Matrix, staff
    - Share plans related to freight investments that could eliminate potential for simply shifting bottlenecks and/or foster regional freight mobility, safety and economic development

THE EASTERN TRANSPORTATION COALITION

CONNECTING FOR SOLUTIONS

Questions

Contact: Marygrace Parker TETC
Freight Program Director

mgparker@tetcoalition.org

NATIONAL CAPITAL REGION FREIGHT PLAN UPDATE

2025 Maryland State Freight Summit

Janie Nham
TPB Planning Manager

December 8, 2025

National Capital Region
Transportation Planning Board

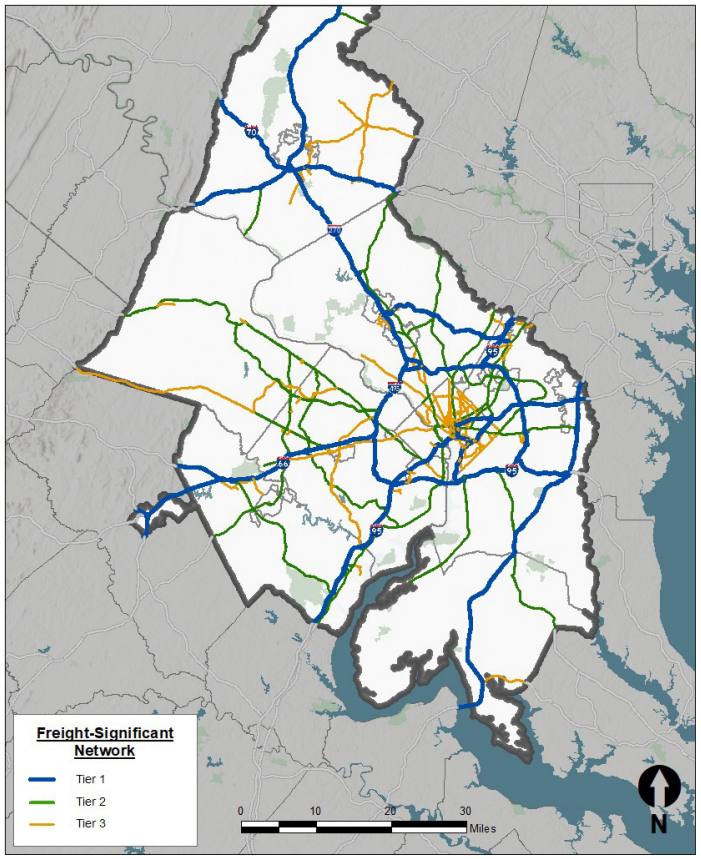
About TPB

- The National Capital Region Transportation Planning Board (TPB) is the federally designated Metropolitan Planning Organization (MPO) for the region. The TPB is housed/staffed by COG.
- Plays an important role as the regional forum for transportation planning.
- Prepares plans and programs that the federal government must approve in order for federal-aid transportation funds to flow to metropolitan Washington.
- Membership consists of 22 jurisdictions across 3 states.

Regional Freight Planning at the TPB

- Freight is vital to commerce and quality-of-life, including in metropolitan areas which have unique freight complexities
- TPB addresses Freight Planning as part of its ongoing Unified Planning Work Program
  - Advised by the TPB Freight Subcommittee, plus occasional forums
  - Input to Visualize 2050 plus this stand-alone Freight Plan
- The goals of the 2023 freight plan include:
  - Highlights freight's significance to the regional economy
  - Serves as a technical reference on the region's freight system
  - Provides policies and recommendations to guide regional freight planning activities
  - Sets the stage for freight to be considered in the Visualize 2050 and all other regional planning activities

Multimodal Freight Transportation System

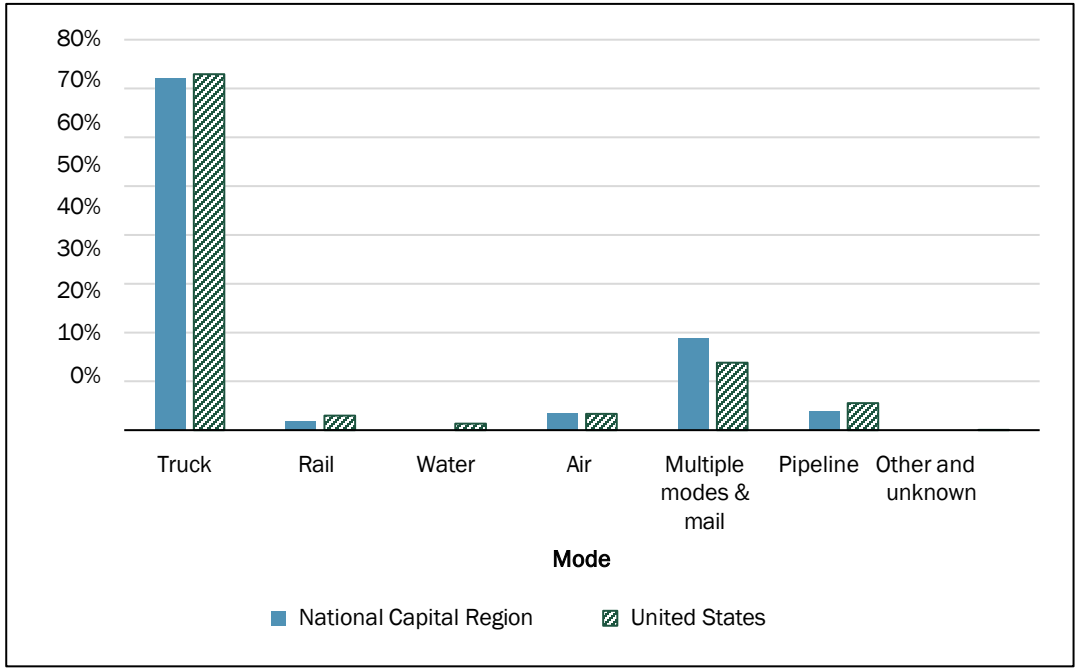


Source: National Capital Region Freight Plan, 2023 Update

- The region's freight transportation system consists of several multimodal, integrated elements
- Regional transportation network includes:
  - More than 17,000 lane miles of highways and major roadways
  - Two Class I railroads – CSX Transportation and the Norfolk Southern Corporation – operating over 250 miles of mainline track
  - Two major cargo airports – IAD and BWI
  - An extensive pipeline network

National Capital Region Freight Profile

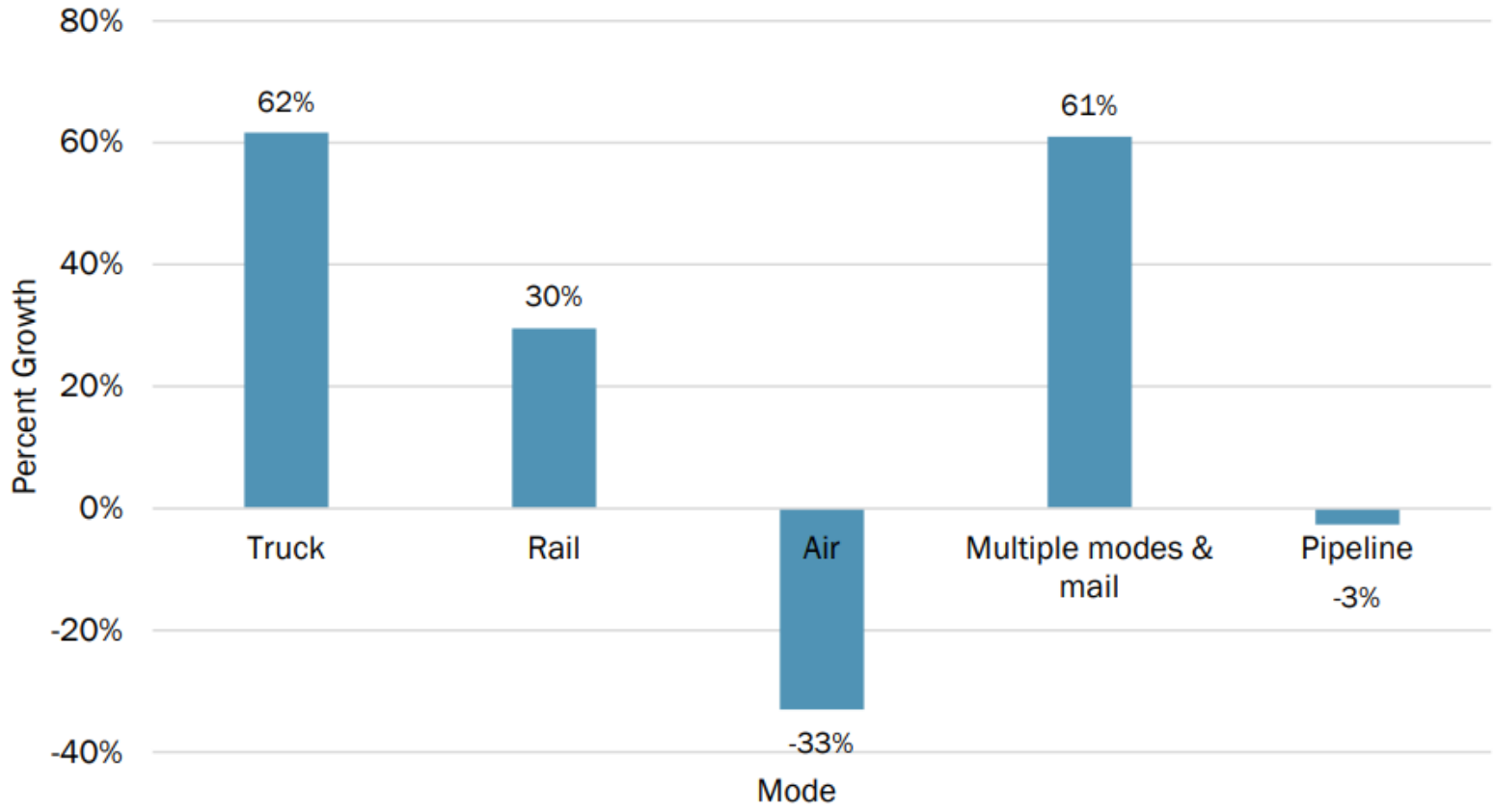
Transportation Modes Used (by Value) – National Capital Region and the United States, 2020



Source: Federal Highway Administration Freight Analysis Framework

- Commercial trucking is the dominant freight transportation mode
  - Accounts for 73% of freight transported by value and 72% of freight transported by weight (2020)
  - Growth of e-commerce, reliance on "just-in-time" inventory model, and expansion of expedited small package shipping suggests growth of trucking into the future

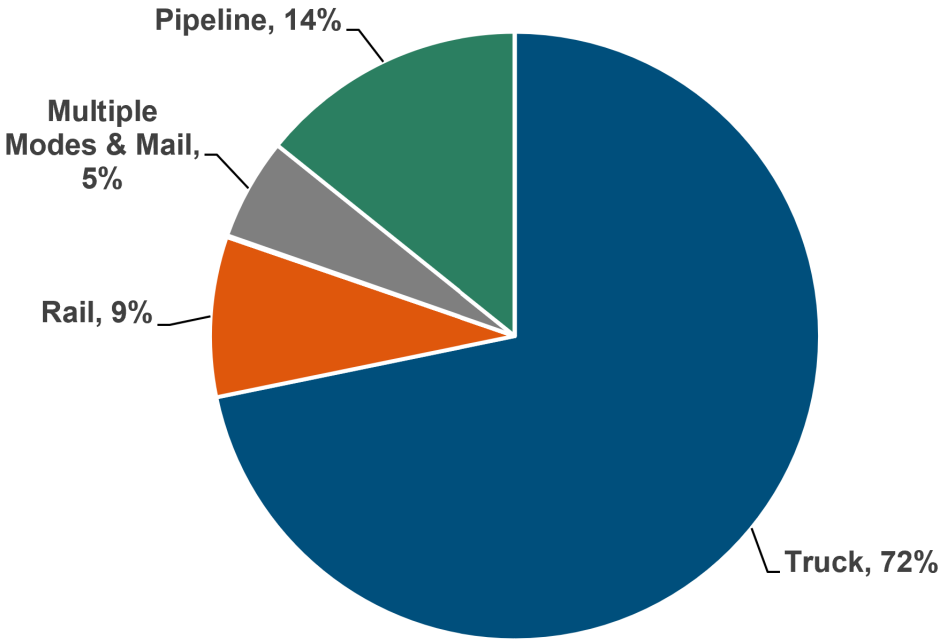
Forecasted Growth in Tonnage by Mode (2020-2050)



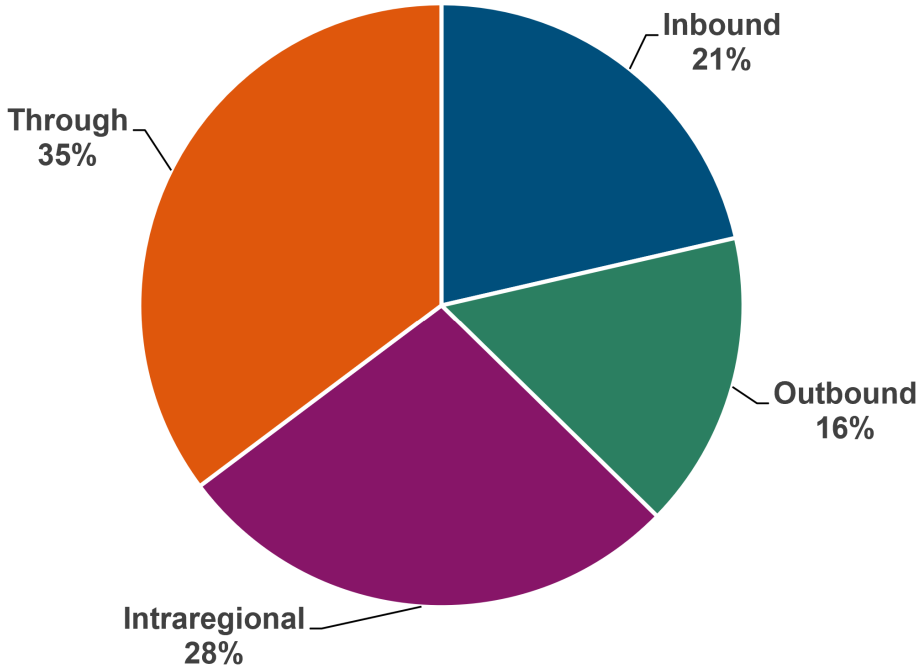
Source: Federal Highway Administration Freight Analysis Framework

Regional Freight Weight

Weight (Mode)



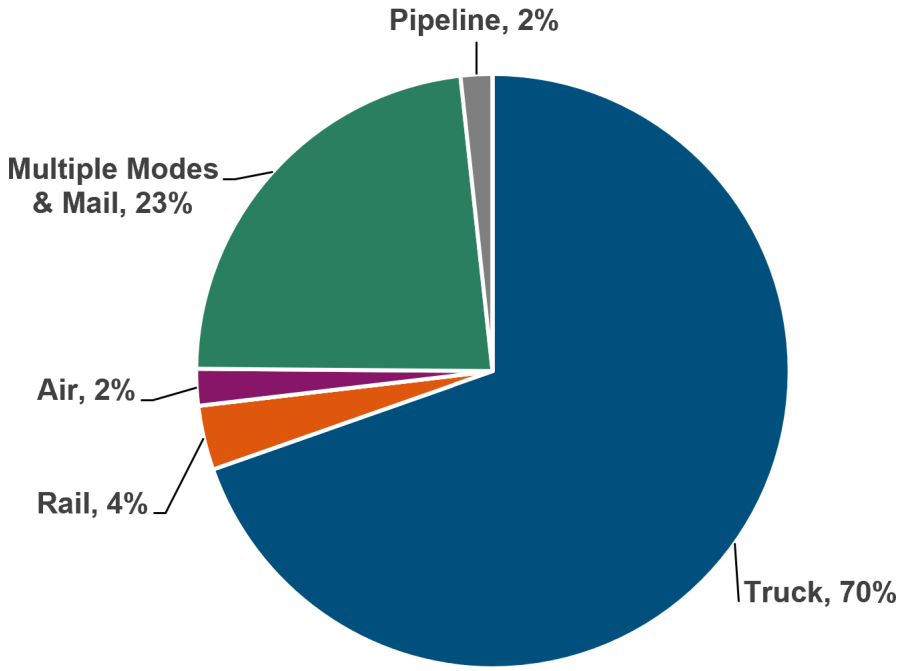
Weight (Direction)



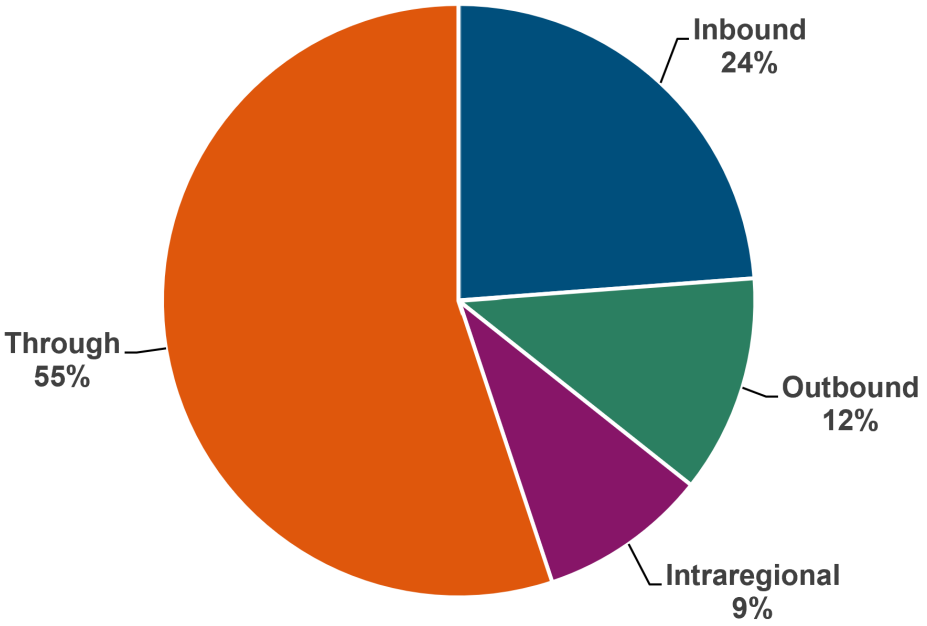
Source: Federal Highway Administration Freight Analysis Framework, 2020

Regional Freight Value

Value (Mode)



Value (Direction)



Source: Federal Highway Administration Freight Analysis Framework, 2020

Key Trends

- Key economic drivers indicate that demand for freight transportation services will continue to grow in the future
  - NCR population is expected to increase 21% by 2050
  - NCR employment is projected to increase by 24% by 2050
  - Median household income in NCR is second highest in nation and 58% above national average (2021)
  - Between 2001 and 2020, regional GDP grew by 46% compared to 40% nationally

Issues and Challenges

Some regional issues addressed in the Plan include:

Congestion

In 2022[1], congestion contributed to $1.9 billion in increased operating costs for the trucking industry – the seventh highest in the nation

Safety Concerns

Unique rail safety policies and regulations have been adopted to safeguard the District of Columbia

Impacts on Vulnerable Populations

TPB encourages that freight transportation costs and benefits be distributed equitably

Other topics:

- **Curbside Management**
- **Truck Parking**
- **E-commerce**
- **Disruptive technologies**

1 – American Transportation Research Institute, Cost of Congestion to the Trucking Industry, 2024 Update

Freight Policies

Topic Areas Addressed in Freight Policies	
1. Encourage projects/programs that support TPB Visualize 2045 policies 2. Prioritization of freight projects 3. State of good repair 4. Environmental/resiliency objectives 5. Best practices 6. Bottlenecks 7. Rail options 8. Equity 9. Economic development 10. Livability 11. Security/cybersecurity	12. Safety education, enforcement, and engineering 13. Hazmats routing 14. Hazmats information sharing 15. First responder training/exercises 16. Collaboration regionally and with the private sector 17. Performance measurement 18. Sustainability 19. Land use/rail capacity collaboration 20. New technologies and emerging business practices

Looking Ahead

- TPB Staff will begin work on the next Plan Update in early 2026, with completion anticipated in 2027
- The Plan is expected to emphasize the economic value of freight to the prosperity of the National Capital Region

Credit: Elvert Barnes/Flickr

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National Capital Region
Transportation Planning Board

BALTIMORE METROPOLITAN COUNCIL

BMC Freight Dashboard

Maryland State Freight Summit

December 8, 2025

Overview

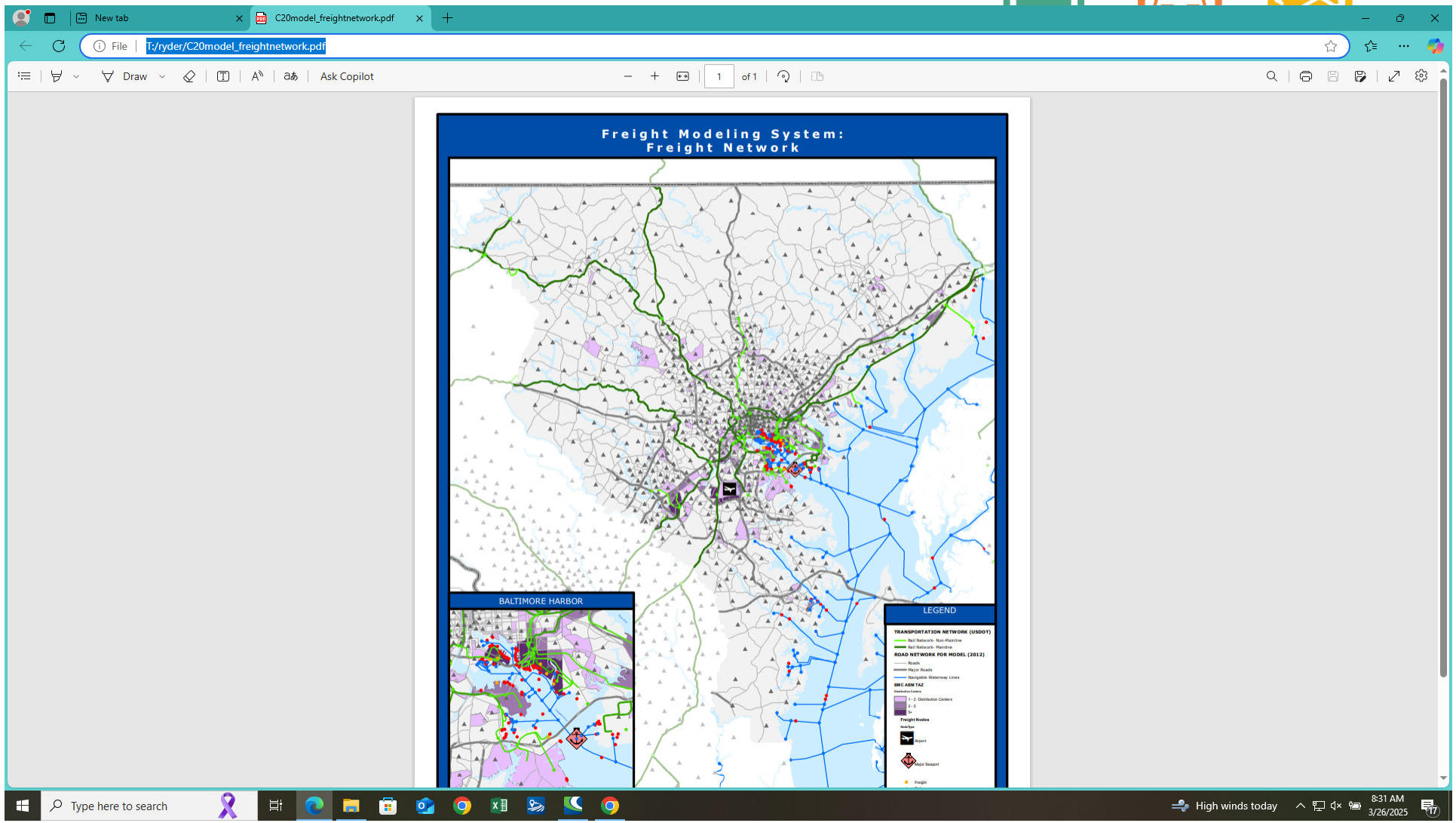
- **Freight Modeling System**
  - Replaced 2001 Truck Model in BMC Travel Demand Model with multimodal Freight Modeling System (FMS)
  - Used SHRP2 C20 grant and a consultant (RSG) to create a freight modeling system using existing data sources, several existing freight modeling components and a new commercial vehicle model
  - Working model delivered in August 2018
  - Integrated FMS with InSITE (BMC's travel demand model)

- **Freight Dashboard**
  - Consultant (Cambridge Systematics) used FMS output to create a freight dashboard
  - Developed in Tableau

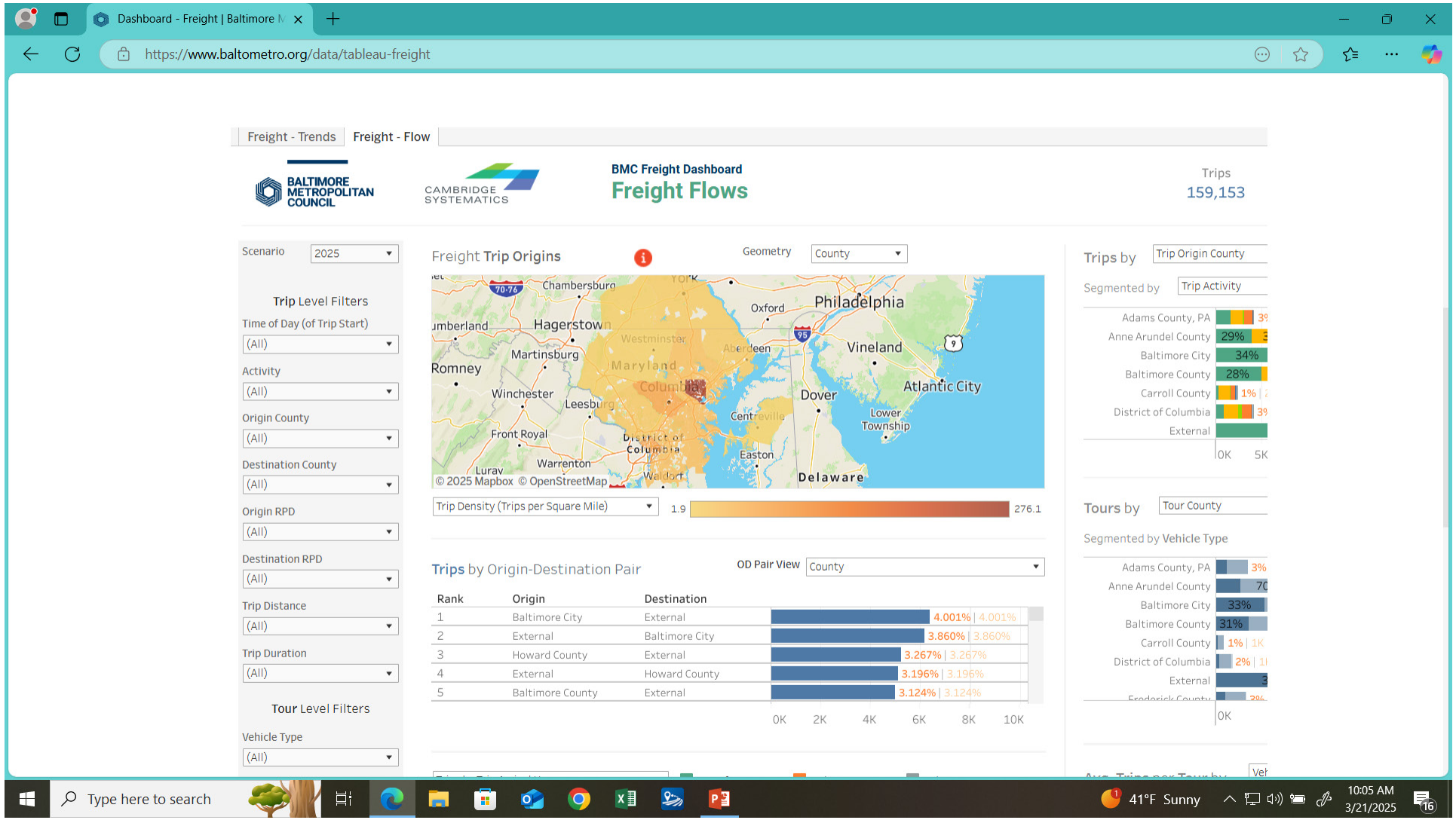
FMS Inputs

- **Business Data**
  - Establishment Survey: 2003 Ohio Statewide General Establishment Survey
  - Logistics Nodes: Intermodal facilities, warehouses and distribution center locations / Leonard's Guide, Bureau of Transportation Statistics (BTS), Center for Transportation Analysis (CTA) & Maryland county planning departments
  - Employment: Longitudinal Employer-Household Dynamics (LEHD) / US Census
- **Freight Data**
  - Goods Movement: 2012 Freight Analysis Framework (FAF) / FHWA & BTS
- **Modal Data**
  - Truck - Traffic Counts: SHA, MdTA & BMC
  - Truck - GPS: American Transportation Research Institute (ATRI)
  - Port: 2012 State and Port Cargo Movement Data / US Army Corps of Engineers
  - Air: 2012 Air Freight Data (T100) / BTS

Model Inputs



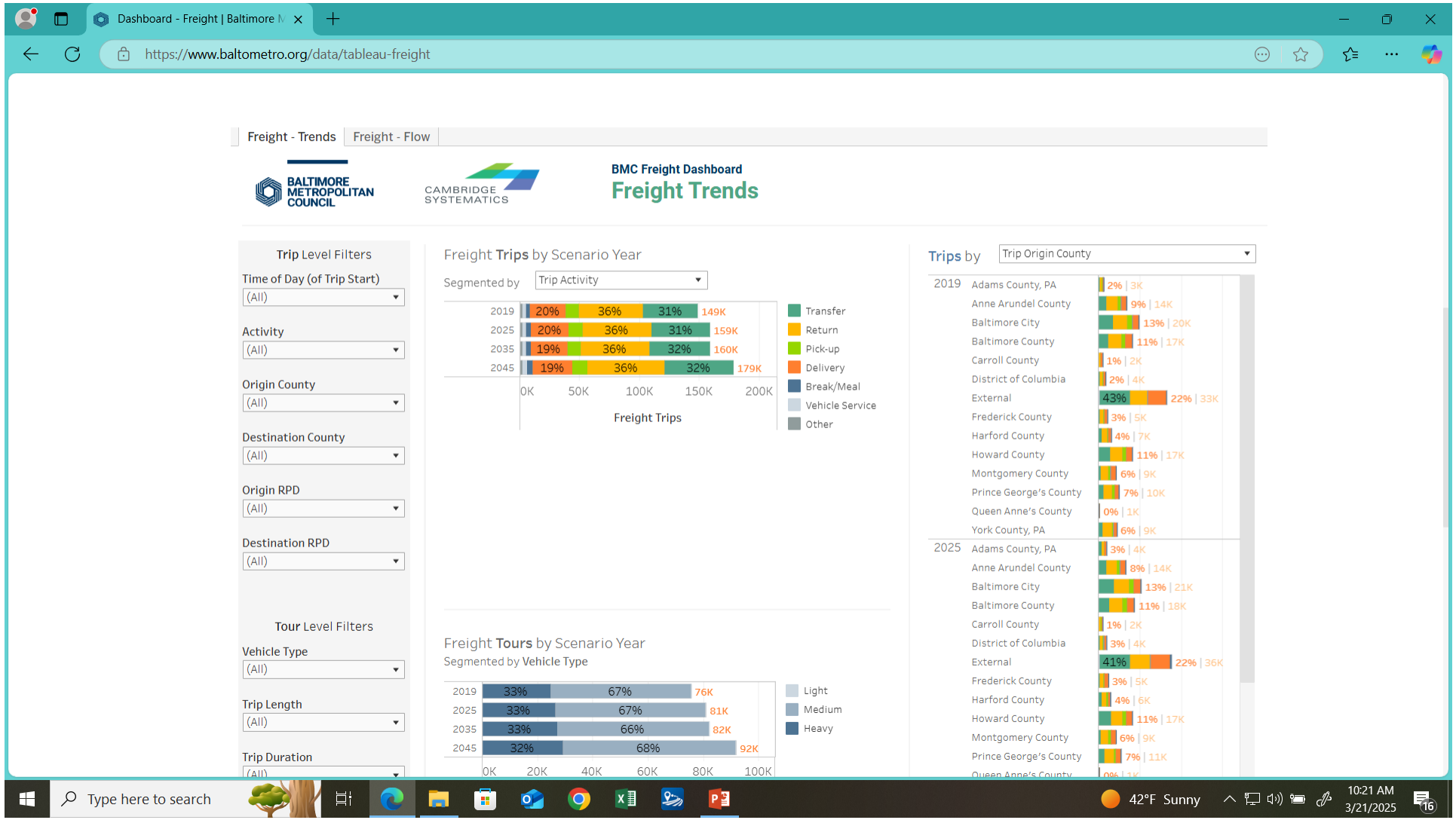
Freight Dashboard – Freight Flow



BMC

BRTB

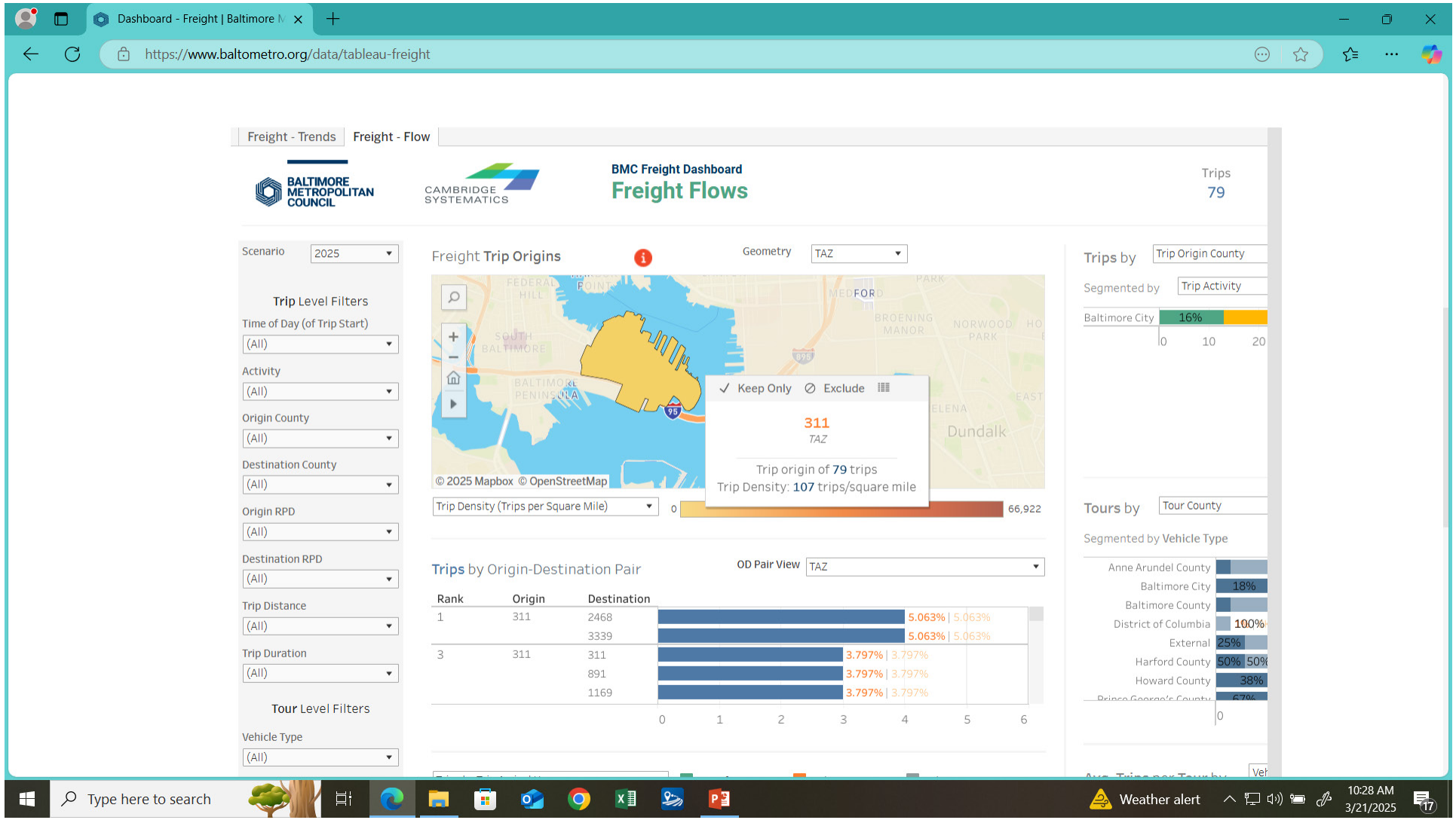
Freight Dashboard – Freight Trends



BMC

BRTB

TAZ 311 – 2025



BMC

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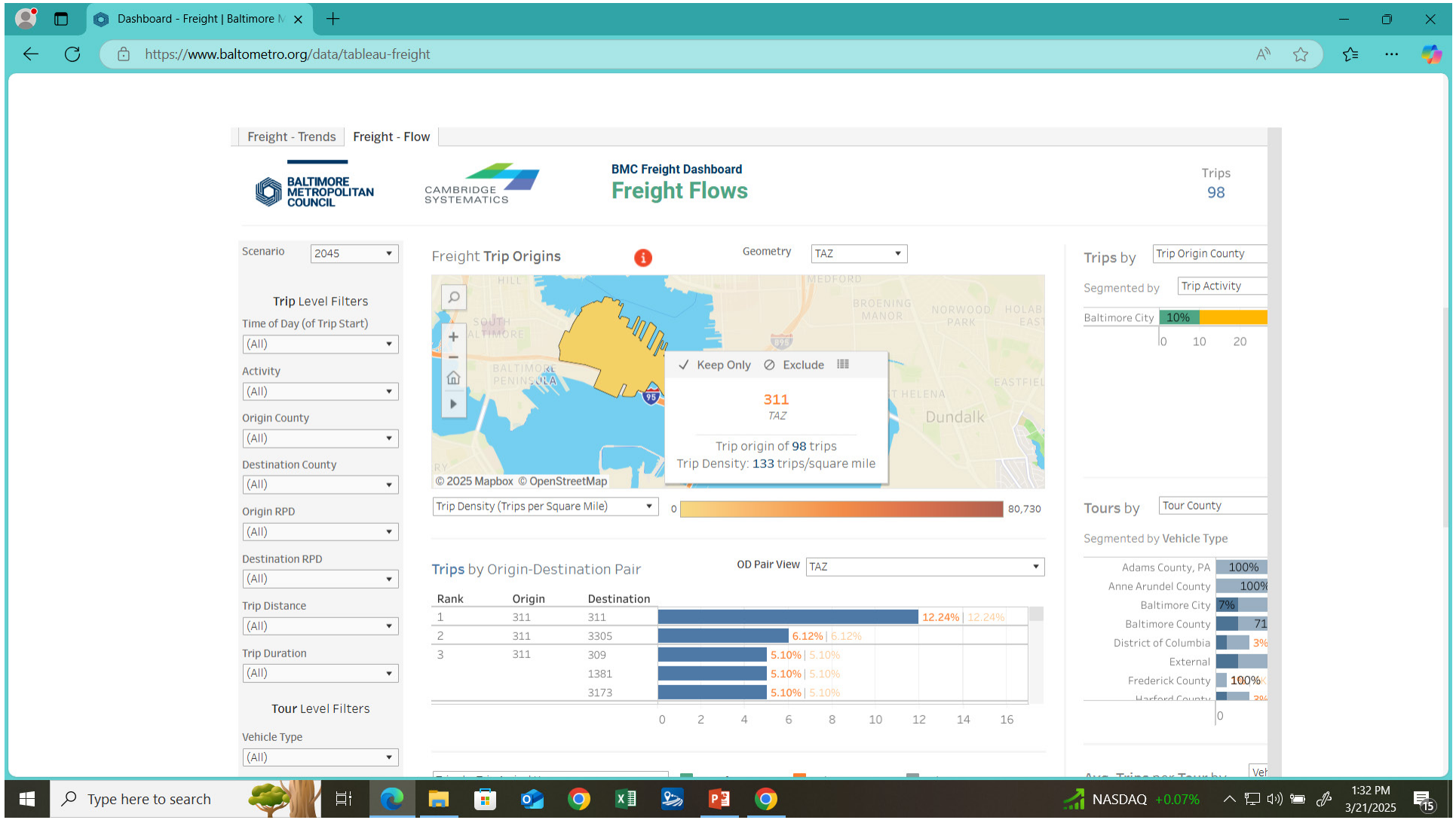
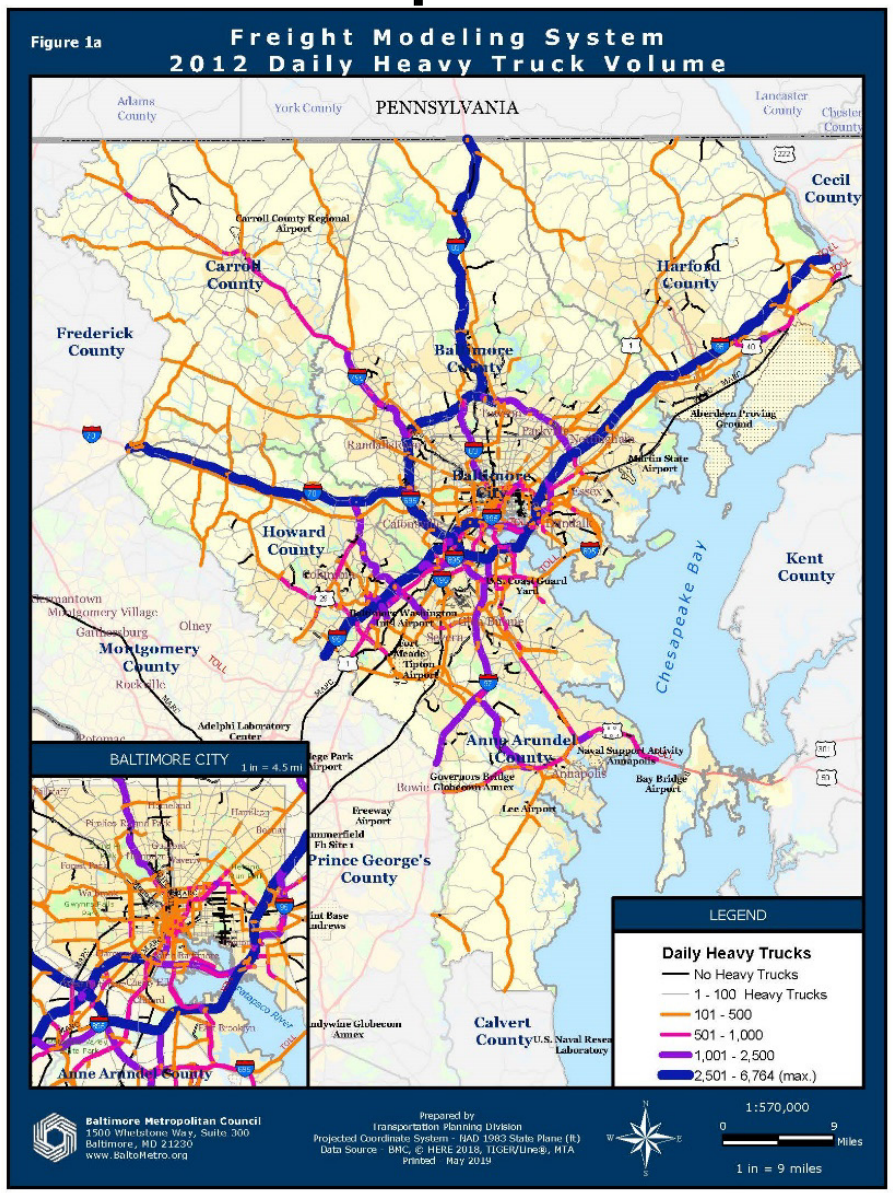
TAZ 311 – 2045

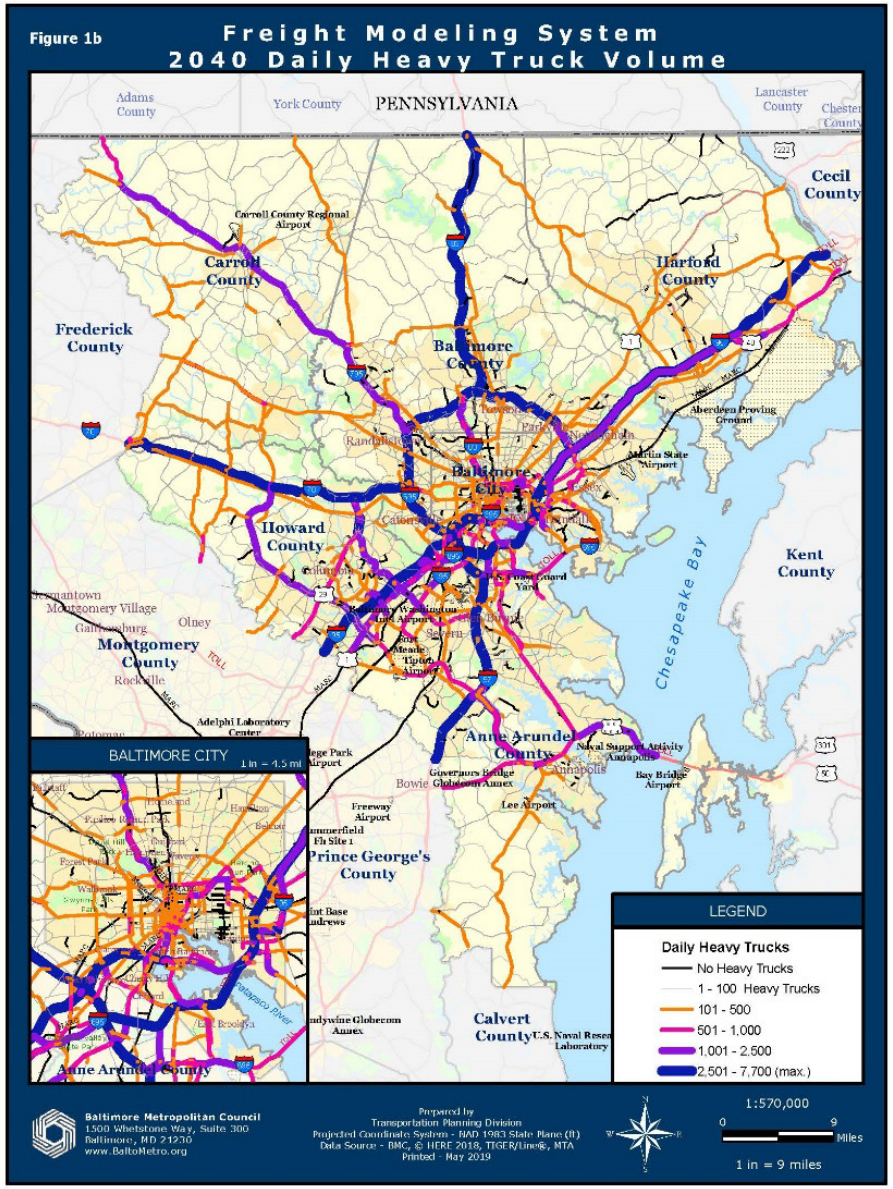


BMC

BRTB

Model Outputs

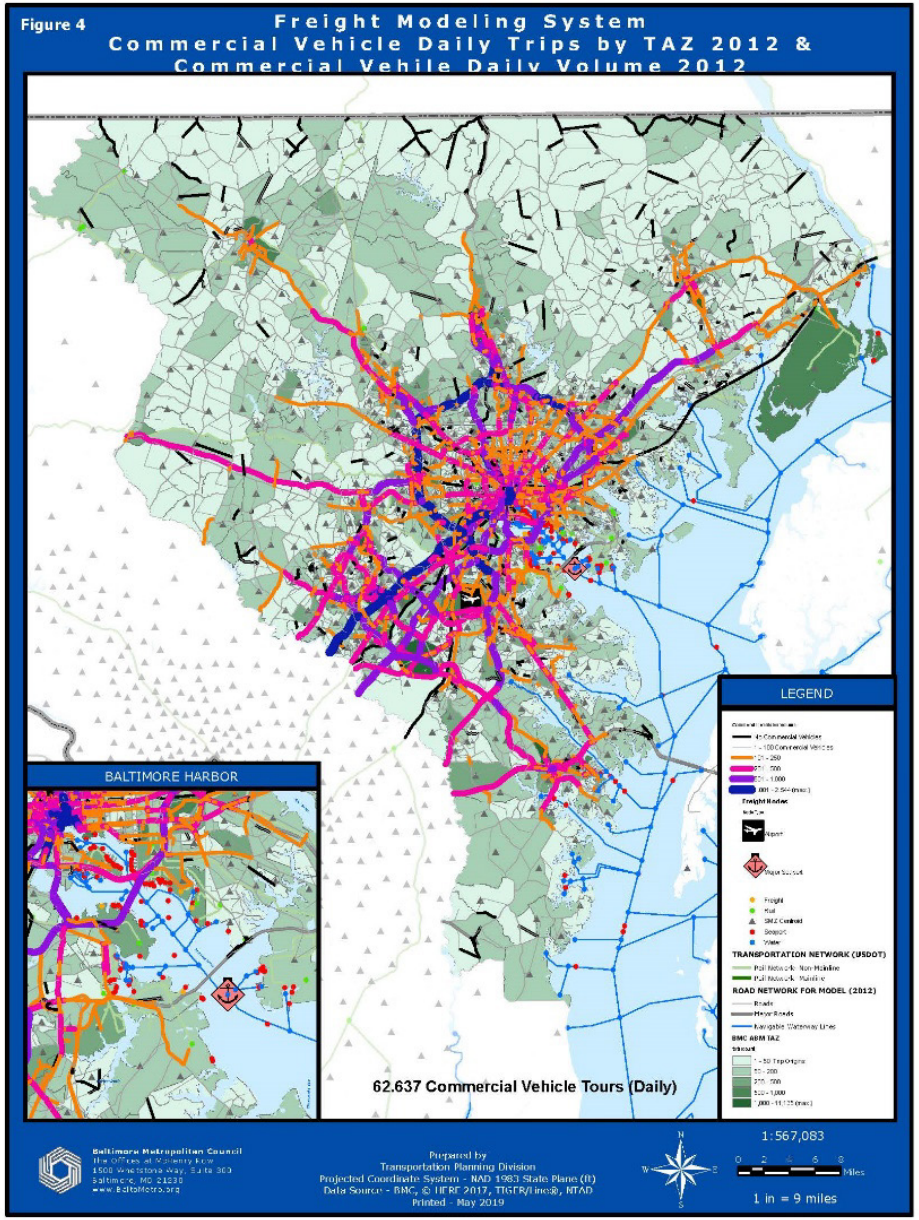


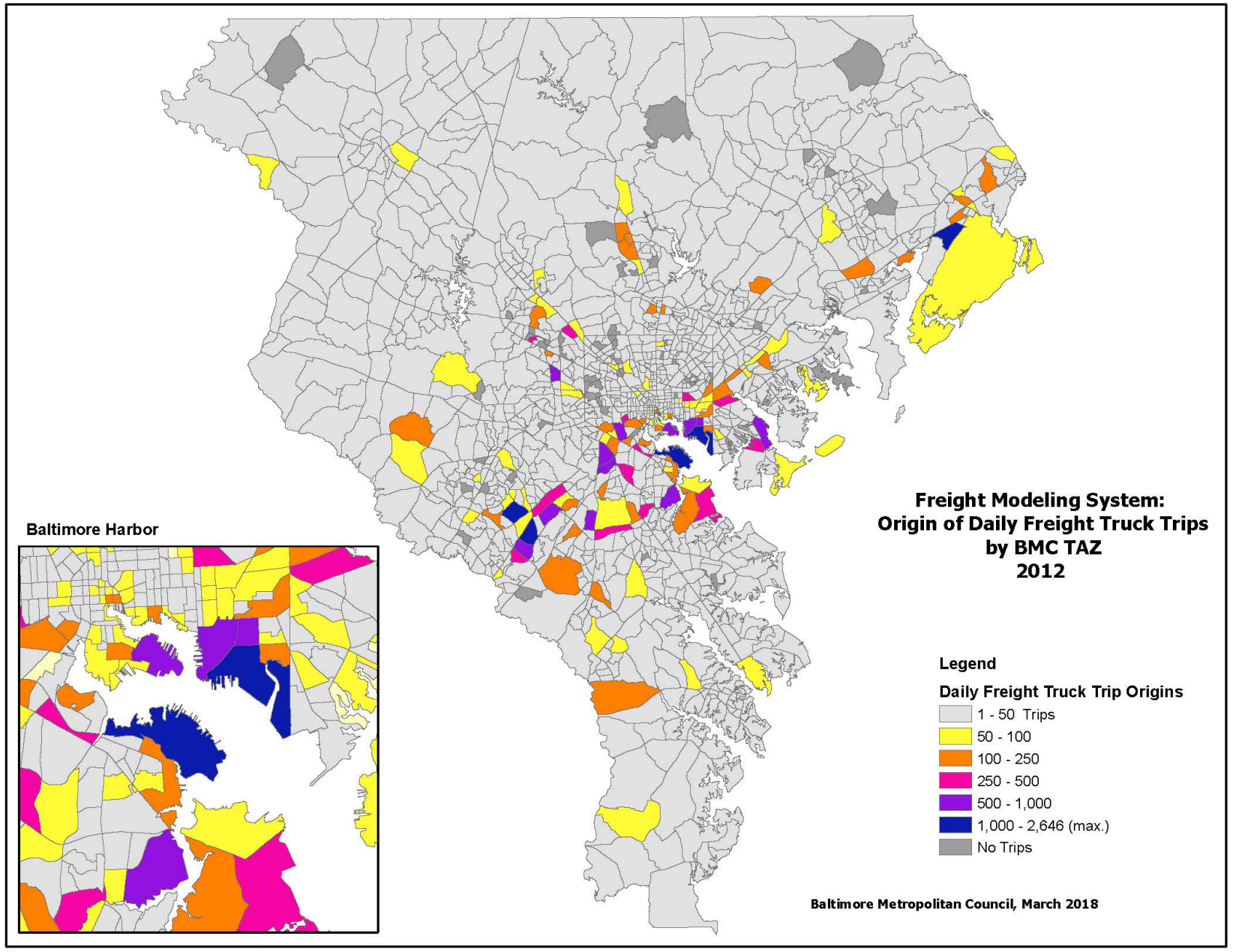


BMC

BRTB

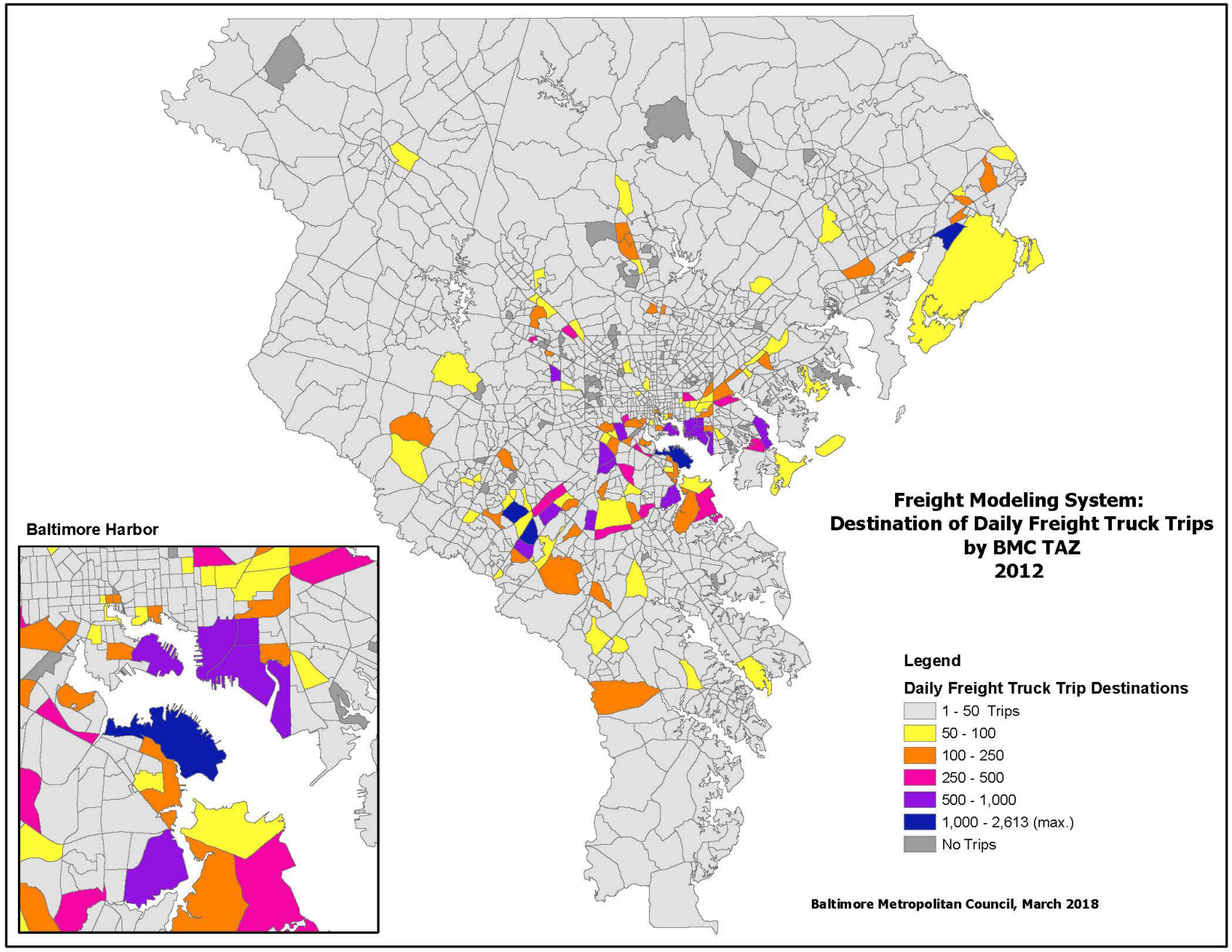
Model Outputs




Baltimore Harbor
Freight Modeling System:
Origin of Daily Freight Truck Trips
by BMC TAZ
2012
Legend
Daily Freight Truck Trip Origins
1 - 50 Trips
50 - 100
100 - 250
250 - 500
500 - 1,000
1,000 - 2,646 (max.)
No Trips
Baltimore Metropolitan Council, March 2018

BMC

BRTB


Baltimore Harbor
Freight Modeling System:
Destination of Daily Freight Truck Trips
by BMC TAZ
2012
Legend
Daily Freight Truck Trip Destinations
1 - 50 Trips
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250 - 500
500 - 1,000
1,000 - 2,613 (max.)
No Trips
Baltimore Metropolitan Council, March 2018

BMC

BRTB

BMC Freight Dashboard:

www.baltometro.org/data/tableau-freight

For More Information

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BMC

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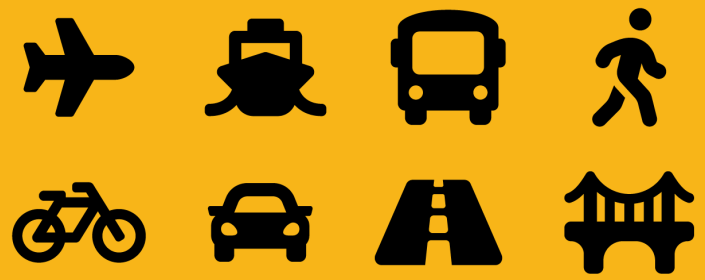
American Association of State Highway and Transportation Officials



Part 3: Performance and Plan Targets, Facilitated Discussion, and Steps Ahead

MARYLAND DEPARTMENT OF TRANSPORTATION

MARYLAND DEPARTMENT OF TRANSPORTATION

STATE HIGHWAY ADMINISTRATION

Planning for Improved Freight Performance

Toria Lassiter, Chief
Innovative Planning and Performance Division
Office of Planning and Preliminary Engineering

December 08, 2025

State Freight Planning

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

State Freight Plan: Key Federal Performance Elements

Maryland's State Freight Plan (FP) includes:

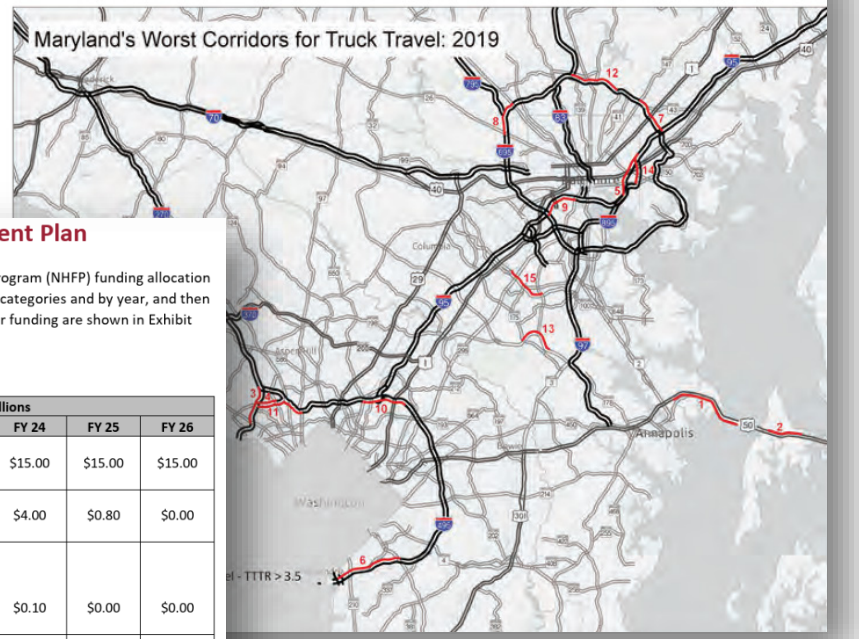
- Federal Performance Measures
- Top Truck Bottlenecks
- Freight Investment Plan

EXHIBIT 5.5: MARYLAND FREIGHT PERFORMANCE MEASURES (QUALITY OF SERVICE, EFFICIENCY, AND CUSTOMER EXPERIENCE)

FREIGHT PERFORMANCE MEASURE (unit)	LAST ESTIMATE (year)	LATEST ESTIMATE (year)	TREND
GOAL: QUALITY OF SERVICE, EFFICIENCY, AND CUSTOMER EXPERIENCE			
MARYLAND ONE PERMIT SYSTEM – TOTAL PERMITS ISSUED (#)	no data	123,388 (2020)	—
MARYLAND ONE PERMIT SYSTEM – AUTO-ISSUED PERMITS (average auto-issue rate)	no data	80% (20	
ANNUAL HOURS OF DELAY FOR TRUCKS (hours)	5,396 (2017)	5,096 (20 3,516 (20	
TRUCK TRAVEL TIME RELIABILITY INDEX (TTTR) (index value)	1.89 (2017)	1.95 (20 1.81 (20	
TRUCK MOBILITY AROUND THE PORT OF BALTIMORE (truck hours of delay in millions)	1.24 (2017)	1.66 (20	
TRUCK MOBILITY COST AROUND THE PORT OF BALTIMORE (truck congestion cost in $ millions)	$70.30 (2017)	$110.50 (	
AVERA TERMI			

LEGEND:

EXHIBIT 6.22: MARYLAND'S LEAST RELIABLE CORRIDORS FOR TRUCK TRAVEL (2019 TTTR BASED)[34]



National Highway Freight Program (NHFP) Freight Investment Plan

This appendix to the Maryland Freight Plan summarizes the anticipated National Highway Freight Program (NHFP) funding allocation for FY22 thru FY 26 to Maryland. Funding for freight projects and initiatives are presented by major categories and by year, and then further broken down by projects or initiatives. NHFP candidate projects and those recommended for funding are shown in Exhibit F.7.

Exhibit F. 1: Maryland National Highway Freight Program (NHFP) Funding Allocation FY 22 thru FY 26

Major Category	Costs in $ millions					
	Total Cost	FY 22	FY 23	FY 24	FY 25	FY 26
CTP Construction Projects Major capital improvement projects included in Maryland's Consolidated Transportation Program (FY22 – FY27).	$75.00	$15.00	$15.00	$15.00	$15.00	$15.00
Park and Ride Fund 81 initiatives to improve Truck Parking Facilities.	$6.90	$0.40	$1.70	$4.00	$0.80	$0.00
Travel Forecasting and Innovative Planning and Performance Management Fund 70 planning activities for travel forecasting and analysis and innovative planning and performance measures analysis efforts.	$0.90	$0.68	$0.13	$0.10	$0.00	$0.00
CAV/TSMO Fund 86 planning, design, and construction activities for technology deployment efforts including CAV, ITS, and TSMO.	$11.80	$1.30	$2.50	$4.00	$4.00	$0.00
Motor Carrier Division Fund 23 planning, design, and construction activities related to the Virtual Weigh Station program, including upgrades to static scales and associated equipment.	$8.85	$0.67	$2.17	$2.17	$2.17	$1.67
TOTAL REQUEST	**$103.45**	**$18.05**	**$21.50**	**$25.27**	**$21.97**	**$16.67**

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

Freight Performance Reporting

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

Freight Performance Reporting:
Federal Transportation Performance Management (TPM)

TPM Requirement: Set 2- and 4-year performance targets for all measures

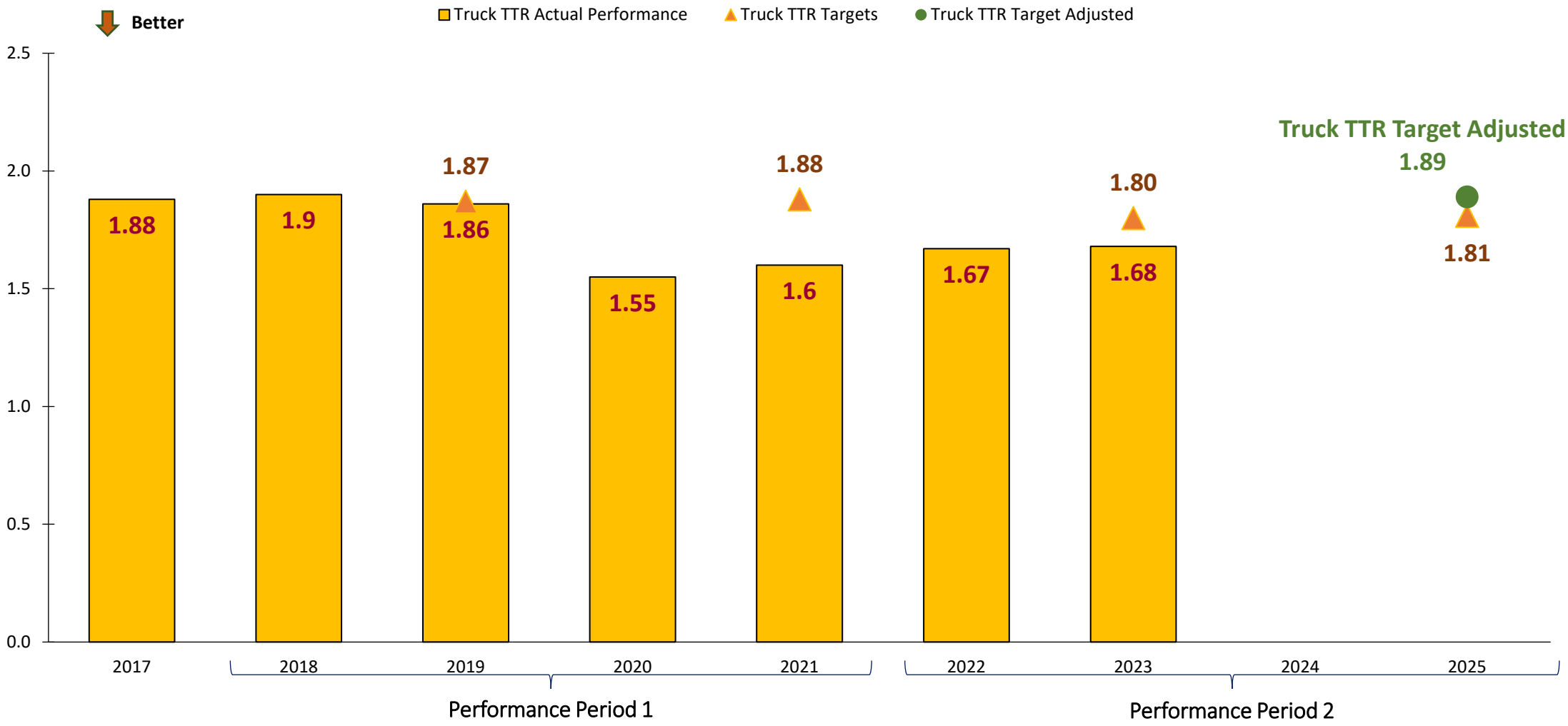
All measures are only for the National Highway System (NHS), even portions owned by non-MDOT partner owners

Program Area	Performance Measures
Infrastructure Condition (Bridge and Pavement) **TPM2**	1. % Interstate Pavement in Good Condition 2. % Interstate Pavement in Poor Condition 3. % Non-Interstate NHS Pavement in Good Condition 4. % Non-Interstate NHS Pavement in Poor Condition 5. % NHS Bridges in Good Condition 6. % NHS Bridges in Poor Condition
Highway & Freight Reliability **TPM3**	1. Interstate Travel Time Reliability 2. Non-Interstate Travel Time Reliability **3. Freight Reliability (Truck Traffic Travel Reliability – TTTR)**
Traffic Congestion	1. Annual Hours of Peak Hour Excessive Delay (PHED) Per Capita 2. Percent of Non-Single Occupancy Vehicle Travel
Emissions	1. Total Emissions Reduction

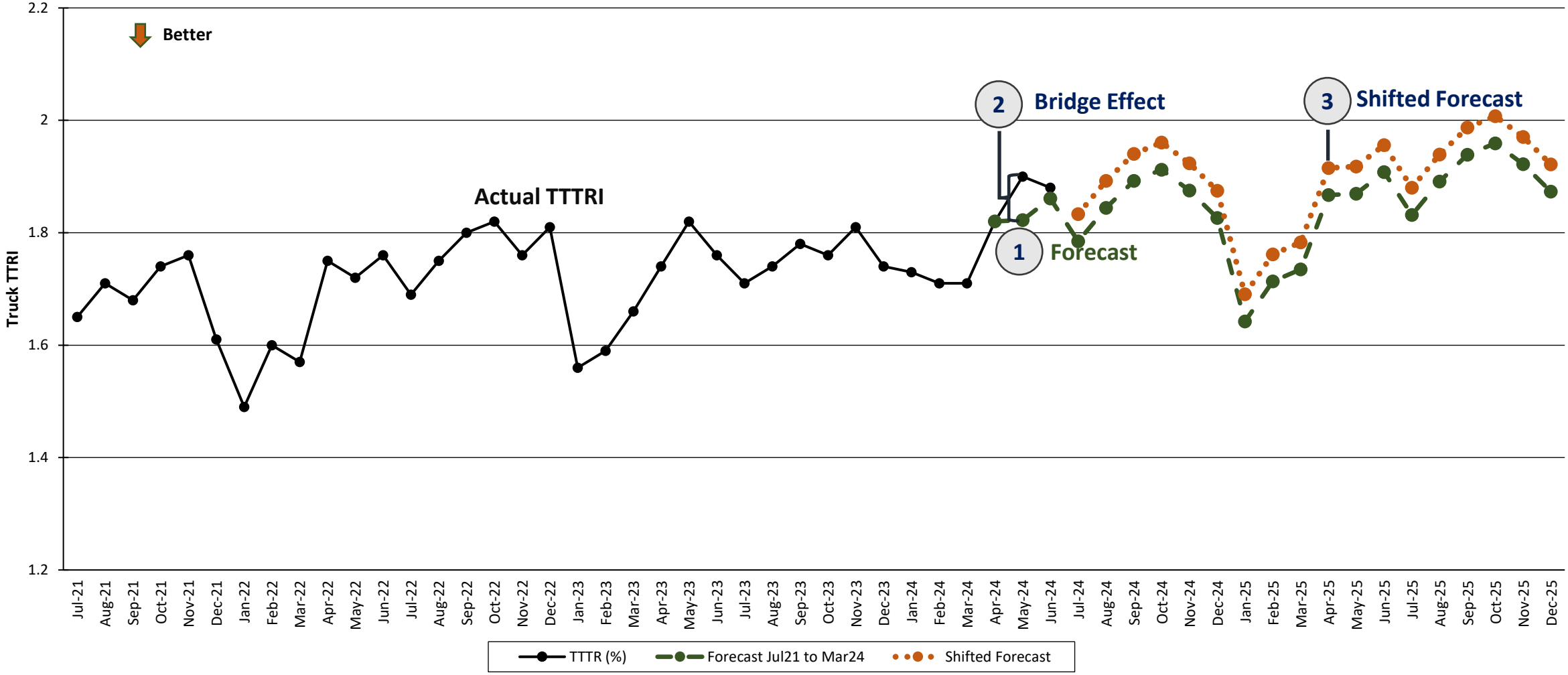
**TPM1 Safety targets are reported annually via the Highway Safety Improvement Program (HSIP) in August*

Performance Results

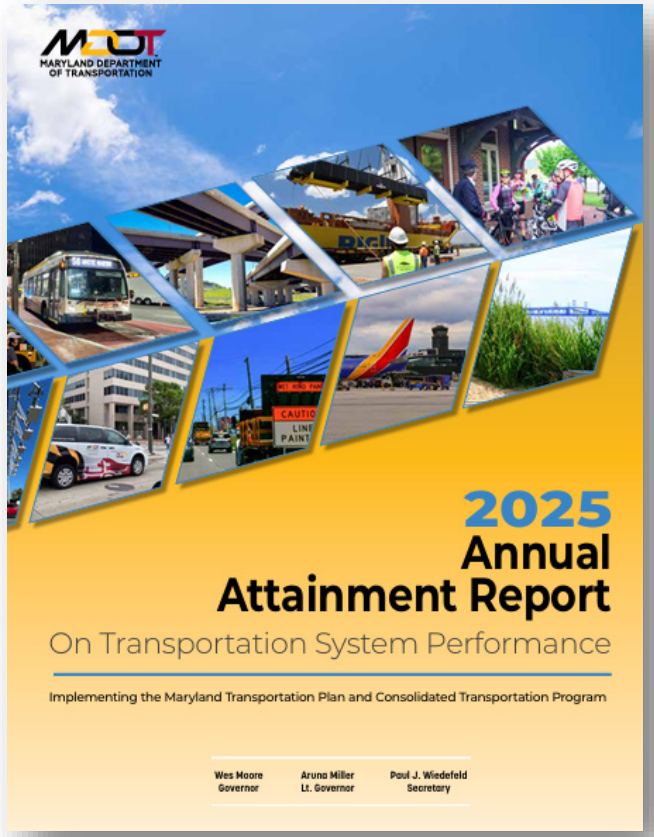
System Reliability: TTTR

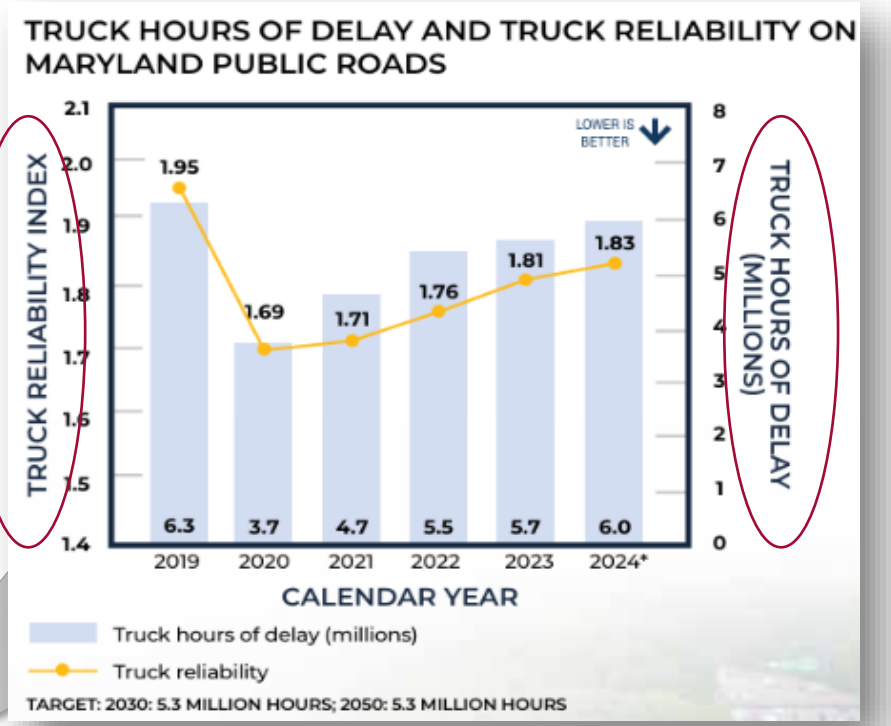


Reliability Target Forecast Method - 2024 (Truck TTRI)



Freight Performance Reporting:
MDOT Attainment Report





What Are Future Strategies?

- MDOT is working on the Transportation Systems Management and Operations (TSMO) project on I-695 (Baltimore Beltway) from I-70 to MD 43 (White Marsh Boulevard) in Baltimore County to reduce congestion and delay and increase reliability of travel within the project area.
- MDOT is deploying Intelligent Transportation System (ITS) technology where deemed appropriate, such as the US 50 corridor from the Bay Bridge to the Eastern Shore to increase travel reliability.
- The 2022 State Freight Plan identified projects for initial National Highway Freight Program funding to improve freight movement in the State.

Federal Freight Measure
Truck Travel Time Reliability Index (TTRI)

State Freight Measure
Truck Hours of Delay

Freight Bottleneck

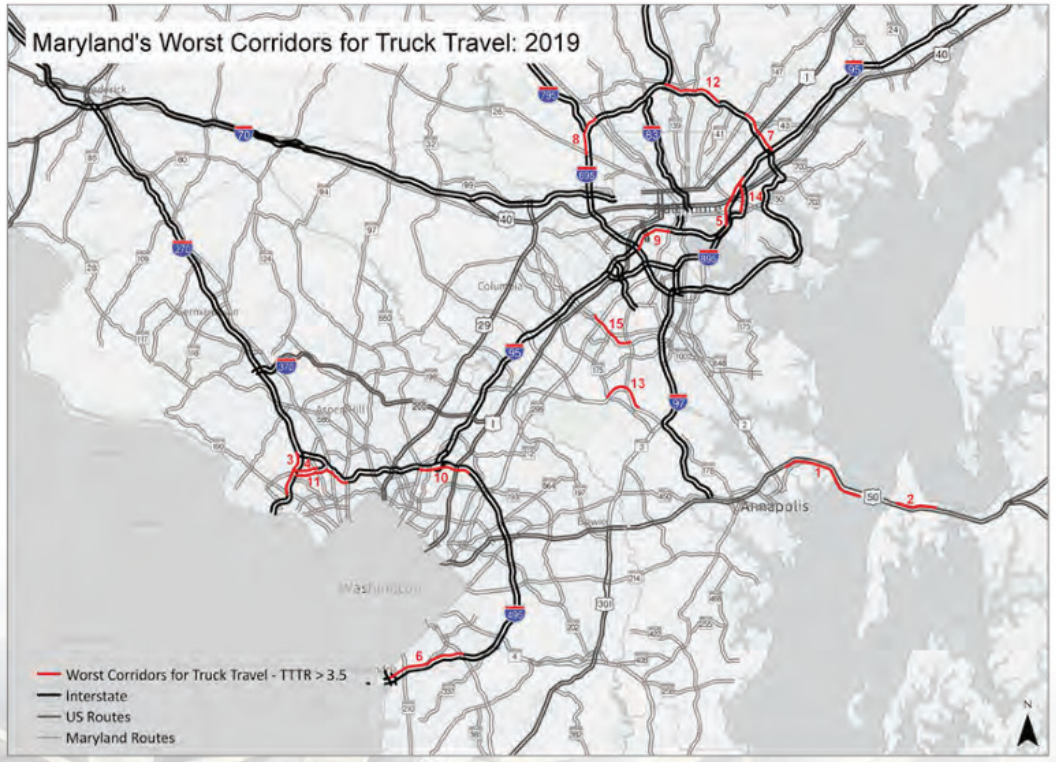
MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

Freight Reliability Bottlenecks

Top bottlenecks reported in:

- State Freight Plan
- Federal Performance Report

EXHIBIT 6.22: MARYLAND'S LEAST RELIABLE CORRIDORS FOR TRUCK TRAVEL (2019 TTTR BASED)[34]



RANK / ROUTE / TTTR MAX / LIMITS
1. **US 50 EB** (TTTR = 6.0) Bay Dale Drive to Chesapeake Bay Bridge
2. **US 50 WB** (TTTR = 5.9) Piney Creek Road to MD 8
3. **I-270 West Spur SB** (TTTR = 5.8) I-270 Split to I-495
4. **I-495 Outer Loop** (TTTR = 5.0) MD 187 to MD 190
5. **I-95 SB** (TTTR = 4.4) I-895 Split to MD 150
6. **I-495 Inner Loop** (TTTR = 4.3) MD 5 to I-295
7. **I-695 Outer Loop** (TTTR = 4.3) I-95 to MD 147
8. **I-695 Outer Loop** (TTTR = 4.2) MD 140 to MD 26
9. **I-95 NB** (TTTR = 4.1) I-695 to MD 295
10. **I-495 Inner Loop** (TTTR = 4.0) MD 650 to Greenbelt Metro Station
11. **I-495 Inner Loop** (TTTR = 4.0) I-270 West Spur to MD 185
12. **I-695 Outer Loop** (TTTR = 3.9) Cromwell Bridge Road to I-83
13. **MD 32 WB** (TTTR = 3.9) Sappington Station Road to MD 175
14. **I-895 SB** (TTTR = 3.7) I-95 Split to Ponca Street
15. **MD 100 WB** (TTTR = 3.6) MD 170 to Coca Cola Drive

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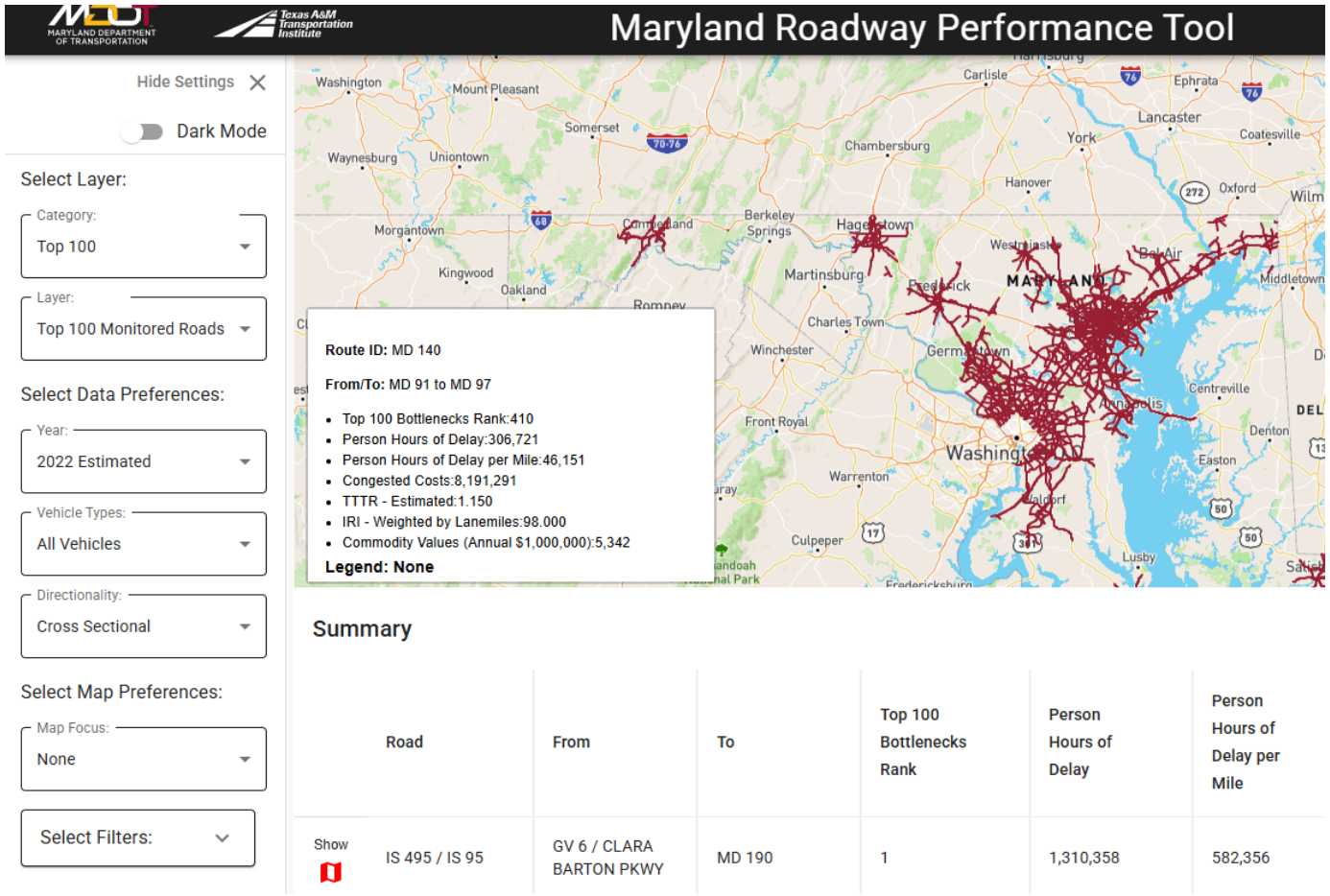
Bottlenecks Tools and Data

Maryland Roadway Performance Tool

MDOT-maintained tool

- Used to generate bottleneck reports
- Informs the State Freight Plan
- Supports NHFP project decisions



National Highway Freight Program Investment Plan

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

NHFP Freight Investment Plan

- Investments are selected to align with performance goals and plan priorities

National Highway Freight Program (NHFP) Freight Investment Plan

This appendix to the Maryland Freight Plan summarizes the anticipated National Highway Freight Program (NHFP) funding allocation for FY22 thru FY 26 to Maryland. Funding for freight projects and initiatives are presented by major categories and by year, and then further broken down by projects or initiatives. NHFP candidate projects and those recommended for funding are shown in Exhibit F.7.

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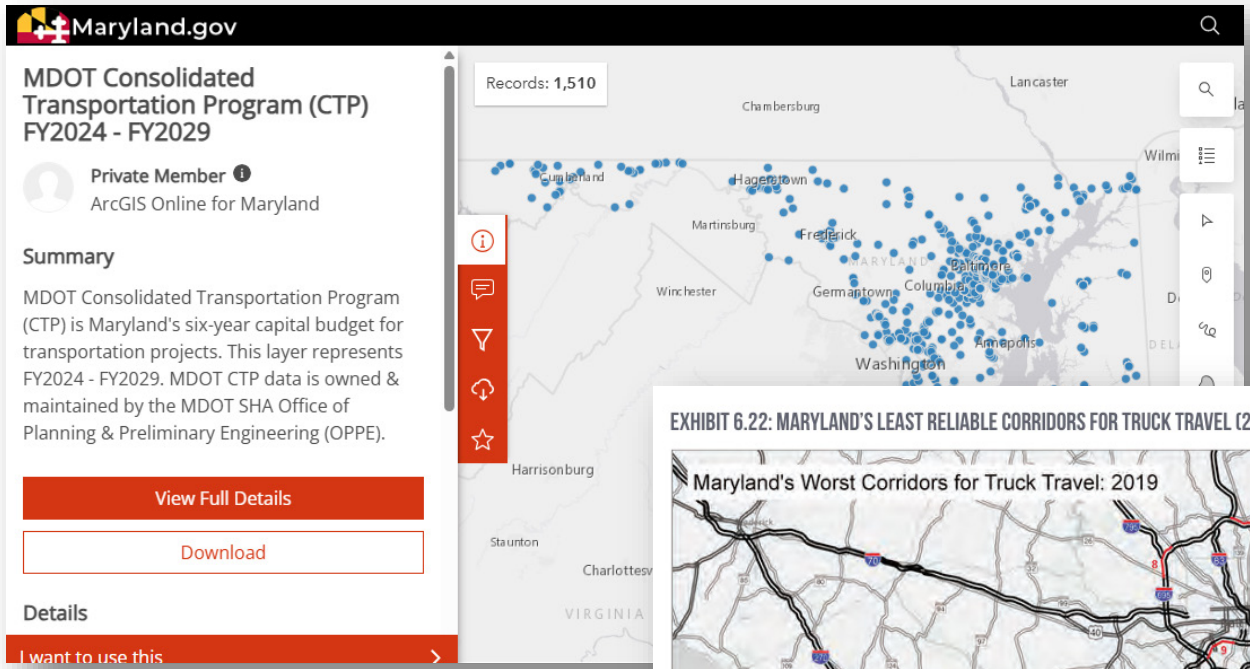
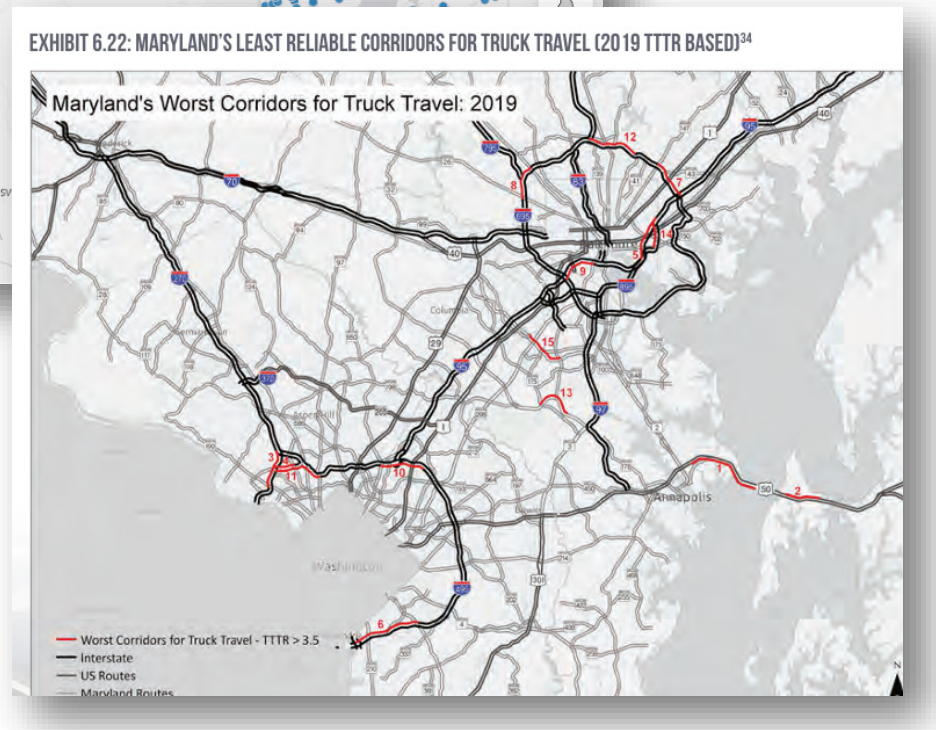
MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

NHFP Freight Investment Plan

- **Top bottlenecks** are overlaid with the **Consolidated Transportation Plan (CTP)**
- Projects in the vicinity of bottlenecks are opportunities to address bottleneck sources and improve freight mobility





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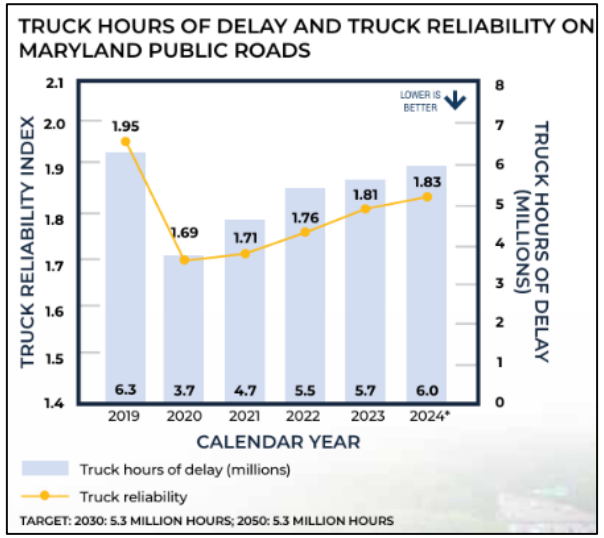
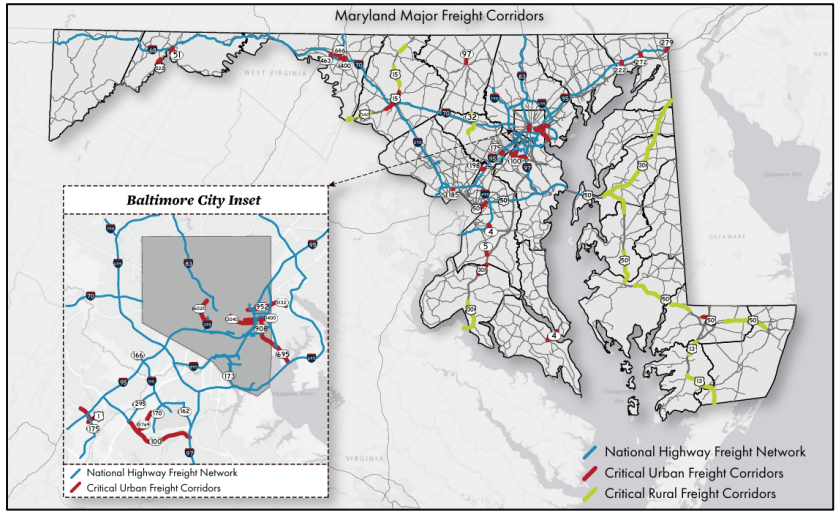
STATE HIGHWAY ADMINISTRATION

Planning to Improve Freight Performance



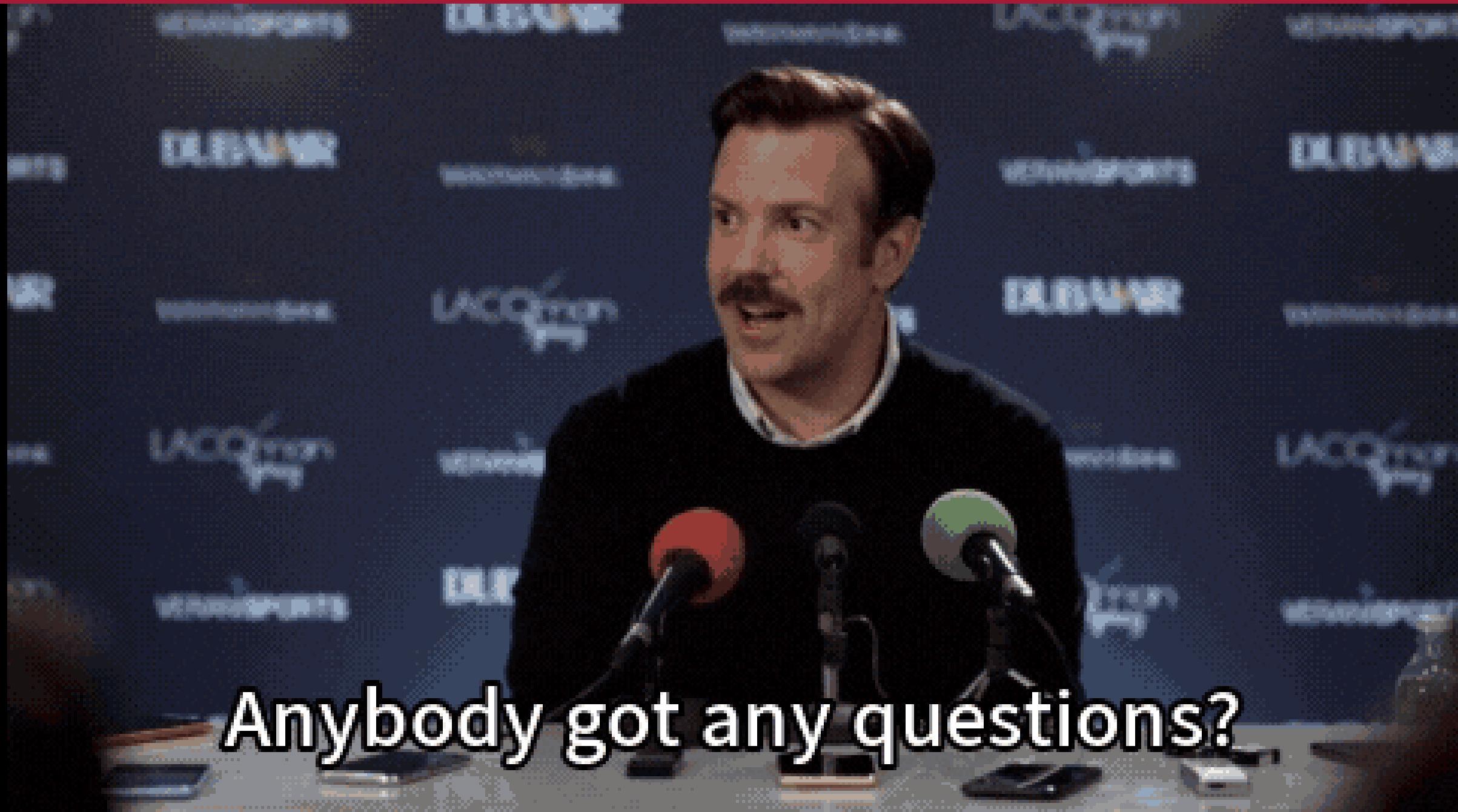
Freight Performance Reporting

State Freight Plan



National Highway Freight Program (NHFP) Investments

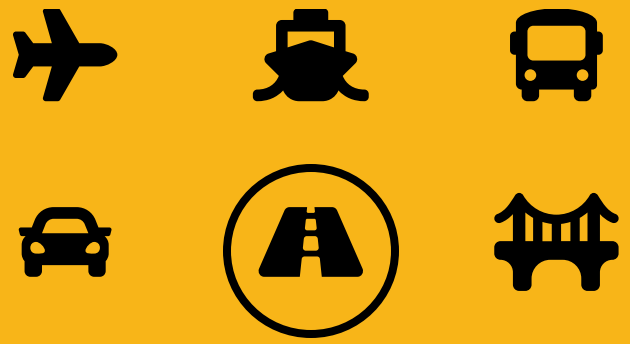
MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION


Anybody got any questions?

MARYLAND DEPARTMENT OF TRANSPORTATION

STATE HIGHWAY ADMINISTRATION

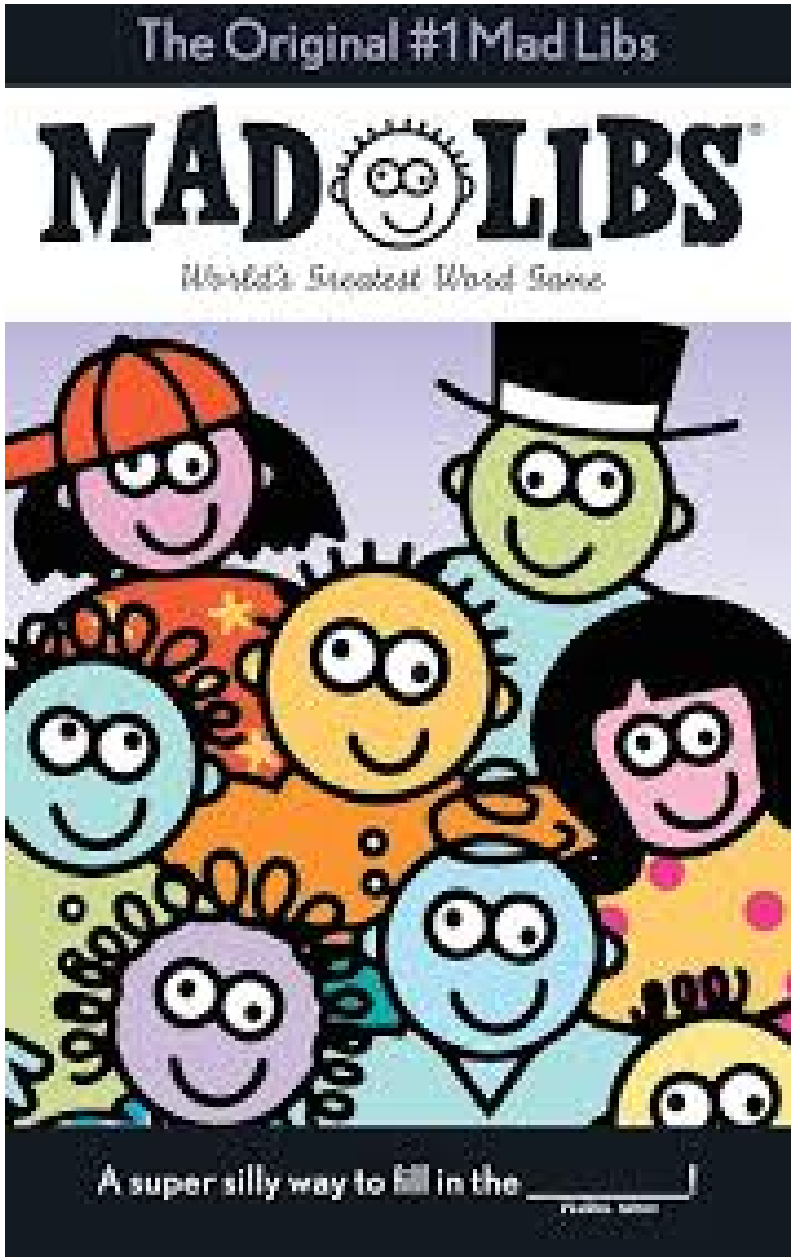
Future of Freight in the Region



What Resonated?

- Keynote Themes
- Rail
- Freight Land Use
- Marine
- Air Cargo
- Highway Infrastructure
- Industrial Development
- Multistate Regional Freight Planning
- Workforce

Time for some.....



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Thank You