# Maryland Statewide Rail Plan





**Larry Hogan, Governor**
**Boyd Rutherford, Lt. Governor**
**Pete K. Rahn, Secretary of Transportation**

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# Maryland Statewide Rail Plan

*prepared for*

Maryland Department of Transportation

*prepared by*

Cambridge Systematics, Inc.
4800 Hampden Lane, Suite 800
Bethesda, MD 20814

*date*

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# Table of Contents

# List of Tables

# List of Figures

# 1.0 About the Plan

The Maryland Statewide Rail Plan (Plan) provides an overview of the current and planned rail network and services within Maryland. The Plan outlines the public and private investments and policies needed to ensure the efficient, safe, and sustainable movement of freight and passengers by rail. The plan complies with Federal requirements for state rail plans as set forth in the Passenger Rail Investment and Improvement Act (PRIIA) of 2008. It draws from other previously issued modal plans, such as the 2013 MARC Growth and Investment Plan (MGIP), the 2035 Maryland Transportation Plan (MTP), and the Maryland Statewide Freight Plan (2009).

This Plan will be updated every five years to comply with Federal Railroad Administration (FRA) guidelines and to maintain a current plan to support state and regional rail planning activities. Because this Plan reflects both public and private project needs, the public and private sectors have a role in fulfilling the identified objectives in coordination with the Maryland Department of Transportation (MDOT).

This Plan identifies more than $9 billion in public and private railroad investment needs, measured in 2013 dollars from 2015-2040 throughout the State, utilizing statewide planning goals to prioritize the projects for future implementation. The Plan's comprehensive list of rail projects will enable MDOT to work strategically with private railroads and other stakeholders to address needs and to provide support where possible.

## 1.1 PLAN DEVELOPMENT

The Plan was developed by MDOT's Office of Freight and Multimodalism (OFM) and Office of Planning and Capital Programming (OPCP) with major contributions from the Maryland Transit Administration (MTA), a modal administration of MDOT. Maryland's freight and passenger railroads supported the development of the Plan by providing insight on rail issues and needs. Rail carriers also provided comprehensive project needs, details, and costs, which the State has organized into categories and prioritized in this Plan. The State collected other input from rail stakeholders through MDOT's Freight Stakeholder Advisory Committee (FSAC), an appointed group of freight railroads, stakeholders, and government officials that advises the State on freight and freight rail issues, as well as through our regional partners. Information from MDOT representatives' participation in railroad planning activities, such as the Northeast Corridor Infrastructure and Operations Advisory Commission

(NEC Commission) Critical Infrastructure Needs on the Northeast Corridor (2013), is also included in this Plan.[1]

Public input on freight and passenger service was solicited for this Plan in draft review meetings at statewide metropolitan planning organizations (MPO), through the MGIP planning process, the development of the NEC Infrastructure Master Plan, and outreach activities for the 2035 Maryland Transportation Plan and the Statewide Freight Plan effort. The Plan includes inputs from the Consolidated Transportation Program (CTP), the Maryland Transportation Plan (MTP), and from recent grant applications by the State to the Federal government for High-Speed Intercity Passenger Rail (HSIPR) funds. Findings and observations from recent studies conducted collaboratively by the Federal Railroad Administration (FRA), MDOT, and MTA on the Baltimore rail tunnels were also included in the Plan. Additionally, FRA's NEC FUTURE effort provided valuable input to the Plan. All of these efforts helped to better define the freight, commuter and intercity passenger rail elements needed in this Plan.

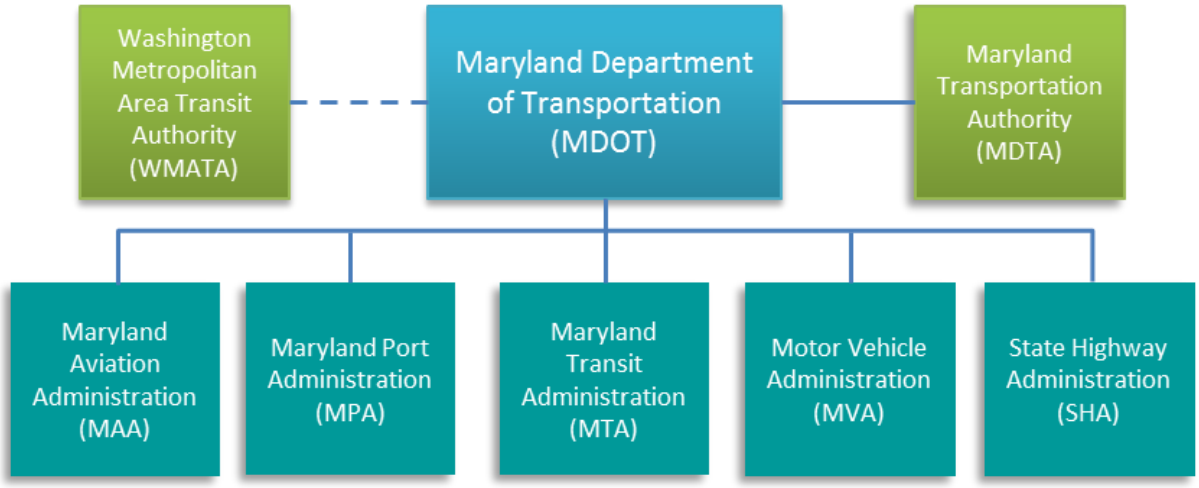
## MDOT and Its Modal Agencies

Under State and federal law, MDOT has responsibility for coordinating statewide transportation planning across all modes of transportation including the State's highway, transit, rail, freight, pedestrian and bike networks; the BWI Thurgood Marshall Airport and Martin State Airport; the Port of Baltimore, and driver and vehicle services. MDOT oversees five modal administrations, each of which has unique functional responsibilities for providing facilities and services across Maryland.

In addition, MDOT's Secretary is the Chairperson of the Maryland Transportation Authority (MDTA), the State's toll authority, and MDOT financially supports the Washington Metropolitan Area Transit Authority (WMATA) which provides transit services in the metropolitan Washington region. MDOT works closely with its modal administrations, MDTA and WMATA to continuously implement coordinated transportation strategies to keep Maryland's residents and businesses moving.

[1] The Northeast Corridor Infrastructure Master Plan, May 2010, http://www.amtrak.com/ccurl/870/270/Northeast-Corridor-Infrastructure-Master-Plan.pdf.

**Figure 1.1 Structure of Maryland Department of Transportation (MDOT)**




## 1.2 PLAN ORGANIZATION

The Plan begins with an overview of the purpose and Federal compliance for rail plans. It then provides a brief chapter on Maryland's rail history and describes the State's historic role in rail transportation. The Plan describes Maryland's current rail system, current capital programs, coordination efforts, issues, challenges, and policy goals. It identifies short- and long-term project needs along with an analysis of how these projects align with state and Federal goals. The Plan contains a section on rail safety and security. It concludes with a chapter describing approaches to implement the Plan.

## 1.3 PURPOSE OF THE RAIL PLAN

The main purpose of this document is to comply with Chapter 227 of Title 49 of United States (U.S.) Code Section 22705 as enacted in the Passenger Rail Investment and Improvement Act (PRIIA) of 2008. PRIIA requires states to submit a rail plan to the United States Department of Transportation (U.S. DOT) Secretary of Transportation for approval and compliance determination. In addition to fulfillment of Federal requirements, the plan will benefit the State by providing guidance on rail policy and investment through the synthesis of rail information from various entities into one document. The Plan also serves as a foundation of current statewide rail information to inform other statewide planning efforts.

# 1.4 FEDERAL COMPLIANCE

Federal law stipulates that each state rail plan be submitted to the U.S. DOT Secretary for approval in order to be able to seek Federal monies for rail projects under specific funding programs created by PRIIA. The FRA is charged with the review of state rail plans, which are expected to follow the guidance promulgated by the FRA in the Code of Federal Regulations (CFR) issued on September 17, 2013. The draft Plan was substantially complete before FRA released the Final State Rail Plan Guidance, and substantially meets the requirements of PRIIA.[2] Although MDOT began Plan development before the FRA Final State Rail Plan Guidance was issued, MDOT has endeavored to develop a compliant plan by using the PRIIA as the guiding document for this Plan as well as guidance provided by the American Association of State Highway and Transportation Officials (AASHTO).

## PRIIA

PRIIA tasks states with establishing or designating a state rail transportation authority that will develop statewide rail plans to set policy involving freight, commuter, and intercity passenger rail transportation within their boundaries, establish priorities and implementation strategies to enhance rail service in the public interest, and serve as the basis for Federal and state rail investments within the State. State rail plans are to address a broad spectrum of issues, including an inventory of the existing rail transportation system, rail services, and facilities within the State. They must also include an explanation of the State's passenger rail service objectives, an analysis of rail's transportation, economic and environmental impacts in the State, and a long-range investment program for current and future freight, commuter, and intercity passenger infrastructure in the State. The plans are to be coordinated with other state transportation planning programs and clarify long-term service and investment needs and requirements. FRA requires that state rail plans be updated every five years.

## Section 22102 Certification

Per U.S. Code, Title 49, Section 22102, a state is eligible to receive financial assistance under this chapter only when the State complies with regulations the U.S. DOT Secretary prescribes under this chapter and the Secretary decides the following:

1. The state has an adequate plan for rail transportation in the State and a suitable process for updating, revising, and modifying the plan;
2. The state plan is administered or coordinated by a designated state authority and provides for a fair distribution of resources;
3. The state authority is:
    a. Authorized to develop, promote, supervise, and support safe, adequate, and efficient rail transportation;
    b. Employs or will employ sufficient qualified and trained personnel;
    c. Maintains or will maintain adequate programs of investigation, research, promotion, and development with opportunity for public participation; and
    d. Is designated and directed to take all practicable steps (by itself or with other State authorities) to improve rail transportation safety and reduce energy use and pollution related to transportation.
4. The state has ensured that it maintains or will maintain adequate procedures for financial control, accounting, and performance evaluation for the proper use of assistance provided by the U.S. Government.

Per the PRIIA requirements that the state certify that the requirements in Section 22102 are met, MDOT presents this Plan as meeting the needs for rail planning within Maryland. MDOT intends to maintain the Plan as a living document that will be continuously updated through regular engagement of stakeholders. Full plan updates will be completed as per FRA requirements every five years.

The state authority for rail is held by the MDOT Secretary and delegated to OFM and MTA. OFM coordinates the freight, commuter, and intercity passenger rail planning, policy and projects, as well as maintains relationships with rail stakeholders. These efforts are in collaboration with OPCP, Office of Real Estate, MTA, and the State Highway Administration (SHA), a modal administration of MDOT. MDOT's planning process ensures coordination with the MPOs in the State and ensures fair distribution of resources and consideration of multimodal projects that meet national, state, and local goals. MDOT and modal staff hold professional accreditation and have sufficient training and degrees to perform transportation planning, policy, project development, and implementation.

As part of the overall transportation planning and capital development process, MDOT makes significant efforts to involve the public in the planning process and to seek new, creative, and sustainable opportunities for the State's infrastructure. Additionally, MDOT and its modal administrations house stringent financial, accounting, and audit procedures that ensure the best interests of the public and use of public funds at all levels of government.

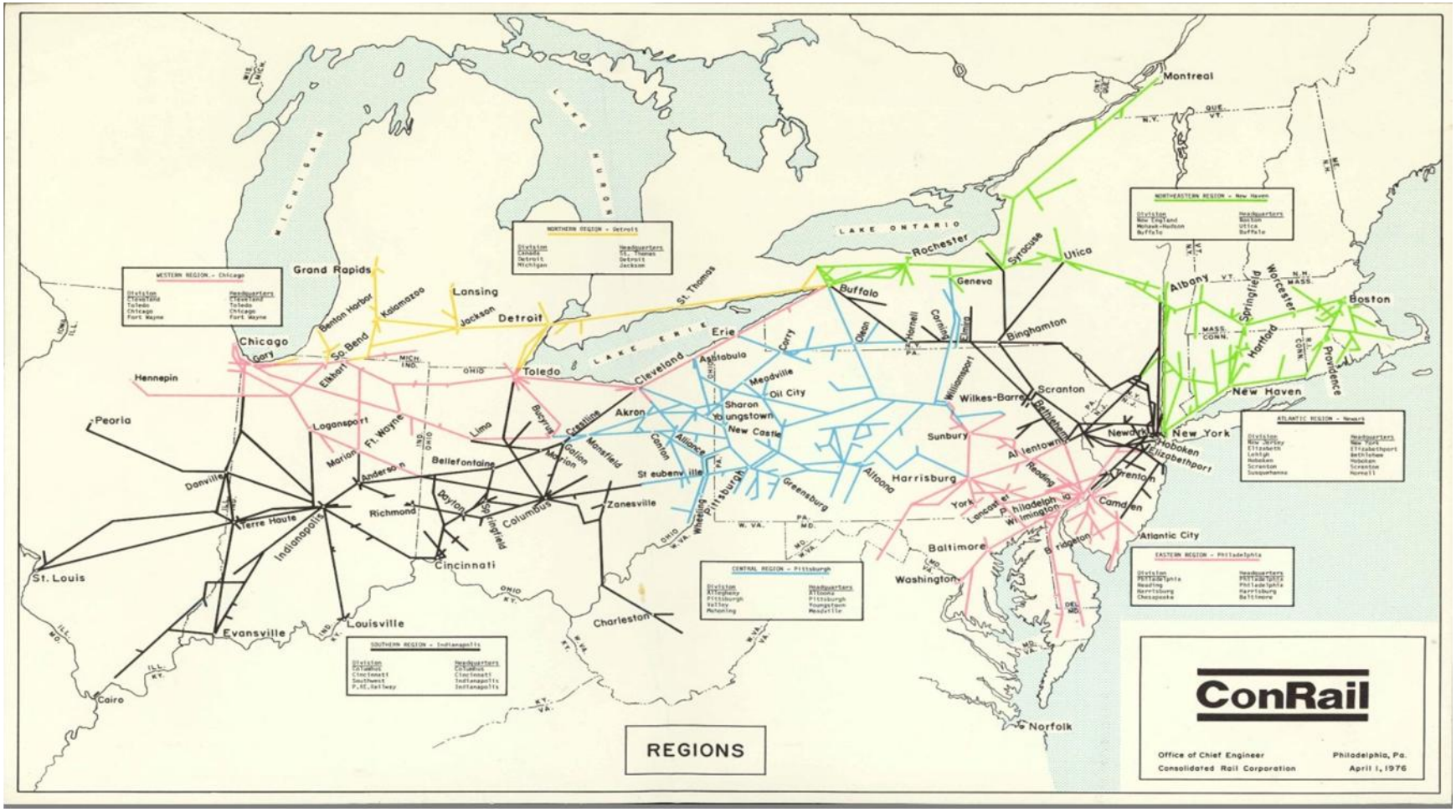
# 2.0 Maryland's Rail History

America's first railroad was built in Maryland. Lacking a significant inland waterway to capture growing trade with the interior of the United States in the early 19th century, Baltimore was left at a disadvantage to other East Coast seaports connected to the west by inland canal corridors that allowed for trade with their respective ports. In 1827, Baltimore businesses formed a plan to develop a railroad, which was at that time a largely unproven technology. The State granted a charter for the Baltimore & Ohio Railroad (B&O) on March 28, 1827, and the B&O network expanded west and south to connect Baltimore with points west and Washington, D.C. Maryland's rail network increased through the 19th century as the B&O and other railroad systems grew to connect population centers within the state and establish links to other East Coast cities and points throughout the nation.

In the Baltimore-Washington corridor, agreements between the City of Baltimore, the State, and the B&O effectively blocked other railroads from establishing competing routes. In 1866, the Pennsylvania Railroad (PRR) bought the dormant charter for the Baltimore & Potomac Railroad, which allowed construction of a second direct rail link between the two cities. By the mid-1870s the PRR established a continuous route linking Washington, Baltimore, and other major cities in the Northeast. The PRR and B&O rapidly expanded into new markets and grew to dominate rail transportation in Maryland. With the growth in regional population, rail carriers balanced passenger and freight needs over their connections between Washington, D.C., and Baltimore.

After thriving for more than a century, the rail system began to decline with the emergence of trucks and auto travel and development of the Interstate Highway system. Federal laws created Amtrak and Conrail to help sustain operations for both passenger and freight in the 1970s. Figure 2.1 shows the Conrail network in Maryland and the Eastern U.S. in 1976. Through implementation of the Railroad Revitalization and Regulatory Reform Act of 1976 (4R Act) and the Rail Passenger Service Act of 1970, rail asset reallocation led to the network configuration of freight, commuter, and intercity passenger service that exists today.

## Figure 2.1 Conrail Network, 1975




Source: http://multimodalways.org/docs/railroads/companies/CR/CR%20Maps/CR%20System%Maps/CR%20System%20Map%204-1-1976.pdf.

## 2.1 AMTRAK AND CONRAIL

By the 1960s, as major portions of the Interstate Highway system were completed, railroad passenger service became economically unviable for most rail operators. The Federal government intervened and the Rail Passenger Service Act of 1970 created the National Railroad Passenger Corporation (Amtrak) as a means of sustaining critical passenger services.

The same economic forces that undermined passenger rail also affected freight, leading to declining revenues and deteriorating infrastructure conditions. By 1972, bankruptcy of several major railroads set the stage for Congressional action leading to the creation of the Consolidated Rail Corporation (Conrail) in 1976. The Penn Central Transportation Company (Penn Central), formed from the merger of the PRR and two other railroads, declared bankruptcy in 1970, and other railroads operating in the Northeast and Midwest began to falter. Lack of financial resources for infrastructure maintenance was leaving miles of track in poor condition. Conrail assumed operation of the viable portions of the bankrupt carriers in April 1976. The Northeast Corridor (NEC), formerly owned by Penn Central, was transferred to Amtrak ownership in 1976 with Conrail retaining trackage rights for freight operations.

Conrail realized profits by streamlining operations and the lifting of regulatory restrictions. In 1980, the Federal government sold the company to its employees and other investors. Norfolk Southern Corporation and CSX Corporation acquired Conrail through a joint stock purchase in 1997 with Conrail continuing operations in some locations as a switching railroad.

## 2.2 MARC

In 1976, MDOT established the State Railroad Administration (SRA) to oversee its subsidies of commuter rail between Baltimore and Washington, D.C., operated at that time by Conrail and then Amtrak. Funding was allocated for commuter rail equipment and operations and short line infrastructure, equipment, and operations. The commuter rail service was branded as MARC in 1984. The SRA was folded into the Maryland Mass Transit Administration, (now known as the Maryland Transit Administration) (MTA) in 1992. The MTA continues to oversee funding for the MARC lines, including capital improvements such as the recent acquisition of new bilevel coaches and more efficient engines. Amtrak currently operates MARC service over the Penn line while Bombardier, a Montreal-based rail equipment manufacturer and transportation service provider, operates MARC service over the Brunswick and Camden lines, both of which are owned by CSX.

Amtrak has sponsored several capital joint benefit programs with MARC to improve facilities that are jointly used by both services. An example of the successful joint capital improvement projects includes a recent expansion of restroom facilities at Baltimore Penn Station.[3] CSX and MARC have collaborated on upgrades to the Brunswick line such as the addition of rail crossovers. MARC has also collaborated with both Amtrak and CSX on sole benefit projects that impact both systems but are designed primarily to benefit one party.

MARC faces a number of challenges in maintaining service levels. First, MARC does not own most of the railroad infrastructure it uses. The reliance on track owned by freight railroads or Amtrak means that MARC has less direct control on track condition and maintenance schedules. MARC capital projects can also be delayed due to procurement problems and the process of receiving National Environmental Policy Act (NEPA) clearance. In the future, projects on the NEC will also need to align with PRIIA Section 212 provisions intended to ensure that no cross subsidization exists between intercity, commuter and freight rail.

## 2.3 SHORT LINES

Under the terms of the Railroad Revitalization and Regulatory Reform Act of 1976 (4R Act), bankrupt railroads were permitted to abandon unprofitable lines in the Northeast. Many states were offered the opportunity to purchase these lines to preserve existing rail business or to protect lines for future needs and were provided Federal Local Rail Freight Assistance (LFRA) subsidies to allow ongoing operation on some lines. In 1982, Maryland purchased 191 miles of rail lines for $9.1 million, and these rail assets were managed and maintained by SRA, and subsequently, MTA and MDOT. The lines purchased included Taneytown-Walkersville; Townsend, Delaware to Centreville and Chestertown; and Seaford, Delaware to Cambridge.

In 1999, MDOT created a six-year short line rail rationalization and investment plan. That plan included a benefit/cost analysis of preserving critical short line operations while shutting down costly operations. It also called for selling lines to private railroad operators where feasible. In response to the plan MDOT sold the Western Maryland Scenic Railroad between Cumberland and Frostburg to Allegany County in 2004 and, in 2005, MDOT sold 30 miles of track to the Maryland Midland Railroad. Currently, MDOT owns several active and inactive lines. Active track includes lines between Seaford, Delaware and Cambridge, Townsend, Delaware to Centreville via Massey, and Massey to Chestertown.

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[3] "Expanded Restroom Facilities Open Ahead of Schedule at Baltimore Penn Station," http://www.amtrak.com/ccurl/486/733/Expanded%20Restroom%20Facilities%20Open%20Ahead%20of%20Schedule%20at%20Baltimore%20Penn%20Station%20ATK-13-113%20.pdf.

There have been limited opportunities to sell the remaining State-owned rail lines, and this prompted a shift in MDOT's policy from sale to preservation and opportunity growth. Today, MDOT continues to support the State-owned short lines through an operating agreement with The Maryland and Delaware Railroad (MDDE). MDOT and MTA are currently evaluating the long-term role of the State in the ownership, operation, and support of short line railroads in Maryland.

## 2.4 SUMMARY

The geographic conditions that made Maryland the launching pad for rail in America remain equally compelling today. The population of the State is concentrated around two major urban areas ideally served by commuter rail. The NEC traverses the State, connecting Washington, Baltimore, Aberdeen, and other Maryland population and business centers with a constellation of major East Coast cities, including Philadelphia, New York, and Boston. Maryland's freight rail system connects the Port of Baltimore with the national rail network and to major import and export markets across North America. Over the last few decades, after a period of significant decline, rail is reemerging as an essential component of Maryland's transportation network. Furthermore, Maryland continues to plan strategically for its growth and integration around the state as appropriate.

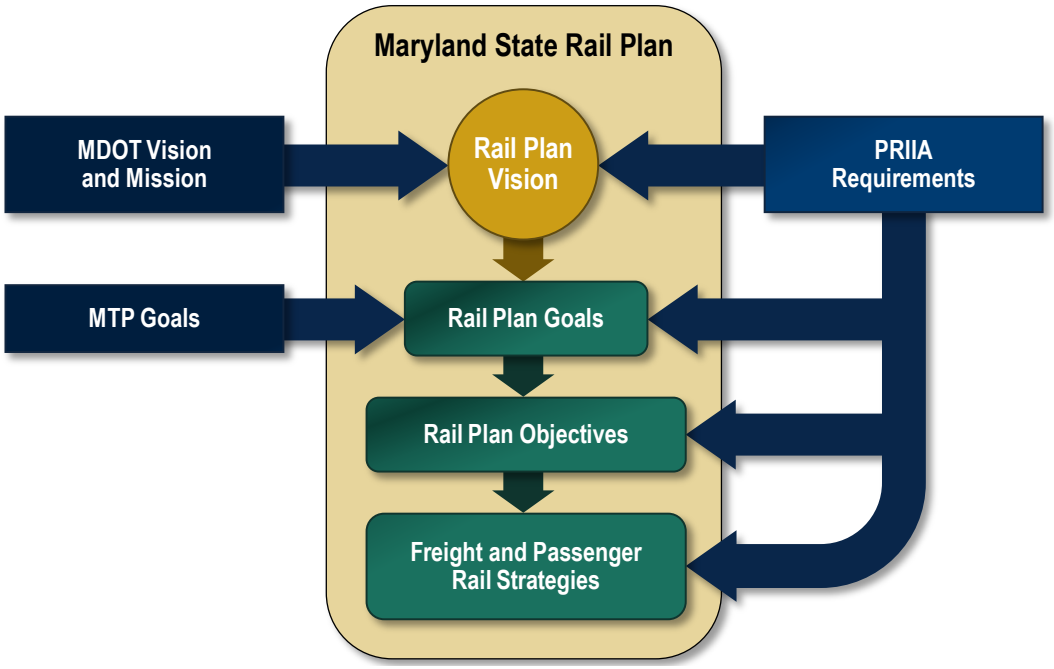
# 3.0 Mission, Vision, and Goals

Maryland's freight, commuter, and intercity passenger rail network is a critical element of a multimodal transportation system that connects residents and businesses in the State to employment and educational opportunities, goods and services, customers, and suppliers throughout the State, nation, and world. Continued population and economic growth create demand on Maryland's multimodal transportation system, and limited and uncertain funding means that Maryland will have to make difficult decisions regarding the investments in the rail system. MDOT faces several challenges in managing the State's railroad infrastructure due to the fact that most of the infrastructure is not owned by the State. The vision, goals, and objectives detailed in this chapter provide a framework upon which the implementation and action plan have been developed.

The MTP lays out MDOT's role in providing and maintaining a safe and efficient multimodal transportation system for people and goods. The MTP is a 20-year multimodal transportation system plan, which establishes MDOT's long-term vision and mission, goals and objectives. The MTP was developed in coordination with state, local, and regional stakeholders and the public.

As shown in Figure 3.1, MDOT has developed a framework for this Plan that establishes its vision and mission for freight, commuter, and intercity passenger rail use on unique and shared infrastructure in the State's broader multimodal transportation system. The goals developed for this Plan are broad statements of purpose for the State's rail system that have their origins in the goals and objectives of the MTP. Objectives that provide targeted outcomes and strategies that will help MDOT and its partners realize the goals of this Plan were developed by MDOT in consultation with those partners. The entire process of establishing the vision and mission, goals, objectives, and strategies is consistent with the requirements and guidelines set forth by PRIIA. For projects that impact multiple parties, it is critical to ensure that all infrastructure owners have full understanding of the projects' projected impact and that the project is properly integrated with the regulatory documents and master plans for the various agencies. This would include PRIIA Section 212, then NEC Master Plan, the MARC MGIP plan, the Consolidated Transportation Program (CTP) and the Union Station Master Plan. Additionally, it is expected that FRA's NEC FUTURE Tier 1 EIS and Service Development Plan will inform the next version of the Maryland Statewide Rail Plan.

**Figure 3.1 Relationship of State Rail Plan to Maryland Transportation Plan**




## 3.1 MARYLAND RAIL SYSTEM VISION

The vision and mission for Maryland's freight, commuter, and intercity passenger is:

> *The State's shared vision for freight and passenger rail is to provide a well-maintained, sustainable and intermodal, linked rail transportation system that facilitates the safe, convenient, affordable, and efficient movement of people, goods, and services within and between population and business centers.*

This vision and mission compels MDOT to plan for the provision and improvement of a rail system that conveys freight and passengers safely and efficiently.

## 3.2 MARYLAND RAIL SYSTEM GOALS

In the MTP, MDOT identifies the following goals in order to face the challenges for the next 20 years:

- **Safety and Security –** Enhance the safety of transportation system users and provide a transportation system that is resilient to natural or manmade hazards.
- **System Preservation –** Preserve and maintain the State's existing transportation infrastructure and assets.

- **Quality of Service –** Maintain and enhance the quality of service experienced by users of Maryland's transportation system.
- **Environmental Stewardship –** Ensure that the delivery of the State's transportation infrastructure program conserves and enhances Maryland's natural, historic, and cultural resources.
- **Community Vitality –** Provide options for the movement of people and goods that support communities and quality of life.
- **Economic Prosperity –** Support a healthy and competitive Maryland economy.

The Plan follows the MTP and focuses similarly on the following goals:

- **Safety and Security –** Improve safety and security by reducing modal conflicts, including conflicts with pedestrians, and provide a rail system that is resilient to natural or manmade hazards.
- **System Preservation –** Preserve existing rail assets and maximize the efficient use of resources and infrastructure.
- **Quality of Service –** Maintain and enhance the quality of passenger service and freight delivery experienced by users of Maryland's rail system.
- **Environmental Stewardship –** Ensure that the delivery of freight, commuter, and intercity passenger rail transportation infrastructure program conserves and enhances Maryland's natural, historic, and cultural resources.
- **Community Vitality –** Provide freight, commuter, and intercity passenger options for the movement of people and goods that support communities and quality of life.
- **Economic Prosperity –** Ensure that freight rail projects enhance connectivity between freight modes and/or improve access to clusters of freight-intensive industries; or passenger rail projects that enhance connectivity between modes and improve access to activity centers.

## 3.3 MARYLAND RAIL SYSTEM OBJECTIVES AND STRATEGIES

MDOT will engage with stakeholders on the following objectives and strategies to achieve the State's vision and mission and goals for freight, commuter, and intercity passenger rail service. These objectives and strategies were developed as a result of the Statewide Freight Planning process and collaborations with public and private stakeholders such as the development of the 2010 Northeast Corridor Infrastructure Master Plan and participation in the NEC Commission. The objectives and strategies are grouped according to their relationship to the rail system goals (Table 3.1).

## Table 3.1 Maryland Rail System Goals, Objectives, and Strategies

| Goal | Objective | Strategy |
|---|---|---|
| **Quality of Service** | Lower logistics costs | Improve predictability of land use decisions; improve information and reliability of routing; decrease surface transportation operational costs, and provide intermodal opportunities and modal shift options (i.e., truck to rail where efficient). |
| | Improve travel reliability by optimizing operations of freight, commuter, and intercity passenger rail | Develop strategies and technologies to improve shared use; increase capacity and upgrade rail infrastructure for simultaneous operation of freight, commuter, and intercity passenger services; promote the required deployment of Positive Train Control (PTC) on shared corridors. |
| | Improve MARC passenger rail service levels by 2035. | Implement capital programs to expand capacity and reduce peak headways. |
| **Safety and Security** | Utilize rail network to respond to homeland security needs | Work with homeland security personnel to determine at the local, state, regional, and Federal level how the State's network can benefit movement of personnel and equipment in the event of a national disaster; establish routing plans and emergency preparedness plans; communicate the plans to all affected. |
| | Improve rail safety | Develop routing that minimizes hazmat exposure to communities; develop hazmat plan for the region; implement public outreach campaign on dangers of walking on or near railroad tracks; reduce conflict between highway and rail by closing or separating grade crossings (e.g., sealed rail corridors). |
| **System Preservation** | Improve Coordination | Fully engage state agency partners in rail planning; enhance coordination with local governments to identity freight, commuter, and intercity passenger infrastructure needs that may require special state assistance; sustain and/or increase MDOT interaction and coordination with neighboring states and Federal agencies (FHWA, FRA, USACE, etc.). |
| | Continue to improve data and decision-making tools | Explore options for developing improved rail flow data through origin-destination surveys; collaborate with other agencies and the private sector to develop and utilize models and other tools to sharpen investment decision-making (for system preservation and other goals). |
| | Identify current and future needs for Amtrak's Northeast Corridor | Continue providing information and support to Amtrak and FRA as they continue efforts to bring the Northeast Corridor to a state of good repair. |
| | Establish project management agreements and partnerships | Utilize national and regional groups such as AASHTO and CONEG to facilitate discussions between states and railroads; establish guidelines for project management involving P3s; establish guidelines for project management of mega-projects. |

| Goal | Objective | Strategy |
|---|---|---|
| | Establish funding for mega-projects and ongoing rail needs | Continue to pursue Federal funding; explore creative financing options; encourage structural changes to the Federal and state budgets for transportation funding; develop partnerships in terms of regions or mega-regions to capture universe of users who can provide funding for mega-projects; participate/lead NEC Commission activities and regional rail partnerships. |
| | Foster synergy between Maryland's rail network plans and regional and national plans | Work with neighboring states and broader regional groups such as the NEC Commission to plan in terms of a broader corridor or network; involve both freight, commuter, and intercity passenger entities in the planning; establish Intermodal Rail Team to coordinate rail planning issues and effectively communicate them to Federal agencies and MPOs. |
| **Environmental Stewardship** | Improve energy efficiency and reduce emissions of pollutants and greenhouse gases attributable to the transportation system | Work with governments and private stakeholders to identify implementable emissions-reduction and energy-saving strategies and to encourage shifts to modes that are more energy efficient and contribute less to pollutant and greenhouse gas emissions. |
| | Increase compatibility of land uses | Identify ample locations for freight expansion through regional industrial master planning and clustering of freight activities with transportation facilities; coordinate with local governments' comprehensive plans; mediate concerns (suburban residential threatened by freight encroachment/urban freight threatened by residential encroachment); incorporate goods movement activity grandfather clause into real estate purchase contracts or development agreements; further implement Transit-Oriented Development (TOD) zones and state and local "tools" for TOD implementation. |
| **Community Vitality** | Educate the public | Promote the fact that efficient goods movement provides savings to consumers, businesses, and that transit is a benefit to communities and businesses. |
| | Increased rail interconnectivity with other modes/ports | Improve intermodal connections for rail to ports (Baltimore, Salisbury); support intermodal transfer facilities, encourage land use decisions for access to multimodal options; encourage transloading by businesses with excess capacity for off-rail customers; increase connectivity with other modes (MTA commuter bus, core bus, metro, light rail, paratransit, bike/pedestrian, Locally Operated Transit (LOT), WMATA). |
| **Economic Prosperity** | Provide Rail Double-Stack Access to the Port of Baltimore | Work with CSX to complete upgrades associated with the National Gateway; work to increase options for CSX and Norfolk Southern double-stack access to the Port of Baltimore or Baltimore region and to other critical intermodal or goods activity hubs in Maryland; and identify ROW opportunities and sharing agreements to eventually enable on-dock double-stack of high cube containers. |
| | Support business retention and growth through multimodal access to the rail network for freight shippers, commuters, and intercity passengers | Work with economic development representatives at the state and local level to identify business location options and transportation improvement options that optimize business opportunities, utilize data and forecasting to better understand economic opportunities and how rail can benefit. |

# 3.4 MARYLAND RAIL BENEFITS

By implementing the strategies outlined in this Plan, the State will help freight and passenger railroads achieve the goals and vision for rail in Maryland. By achieving its rail vision, the State will help its citizens and businesses to realize significant transportation, economic, environmental and community benefits. This section summarizes the major benefits of rail activity in Maryland – demonstrating the value that rail provides Maryland's citizens and enterprises.

## Transportation Benefits

Maryland's freight and passenger railroads carry millions of tons of freight and millions of passengers each year. Rail transportation mitigates highway congestion throughout the State, especially on major travel corridors where rail service parallels highway routes. Both intercity and commuter rail contribute to highway congestion mitigation. In 2013, more than 2 million riders boarded or alighted Amtrak trains at stations in Maryland.[4] Union Station in Washington, D.C. served more than 5 million Amtrak passengers. MARC carried more than 8 million passengers in 2012 representing 257 million passenger miles.[5] While the total miles traveled on MARC is small compared to the total vehicle miles traveled in Maryland on an annual basis (56.5 billion), MARC trips are concentrated at peak hours and on routes that parallel major highway commuting corridors – like I-270 and I-95 – providing measurable congestion relief. Without intercity and commuter rail system, Maryland's rail passengers would shift demand to other modes – most likely the State's highway system – exacerbating congestion and elevating costs for highway system maintenance and capacity expansion.

Similarly, Maryland's 762-mile freight rail system provides critical transportation benefits statewide by moving goods that would otherwise frequently move by truck. In 2011, the statewide freight rail system moved approximately 24 percent of total freight ton-miles while trucks moved 76 percent of ton-miles over the highway system.[6]

Not only does rail help to mitigate highway congestion, but the State's rail system provides an important mobility alternative for passengers and shippers. Rail also reduces pavement damage and safety risks on the highway system. Maryland commuters and longer distance travelers benefit greatly from the robust rail options available on MARC and Amtrak. Shippers throughout the State utilize rail for its lower unit-costs. The rail system lowers vehicle and truck

[4] 2013 Amtrak State Fact Sheet: Maryland.

[5] www.ntdprogram.gov.

[6] 2011 FHWA Freight Analysis Framework estimates.

vehicle miles traveled (VMT) on the statewide highway system, effectively preventing accidents.

## Economic Benefits

Maryland's railroads also generate significant economic benefits across the State by employing thousands of people, by purchasing millions of dollars in goods and services, and by connecting people and industries within the State and with nearby travel, financial, and technology centers.

Maryland's freight railroads employ more than 1,500 Marylanders with family-sustaining wages and benefits averaging $107,620 per employee.[7] In addition, nearly 8,500 retired railroad workers live in Maryland, collecting $160 million annually in retirement benefits. At the end of Amtrak's Fiscal Year (FY) 2013, Amtrak employed 2,306 Maryland residents and paid $175,904,796 in wages.[8] According to the American Association of Railroads (AAR), for each railroad job, 4.5 other jobs are sustained. In Maryland, this means that more than 4,000 Marylanders are directly employed by railroads while over 17,000 jobs are indirectly sustained by rail activity – either the spending of the rail employees or the railroads on purchases of goods and services.

Maryland's railroads also generate important economic development benefits by providing freight access to the national rail network and regional connectivity to major East Coast passenger and freight destinations. Freight shippers benefit from the lower shipping costs of rail compared to trucking and benefit from the ability of rail to move certain commodities more efficiently than other modes. Major terminals, main lines, and local rail assets link together rural and urban centers in the State and facilitate global trade – especially through the Port of Baltimore. Maryland's intercity rail system promotes the exchange of ideas and commerce by connecting major financial, educational, and health care centers along the Northeast Corridor. Intercity and commuter rail move tourists and other travelers within the State and to nearby destinations like Washington, D.C., Philadelphia, and New York City. The economic impact of the connectivity provided by intercity and commuter rail is immeasurable.

## Environmental and Community Benefits

Rail is a steel wheel-on-steel technology, which operates with a very low level of friction compared to other modes. The efficiency of rail reduces the amount of energy required and the air pollution generated to move a ton of freight. The AAR estimates that rail is approximately four times more fuel-efficient than trucks and produces about 75 percent less greenhouse gas emissions on a ton-mile basis.

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[7] 2013 AAR State Fact Sheet – Maryland.

[8] 2013 Amtrak State Profile: Maryland.

Commuter and intercity rail also promote environmental sustainability and community livability by supporting compact land uses. Development near Maryland's intercity and commuter rail stations (known as transit-oriented development) provides housing and jobs that are rail accessible. People who work or live near rail stations are less likely to need an automobile or to drive work or other destinations. These behaviors reduce the demand on the State's highway system, reduce emissions, and encourage walking, bicycling, and other human powered transportation. Communities served by rail are more densely populated, more walkable, and arguably more livable for residents and workers.

# 4.0 Rail System Inventory

Maryland has historically been a rail crossroads tying together the economies and populations of the Northeast, Southeast, and Midwest. Today the Maryland rail system continues to serve the local economy and population while linking some of the most important national corridors together, including Amtrak's NEC, Norfolk Southern's Crescent Corridor, and CSX's National Gateway.

Maryland's rail network consists of approximately 1,152 miles of track and is comprised of two Class I freight railroads, four Class III short line freight carriers, one switching/terminal railroad, and one passenger railroad[9] (see Table 4.1). Figures 4.1 and 4.2 show the Class I and Class III networks, respectively. Four of these railroads, CSX, Norfolk Southern, MDDE, and Amtrak own 76 percent of the entire network. The other 24 percent of the rail network consists of short lines, rail operating within ports, and track banked by MDOT for future use. Other freight and passenger rail carriers, such as MARC, operate via trackage rights and do not contribute to track system mileage.

**Table 4.1 Maryland Rail System Summary**

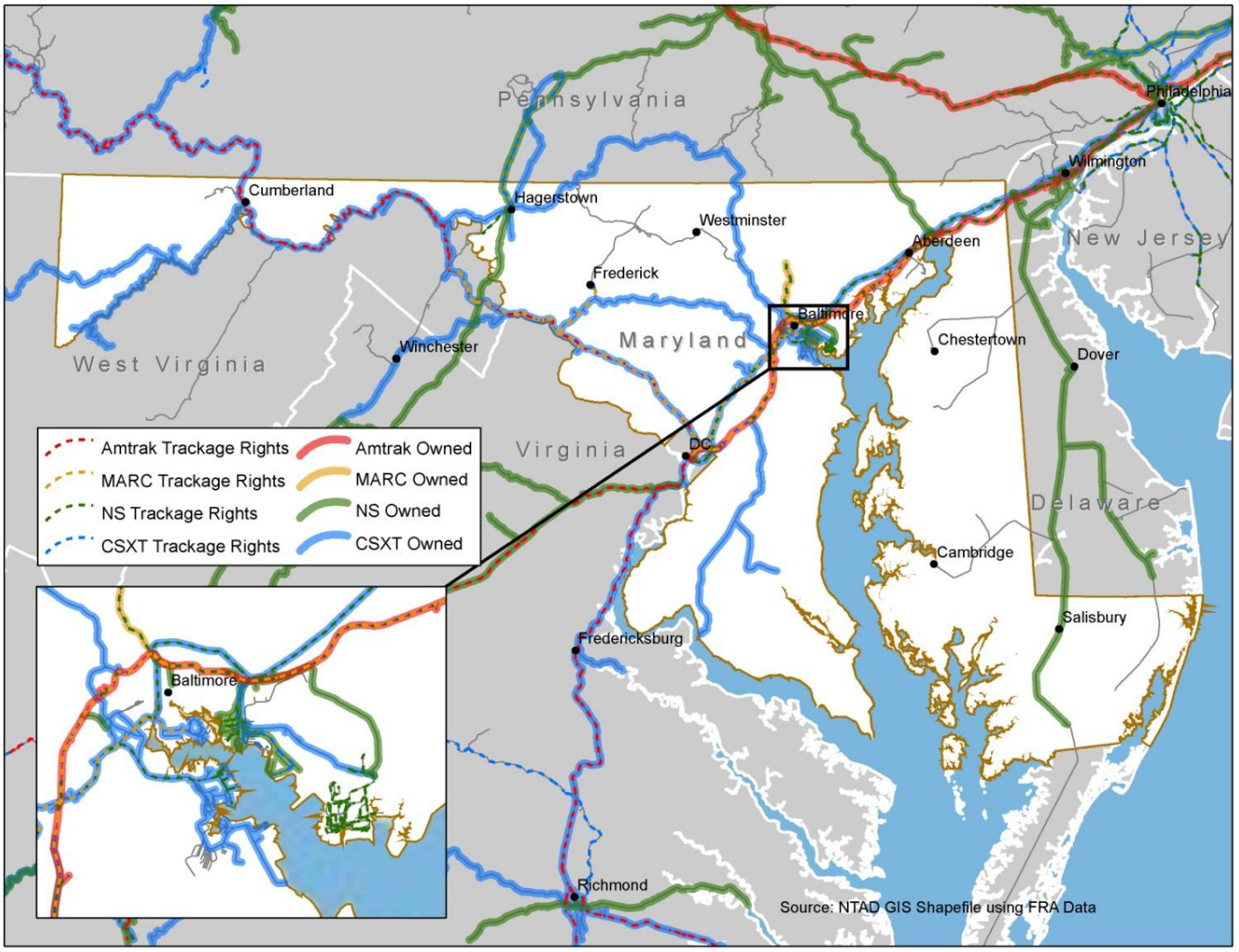
| Railroad Name | Class I | Class II | Class III | Terminal/ Switching | Track Miles in Maryland |
|---|---|---|---|---|---|
| CSX Transportation | ● | | | | 554 |
| Norfolk Southern Railway | ● | | | | 269 |
| Canton Railroad | | | ● | ● | 17 |
| Bay Coast Railroad | | | ● | | 4 |
| Maryland and Delaware Railroad | | | ● | | 96[a] |
| Maryland Midland Railway | | | ● | | 70 |
| Baltimore Industrial Railroad (BDR) | | | | ● | 10 |
| Amtrak | | | | | 93.5 |
| Wheeling and Lake Erie Railway | | ● | | | 125 (Trackage rights on CSX) |
| MARC | | | | | 3.2 Trackage Rights Only on Amtrak NEC and CSX Lines |

Source: FRA, AAR, Railroad web sites.

Note a: 84 active miles of the Maryland and Delaware Railroad are owned by Maryland, 10 of which are located in Delaware.

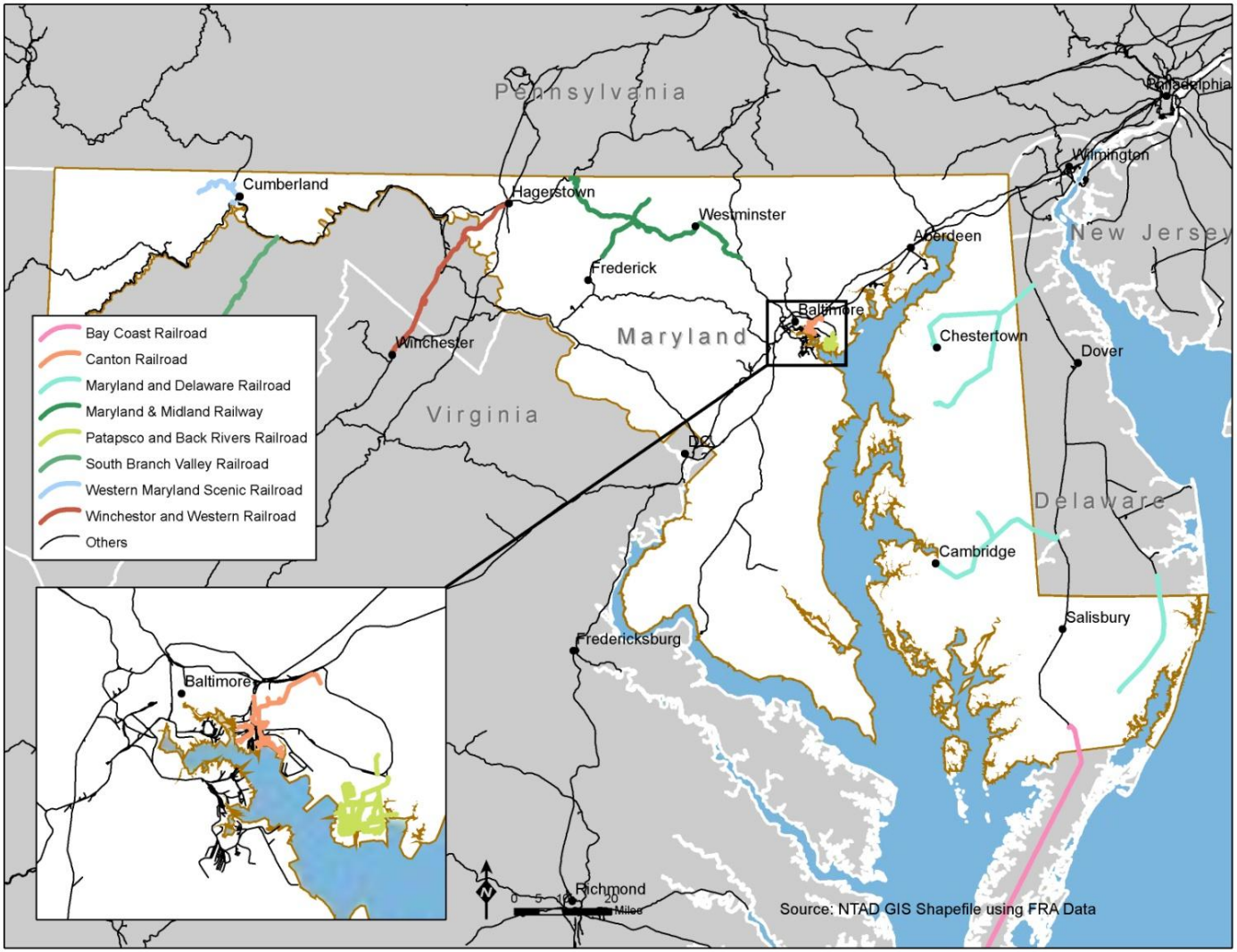
[9] Railroad classifications are based on annual operating revenue. After adjusting for inflation, annual operating revenues must exceed $250 million to be classified as Class I, be less than $250 million but in excess of $20 million for Class II, and $20 million or less for Class III.

## Figure 4.1 Overview of Maryland's Class I and Passenger Railroads




Source: National Transportation Atlas Database using FRA data.

## Figure 4.2 Overview of Maryland's Class III and Terminal Railroads




Source: National Transportation Atlas Database using FRA data.

# 4.1 FREIGHT RAILROADS

Maryland's freight railroads serve a wide variety of shippers statewide. The freight rail network consists of subdivisions, branches, and secondary lines. Subdivisions are major components of the regional and national network, connecting major population centers and terminals while branches and secondary lines generally extend from a subdivision, terminating at a single point or connection to another railroad. Figure 4.3 shows the location of major network components of Norfolk Southern and CSX, the State's two Class I carriers. CSX Transportation operates 557 miles of track divided into 15 subdivisions and Norfolk Southern operates 119 miles of track divided into 5 subdivisions in Maryland.

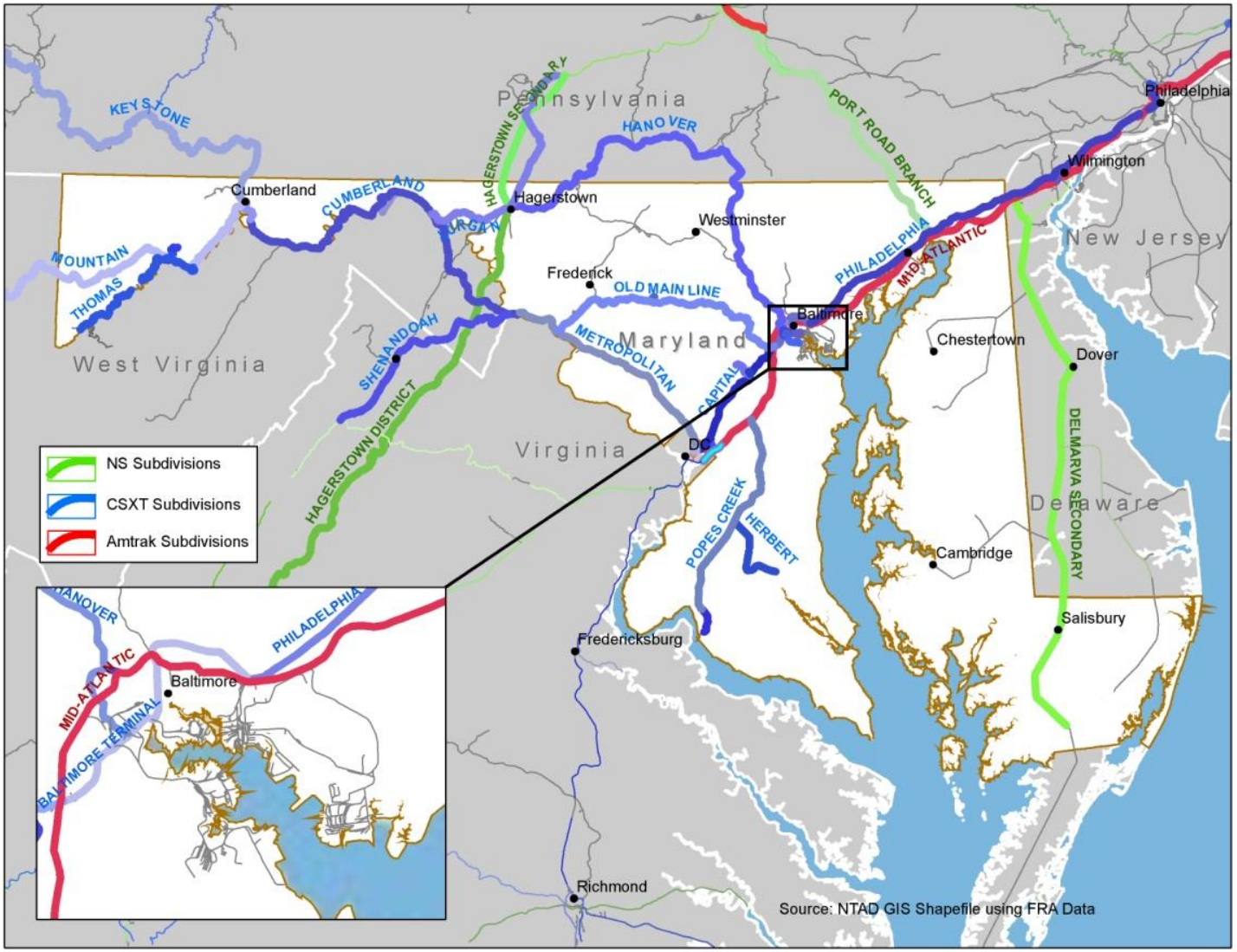
Figure 4.4 displays the density of freight as measured in millions of annual ton-miles hauled on Maryland's rail system. The rail lines in Maryland with the highest freight density are the CSX Capital subdivision between Washington, D.C. and Baltimore and the CSX Metropolitan, Cumberland, and Keystone subdivisions between Washington, D.C. and the Pennsylvania border just north of Cumberland.

### *Class I Trackage Rights*

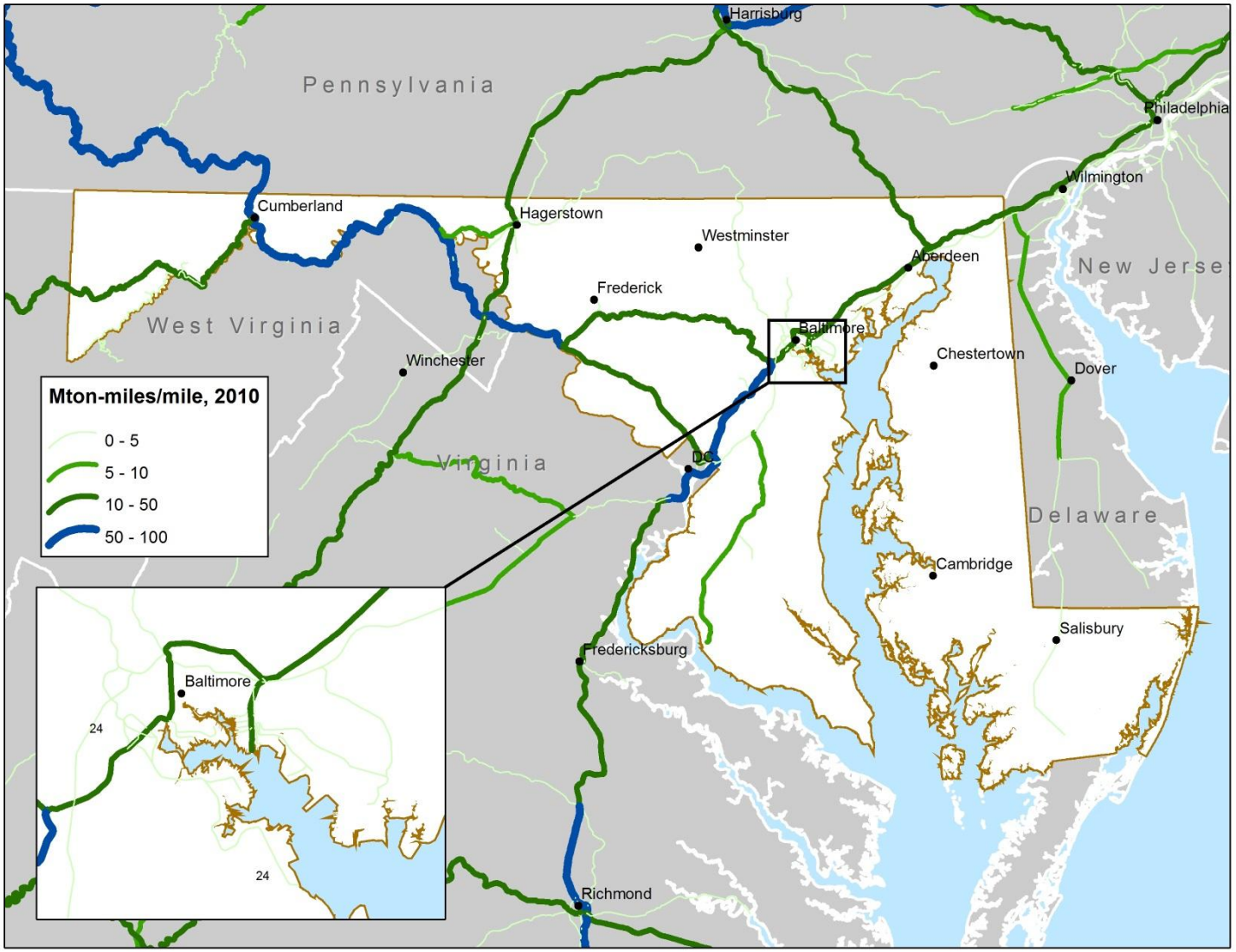
It is common for rail carriers to utilize trackage rights, which are legal arrangements that allow one railroad to operate trains over tracks owned by another railroad. Key trackage rights arrangements in Maryland include (but are not limited to) the following:

- CSX trackage rights on Amtrak's Mid Atlantic Subdivision of the NEC between the Landover Subdivision and the Pope's Creek Subdivision allows coal deliveries to the Morgantown and Chalk Point power plants.
- Norfolk Southern trackage rights on Amtrak's Mid Atlantic Subdivision, on the NEC between Bayview Yard in Baltimore and the Port Road at Perryville, allow Norfolk Southern to service the Port of Baltimore. Likewise, Norfolk Southern trackage rights on the NEC between the Port Road Branch and the Delmarva Secondary allow freight rail service to customers throughout the Delmarva Peninsula, including customers of the MDDE and the poultry processing facilities on the Delmarva Peninsula.
- Amtrak operates on the CSX Metropolitan, Cumberland, and Keystone Subdivisions enabling the *Capitol Limited* to run between Washington, D.C. and Chicago, Illinois. Similarly, CSX provides trackage rights to MARC for commuter rail service on its Capital Subdivision (MARC's Camden line) and on its Metropolitan, Cumberland, and Old Main Line Subdivisions (MARC's Brunswick line). This access is provided through an operating agreement with CSX.

## Figure 4.3 CSX and Norfolk Southern Subdivisions, Districts, and Branches



## Figure 4.4 Class I Freight Density



### *Class I Freight Yards and Terminals*

CSX operates rail yards in Baltimore, Cumberland, and Brunswick, an intermodal terminal in Baltimore, bulk transfer terminals in Baltimore and Hagerstown, and automotive distribution centers in Jessup and Baltimore.[10] Norfolk Southern operates Bayview Yard in Baltimore, on Amtrak's NEC. Figure 4.5 displays freight terminal and transfer facilities in Maryland.

### *Double-Stack Clearances*

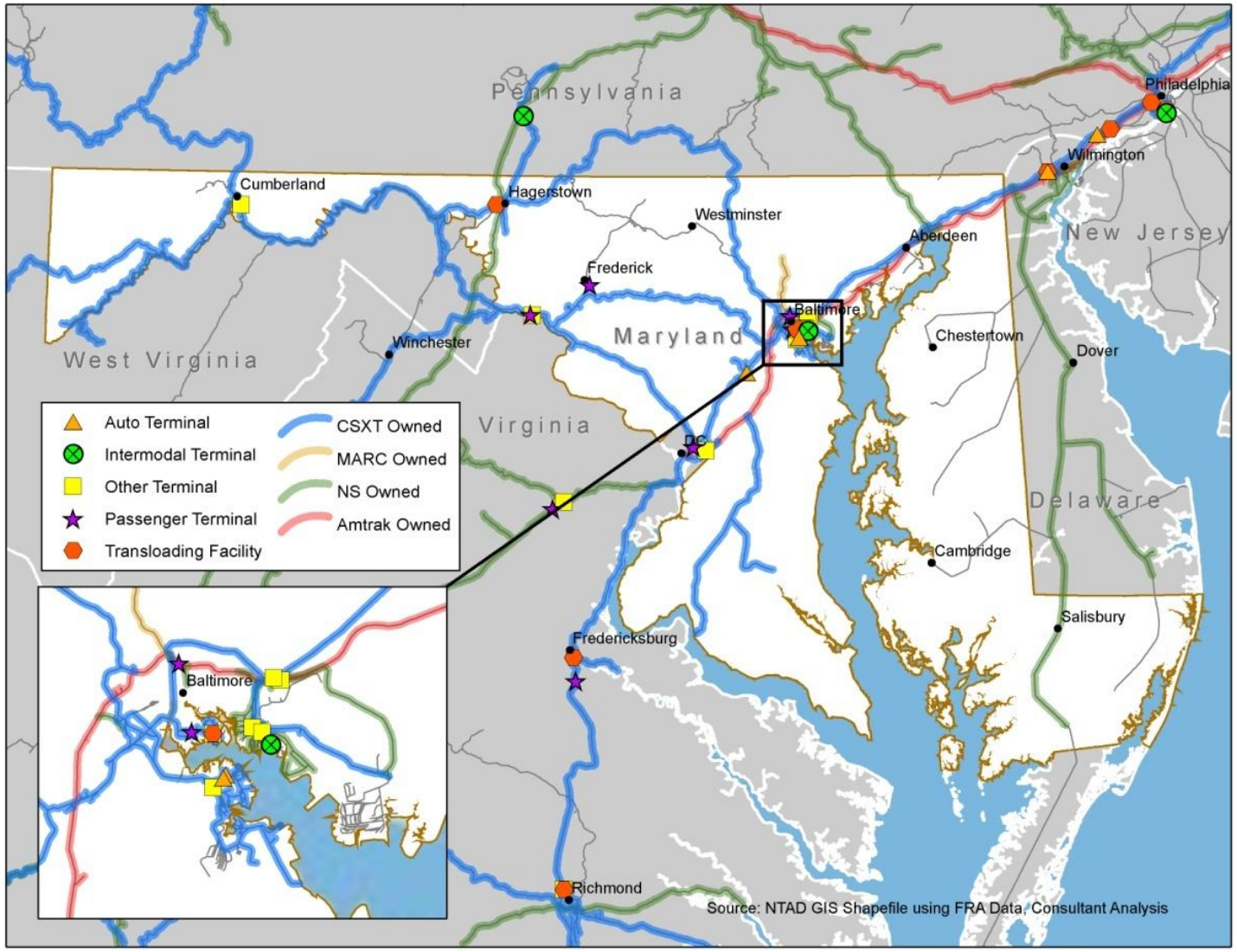
The ability to stack intermodal containers two high on rail cars effectively doubles rail transport efficiency. To realize these efficiency gains, expensive infrastructure improvements, including raising bridges, replacing tunnel arch liners, lowering tracks, etc., are often required. Every obstruction along the rail line between a given origin and destination pair must be addressed to realize the benefits of double-stack transport. Both CSX and Norfolk Southern, along with public-sector stakeholders, are making significant clearance and terminal investments to enable double-stack trains to operate along significant portions of the rail network as part of the National Gateway and Crescent Corridor initiatives (see National Gateway and Crescent Corridor discussions below). Figure 4.6 shows the extent of the double-stack rail network in Maryland.

### *Freight Rail Network Weight Capacity*

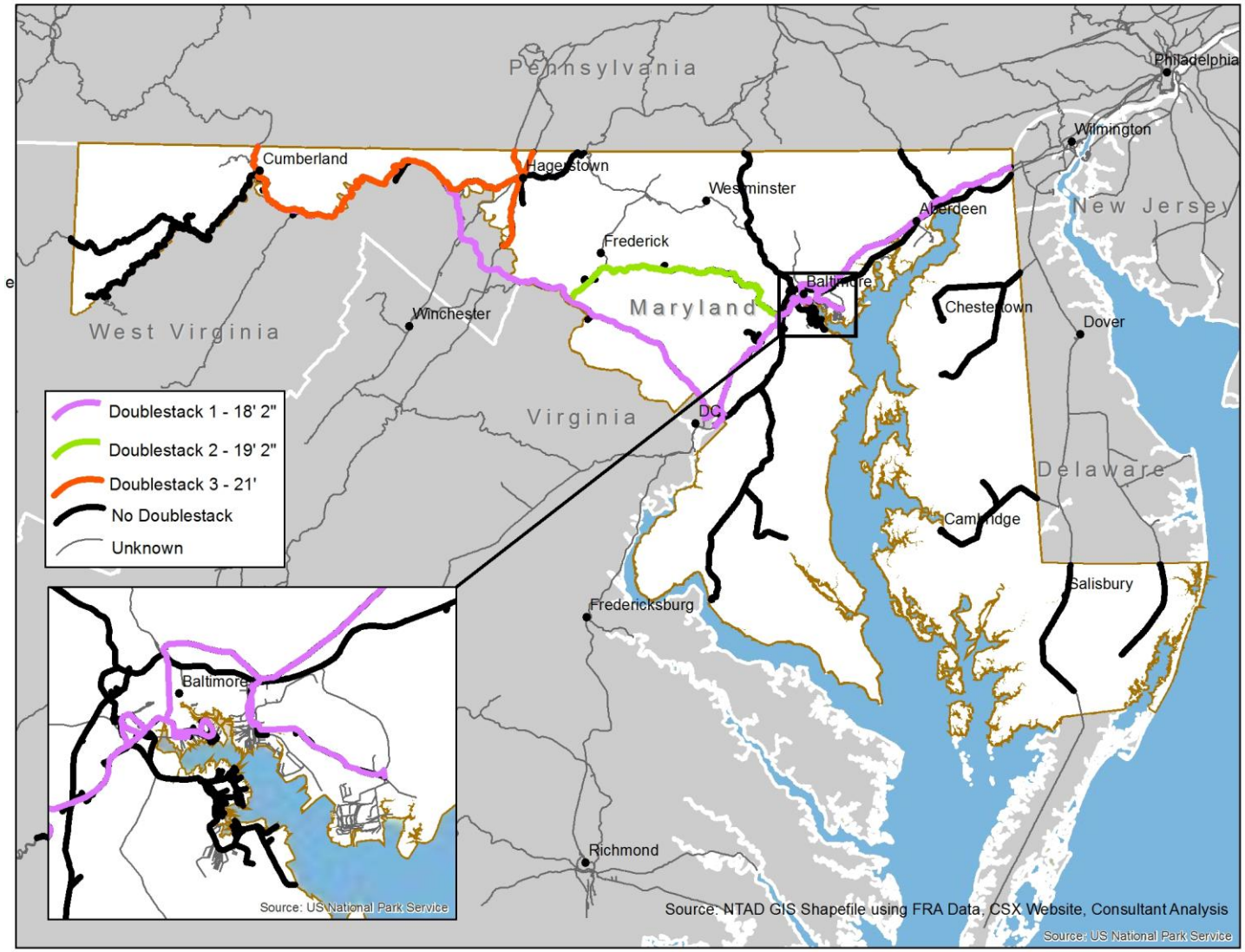
Another factor affecting freight rail transport efficiency is the proportion of the network that can accommodate 286,000-pound rail cars, the current industry standard, although some lines can accommodate even higher weights, typically up to 316,000-pounds gross carload weight. Figure 4.7 shows information on the weight class of the various components of Maryland's freight rail system.

[10] CSX Transportation. "CSX and Maryland Fact Sheet," http://www.CSXT.com/index.cfm/about-CSXT/company-overview/State-fact-sheets/maryland/. Accessed July 5, 2012.

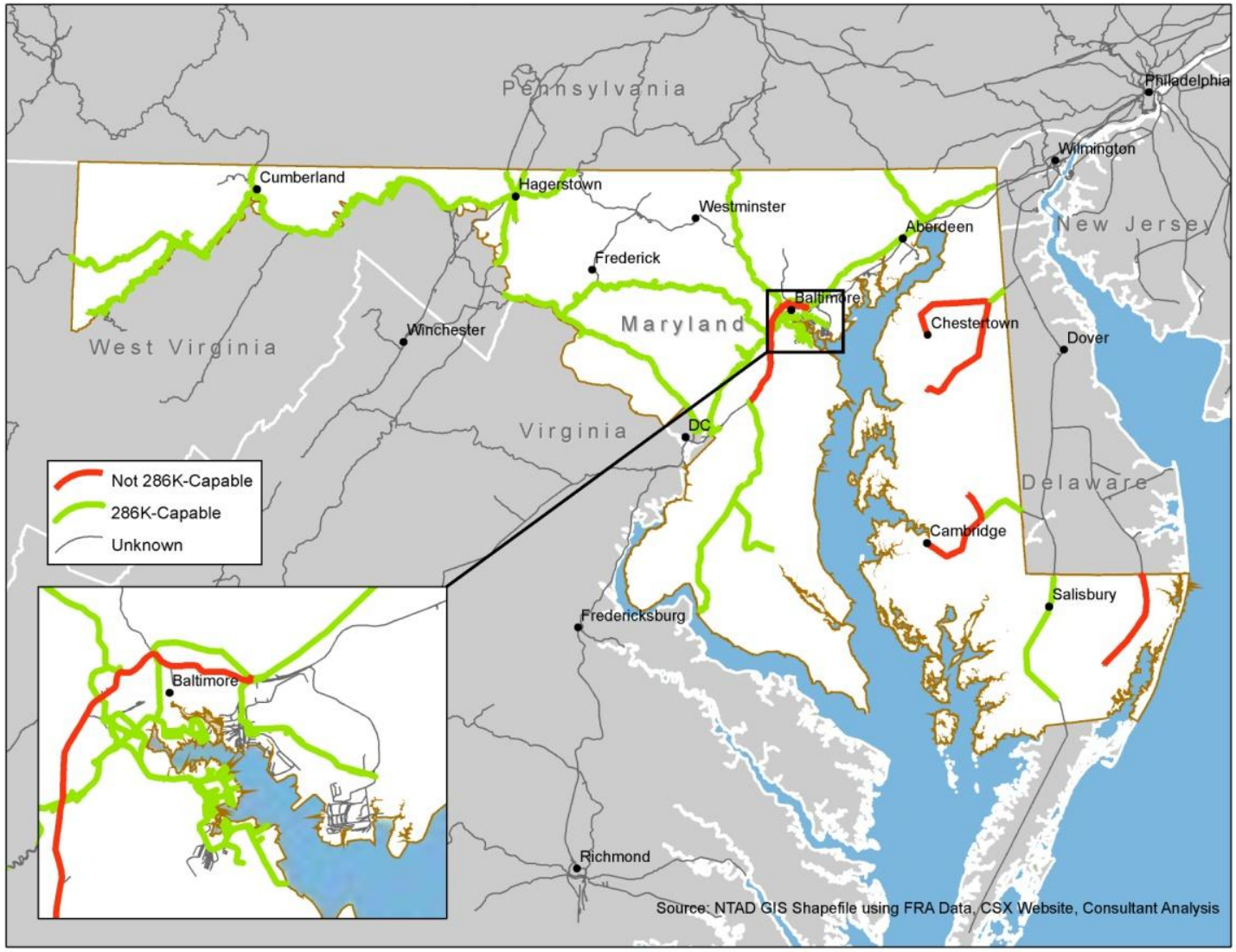
## Figure 4.5 Rail Terminals Within and Around Maryland



## Figure 4.6 Double-Stack Rail Network



## Figure 4.7 286,000-Pound Capacity



### *National Gateway*

The CSX National Gateway initiative is a public-private partnership (P3) to develop an efficient freight rail link between Mid Atlantic ports and the Midwest. It is comprised of two main components:

- Improvement of rail facilities to enable double-stack rail cars to travel along the entire National Gateway route. This requires improving tunnels and overpasses to create enough vertical clearance for the double-stack cars; and
- Construction or expansion of several high-capacity intermodal terminals. These terminals improve the speed, efficiency, and capacity of intermodal rail operations throughout CSX's network.

CSX and its state partners have completed Phase I of the National Gateway, which includes the following projects in Maryland:

1. **Graham Tunnel –** A total arch liner replacement and portal modifications were completed to provide required clearance.
2. **CSX Railroad Bridge –** A single track CSX industry rail bridge was removed to provide required clearance over the Cumberland subdivision tracks.

CSX and it state parterns are now focused on the project's Phase II, which will clear for double-stack the CSX corridor between Chambersburg, PA and points south.[11]

In Maryland, 8 projects are required to complete Phase II and implement the National Gateway Initiative:

1. **Jessup Road –** Raise the bridge superstructure of Jessup Road (MD 175) to provide the required 21-foot clearance over the CSX Capital subdivision tracks.
2. **Baltimore Washington Parkway** - Lower the rail line three inches to provide required clearance under Kenilworth Avenue.
3. **Kenilworth Avenue –** Lower the rail line three inches to provide required clearance under Kenilworth Avenue.
4. **Deer Park Drive –** Modify the existing bridge supports and undercut tracks to provide the necessary clearance.
5. **Germantown Pedestrian Bridge –** Raise the pedestrian bridge to provide required clearance over the CSX Metropolitan subdivision tracks.

[11] Phase One of National Gateway completed http://www.railwayage.com/index.php/intermodal/phase-one-of-national-gateway-completed.html.

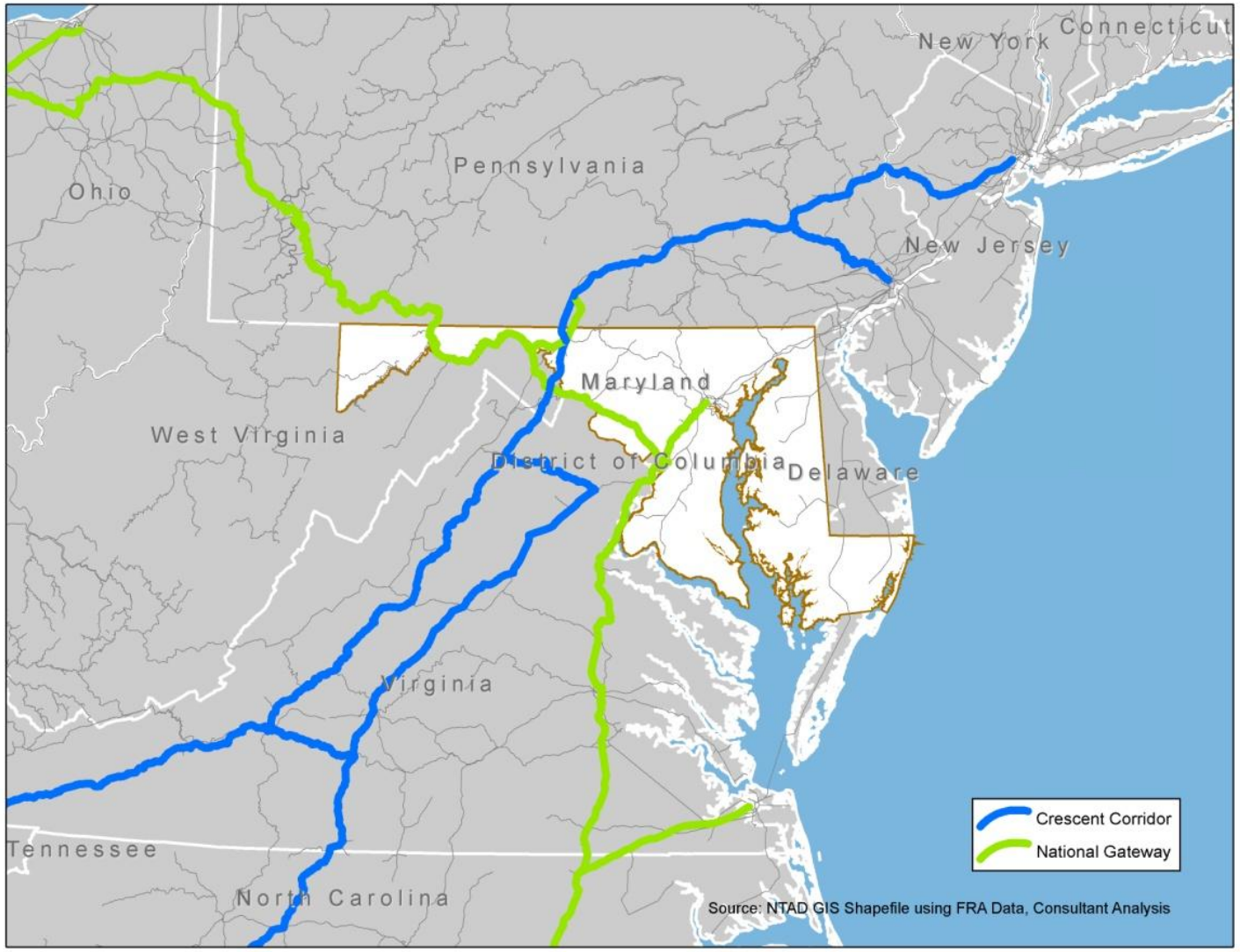
6. **Point of Rocks Tunnel –** A total arch liner replacement is needed to provide required clearance.
7. **Catoctin Tunnel –** A total arch liner replacement is needed to provide required clearance.
8. **Harpers Ferry Tunnel –** A total arch liner replacement and portal modifications are needed to provide required clearance.

### *Crescent Corridor*

The Norfolk Southern Crescent Corridor is a 2,500-mile rail network connecting the south central states with New York and New Jersey. The public-private partnership (P3) to straighten curves, add tracks, and construct and expand intermodal terminals will enable the network to move more freight by rail. One of the new intermodal terminals is located in Greencastle, PA just north of Hagerstown.

Figure 4.8 shows the National Gateway and Crescent Corridor networks in relation to Maryland.

**Figure 4.8 National Gateway and Crescent Corridor**



## Short Lines

Maryland's short line carriers provide rail, switching, and/or terminal service within the State. The following describes the short line railroads operating within Maryland, and their connection to the overall network.

### *Canton Railroad*

Canton Railroad Company (CTN) is a Class III short line switching carrier that operates in Eastern Baltimore City and Baltimore County and owns over 17 miles of right-of-way. The company provides service to more than 25 industries in the area and owns the rail access to the Seagirt Marine Terminal. The Canton Development Company (CDC) owns the railroad and Freestate Logistic Services, Inc., which provides contract switching services at the Principio Industrial Park in Cecil County, Maryland. The Maryland Transportation Authority (MDTA), a modal administration of MDOT, owns 100 percent of CDC's stock.

CTN operates over six miles of main track and interchanges traffic with Norfolk Southern and CSX. Approximately 80 percent of the traffic is terminating while the remainder is originating. Of the total traffic, approximately 70 percent is interchanged with CSX and the remainder with Norfolk Southern. CSX operates over CTN trackage to access the Seagirt Intermodal Container Transfer Facility (ICTF) at the Port of Baltimore.

### *The Maryland and Delaware Railroad (MDDE)*

The MDDE provides rail service to Maryland's Eastern Shore via connections with Norfolk Southern's Delmarva Secondary at three points in Delaware. The MDDE operates the State-owned lines from Townsend, Delaware, to Chestertown and Centreville, and Seaford, Delaware, to Cambridge. Since 1982, over $20 million in state funds have been invested to rehabilitate the right-of-way and bridge structures on State-owned infrastructure. The MDDE owns and operates the line connecting to Norfolk Southern at Frankford, Delaware, and terminating in Snow Hill. The MDDE is pursing transportation and economic development grants to upgrade its Snow Hill line to accommodate 286,000-pound rail cars.

### *Maryland Midland Railway*

The Maryland Midland Railway (MMID), a subsidiary of Genesee and Wyoming, operates in Carroll, Frederick, and Washington Counties. The short line operates two intermodal facilities for transfer between rail and truck in the communities of Westminster and Union Bridge. The MMID owns and operates 70 miles of track and interchanges its traffic with CSX at each end of its Highfield-Emory Grove Line. Most of the traffic involves the movement of cement, coal, and forest products.

### *The Bay Coast Railroad*

The Bay Coast Railroad serves the Eastern Shore of Maryland and Virginia, operating the former Eastern Shore Railroad on trackage owned by the Accomack-Northampton Transportation District Commission of Virginia. It connects with the Norfolk Southern Railway in Pocomoke City, Maryland. The railroad also operates railroad car float service across the Chesapeake Bay between Cape Charles and Norfolk. Two barges with capacities of 15 and 25 rail cars, respectively, traverse the 26-mile route across the bay.

### *Baltimore Industrial Railroad (Sparrows Point)*

Sparrows Point is a 3,000-acre industrial property in eastern Baltimore County. In 2012, the property changed hands and a private company acquired the Patapsco and Back River Railroad, a switching and terminal railroad with interchanges to both CSX and Norfolk Southern. The private company subsequently contracted with the Baltimore Industrial Railroad to temporarily operate the railroad in Sparrows Point.

### *State-Owned Short Lines*

The State of Maryland owns approximately 171 miles of railroad track and right of way, primarily on the Eastern Shore. The lines and rights-of-way are held by the MTA, and heavy maintenance and capital improvements are funded through the MTA capital program. Of the State-owned mileage on the Eastern Shore, about 84 are in active use, with the remainder lying inactive. In Frederick County, The MTA owns about 6 miles of railroad between Walkersville and Frederick, in Frederick County, of which about 5 miles are active as the Walkersville Southern Railroad (WS) excursion route.

Current track condition on the active lines varies. Track between Townsend, Delaware to Massey and Seaford, Delaware to Hurlock has been rebuilt within the last 15 years. Trackage beyond those points is in poor condition due to years of deferred maintenance resulting in slow speed operation and the need for constant attention by maintenance crews to avoid derailments. Track and structures not recently rebuilt are effectively beyond their useful lifespan, and MTA's limited resources have precluded any significant rehabilitation beyond emergency repairs.

## Connectivity with Major Rail and Intermodal Terminals

The majority of Maryland's cargo terminal capacity is located in the vicinity of the Port of Baltimore. The Port is a major freight generator for the State. The Port of Baltimore complex handles multiple cargo types, including intermodal containers, bulk cargoes, and roll-on/roll-off (RO/RO) cargo. The following is a summary of major marine terminals and their connections to the Maryland Rail Network. Figure 4.9 shows the locations and relationship of the terminals to the

rail system. The terminal has east west highway connectivity via I-70 and access to North South corridors I-81, I-83, I-95, I-97, and I-895. Terminals include:

- Seagirt Marine Terminal;[12]
- Dundalk Marine Terminal;[13]
- Fairfield Marine Terminal;[14]
- North Locust Point Terminal;[15]
- Westway Terminal Corporation;
- Baltimore Metals and Commodities Inc.;
- South Locust Point Marine Terminal;
- Canton;
- Bayview;
- Penn Mary;
- CNX Marine Terminal;
- ICTF; and
- Curtis Bay.

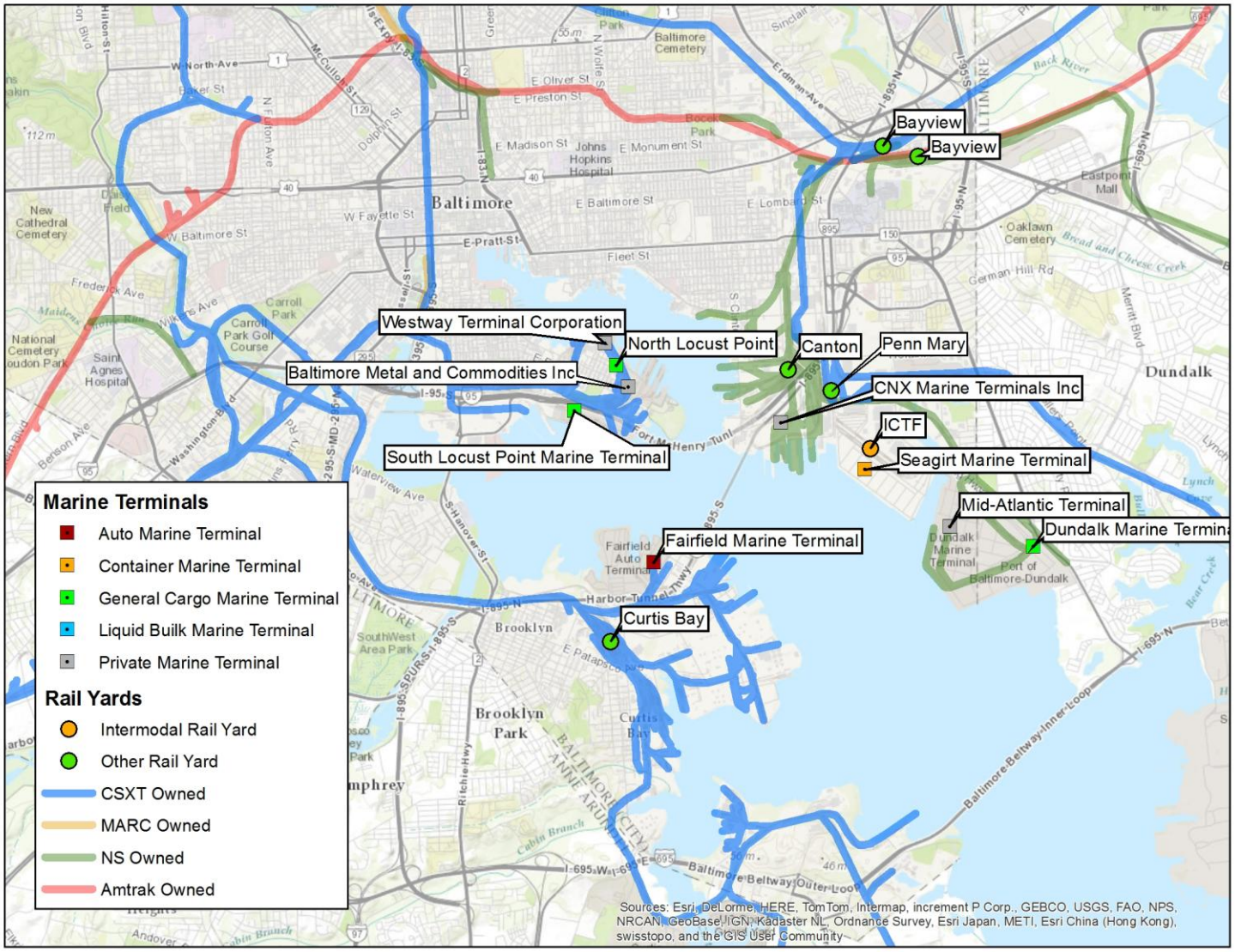
[12] The 284-acre Seagirt Marine terminal handles containerized cargo and has direct access to the adjacent Seagirt Intermodal Container Transfer Facility (ICTF) by CSXT. The terminal's has east west highway connectivity via I-70 and access to North South corridors I-81, I-83, I-95, I-97, and I-895.

[13] This 570-acre terminal handles containers, autos, Farm, construction and other RO/RO equipment, wood pulp, steel, and break bulk. Dundalk Marine terminal contains 8 miles of rail inside the facility. It can be accessed by both CSX and Norfolk Southern; Norfolk Southern provides direct rail access while CSX has local interchange agreements with Norfolk Southern. The terminal is 2.5 miles from I-95, 1.5 miles I-695. The terminal's has east west highway connectivity via I-70 and access to North South corridors I-81, I-83, I-95, I-97, and I-895.

[14] This 570-acre terminal handles containers, autos, Farm, construction and other RO/RO equipment, wood pulp, steel, and break bulk. Dundalk Marine terminal contains 8 miles of rail inside the facility. It can be accessed by both CSX and Norfolk Southern; Norfolk Southern provides direct rail access while CSX has local interchange agreements with Norfolk Southern. The terminal is 2.5 miles from I-95, 1.5 miles I-695. The terminal's has east west highway connectivity via I-70 and access to North South corridors I-81, I-83, I-95, I-97, and I-895.

[15] The 90-acre North Locust point terminal has been redeveloped to handle forest products. The terminal has on-dock rail capability.

## Figure 4.9 Baltimore Intermodal Terminals



## 4.2 PASSENGER RAIL

Amtrak and MARC provide intercity and commuter rail services, respectively, in Maryland. Amtrak operated approximately 90 daily trains in Maryland in FY 2013. Amtrak's six Maryland stations (shown in Table 4.2) accounted for 1.8 million total boardings and alightings in FY 2011.

### Table 4.2 Maryland Amtrak Station Boardings and Alightings

| City | Boardings and Alightings |
|---|---|
| Aberdeen | 39,878 |
| Baltimore | 953,170 |
| BWI Thurgood Marshall Airport | 662,453 |
| Cumberland | 11,465 |
| New Carrollton | 171,663 |
| Rockville | 4,015 |
| **Total Maryland Station Usage:** | **1,842,644** |

Source: http://www.amtrak.com/pdf/factsheets/MARYLAND11.pdf.

In addition, Amtrak estimates that over 1 million of the 5 million Amtrak passengers using Washington Union Station reside in Montgomery and Prince George's Counties. MARC operates 94 weekday trains over three lines and ranks as the 9th largest commuter rail system in the nation based on ridership. In FY 2012 the MARC system generated over 8.5 million unlinked passenger trips, accruing nearly 257 million passenger miles on the system.[16]

Commuter and intercity passenger rail operations share infrastructure with freight operations in Maryland. Due to this relationship, investments on either Amtrak-owned or freight-owned facilities often provide mutual benefits. Passenger rail travel is at an all-time high in Maryland, fueled by increasing economic activity, population and employment growth in Maryland and Washington, D.C. This growth is projected to continue, and Governor O'Malley has established a goal to double FY 2006 transit ridership by 2020.

MARC commuter rail ridership is a key component of rail passenger growth. While MARC daily ridership constitutes approximately 10 percent of total Maryland transit ridership daily ridership in FY 2013 was 13 percent higher than it was in 2008.[17] Similarly, Amtrak's ridership has grown steadily over the last 10 years (except for 2009). In Maryland, all stations have experienced ridership

[16] NTD Data reported by APTA *Public Transportation Ridership Report*, http://www.apta.com/resources/statistics/Pages/ridershipreport.aspx.

[17] Double Transit Ridership in Maryland by the End of 2020 https://data.maryland.gov/goals/transit.

growth, with the greatest increase at Penn Station in Baltimore, which grew by nearly 40,000 riders from FY 2012 to FY 2013.[18] Ridership growth has created both capacity and reliability problems. The state's rail infrastructure does not currently support operational separation between commuter and intercity passenger trains. In addition, both MARC and Amtrak require additional rolling stock to meet service requests beyond current operations.

## Intercity Passenger Rail Service

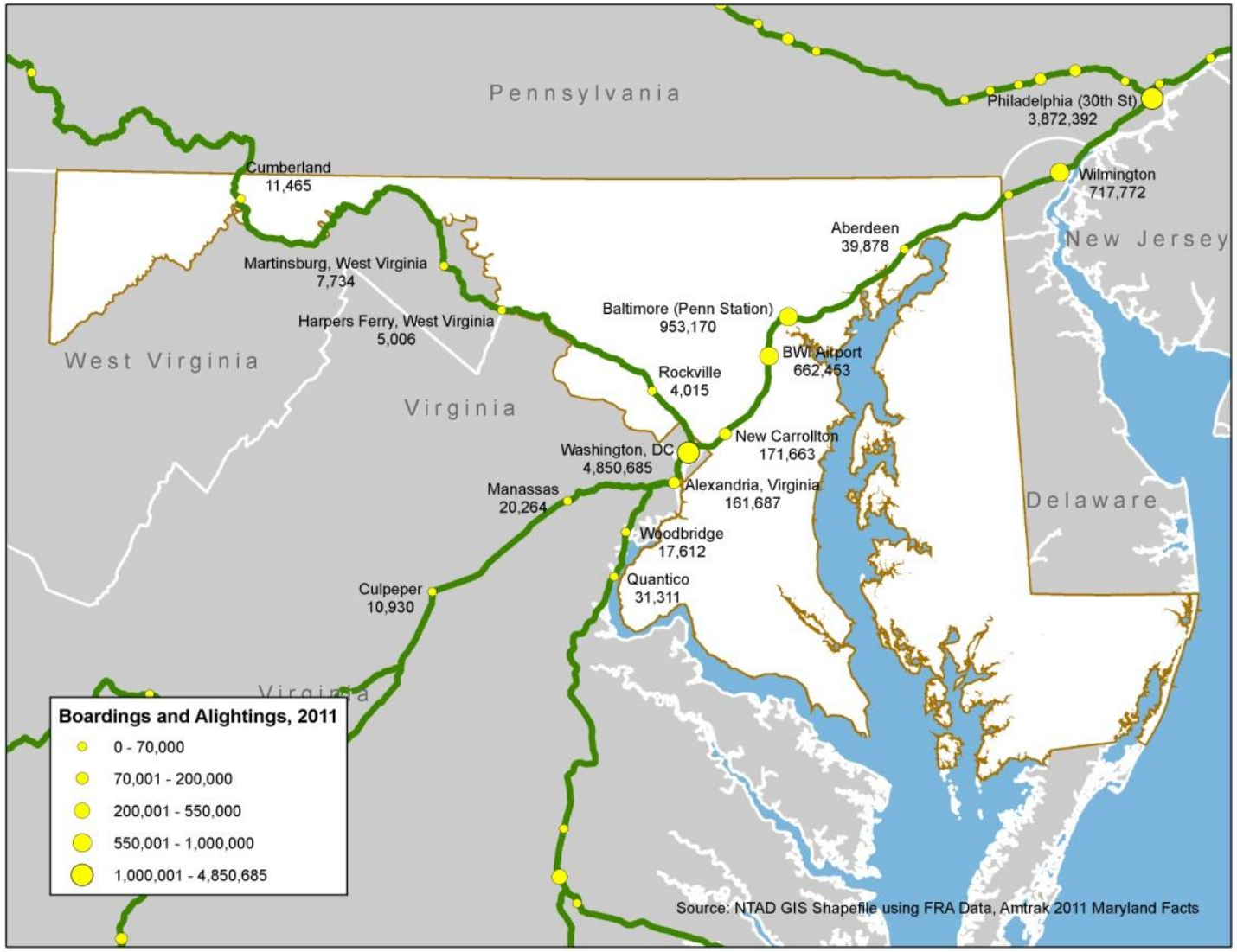
Rail passenger service plays an important role in intercity travel. Intercity rail services in Maryland and elsewhere in the U.S. operate over the same tracks as commuter rail and freight trains. Intercity service is distinguished from commuter rail service by the longer distances covered (several hundred miles for most intercity corridors versus 40 to 75 miles for typical commuter rail lines), longer spacing between stations, and express or limited-stop operations in metropolitan areas. The FRA carries out Federal oversight of intercity rail passenger services.

The Rail Passenger Service Act of 1970 created the National Railroad Passenger Corporation, which does business under the Amtrak brand name. Although incorporated in the District of Columbia as a private company, all the preferred stock is held and voted by the U.S. Secretary of Transportation. The Amtrak Board members are nominated by the President and subject to confirmation by the Senate. At its inception, Amtrak assumed the passenger operations of most of the private freight railroads in the U.S., which had languished as the nation's highway and air travel networks greatly expanded after World War II. Amtrak revitalized intercity rail passenger service and established a cohesive national system comprising approximately 22,000 route-miles. Only 722 route-miles of track, mostly in the Northeast, are owned directly by Amtrak, including about 90 route miles in Maryland. At present, Amtrak is the sole provider of intercity rail passenger service to Marylanders. Amtrak boardings and alightings for stations in and around Maryland are shown in Figure 4.10.

On the NEC, Amtrak trains cover cost of operation but not the cost of capital. Amtrak is funded through the Office of Management and Budget as a line item in the FRA budget and is subject to Congressional authorization and annual appropriations.

[18] Amtrak sees ridership bump in Maryland, nationwide. Baltimore Sun. October 14, 2013.

## Figure 4.10 Amtrak Boardings and Alightings for Stations in and around Maryland



## Amtrak and the NEC

The NEC, stretching from Washington, DC to Boston, Massachusetts along the eastern seaboard, is Amtrak's most densely traveled route. With some significant exceptions, Amtrak owns the NEC outright as a result of the Railroad 4R Act.[19] Within Maryland the NEC traverses approximately 90 miles of right-of-way, from Washington, D.C. through the City of Baltimore to the Maryland-Delaware state line, roughly paralleling I-95, all of which is owned by Amtrak. Amtrak operates three classes of trains on the NEC in Maryland:

- **Acela Express –** Premium limited-stop service offering First Class and Business Class, on dedicated train sets capable of 150 mph speeds (but limited by rail infrastructure constraints to a top speed of 135 mph on portions of the NEC between New York and Washington, D.C.);
- **Northeast Regional –** Conventional rail service offering Coach and Business Class, making more intermediate stops and operating at slightly lower speeds than Acela Express; and
- **Long-Distance Intercity –** Trains operating to Florida, North Carolina, New Orleans, and Chicago, several of which provide dining car service and overnight sleeping accommodations.

Amtrak serves four stations in Maryland on the NEC, along with those at Rockville and Cumberland and Union Station in Washington, D.C. Station operations are described below.

### *Washington Union Station*

This station is the origination/destination point for Amtrak Acela Express trains and the majority of Northeast Regional trains operating between Washington, D.C., New York City, New York, and Boston, Massachusetts. The station also is an intermediate point for trains serving destinations to the south and west of Washington, D.C. Approximately 85 Amtrak trains operate in and out of Washington, D.C. each day. Washington, D.C.'s Union Station is the second busiest station in Amtrak's system, with over 4.3 million intercity passengers boarding and alighting in FY 2010, an increase of 25 percent over 1998 ridership levels. The station is also the origination/destination point for five commuter rail lines, including the three MARC lines, and two Virginia Railway Express (VRE) lines. Union Station hosts over 200 daily train movements, including commuter and Amtrak trains, and about 70,000 people pass through the station each day. The renovated terminal building, originally constructed in 1907,

[19] Those significant exceptions include the 56.6 miles between New Rochelle, New York and New Haven, Connecticut, which is owned by the states of New York and Connecticut and controlled by Metro North. The 37.9 miles from the Massachusetts-Rhode Island Line to Boston South Station is owned by the Commonwealth of Massachusetts and controlled by Amtrak. South of Washington, D.C., the route to Richmond and Newport News, Virginia is owned and controlled by CSX.

includes over 150 retail vendors and a food court. The land adjacent to the station and the air rights above the lower-level platforms are being developed for commercial uses under several proposals by private developers. The Union Station modernization has the potential to substantially increase the levels of employment and economic activity in the vicinity of the station. Union Station is a multimodal hub, served by the WMATA Metrorail Red Line and several bus routes in addition to the three passenger rail operators.

Union Station has 20 active platform tracks, including 6 on the lower level that provide access to points south of Washington, D.C. Currently, 14 MARC train sets are stored and serviced at Union Station during the weekday midday period, most occupying space at the upper-level platform tracks. Amtrak and the MTA are working together to develop additional midday train storage and servicing facilities at Wedge Yard, to the north of the station and adjacent to Amtrak's Ivy City Maintenance Facility. This will reduce the need for MTA to service trains at the Union Station platforms, improve the level of service for passengers at the station, and increase capacity to accommodate future growth in MARC train service.

Union Station's present facilities will not be able to accommodate projected growth of Amtrak, MARC, and VRE services. A study is underway to identify required improvements for both train operations and passenger flows. Amtrak is also advancing a Washington Union Station Master Plan to significantly improve Union Station and multimodal connectivity and to expand transit-oriented development opportunities.

### *New Carrollton*

The Penn Central established a station in 1969 at the Capital Beltway to allow patrons to access NEC trains from suburban Maryland locations. A replacement station at nearby New Carrollton opened in 1983 to serve MARC and Amtrak. Amtrak completed reconstruction of the passenger boarding platform at New Carrollton in 2006. The current configuration of New Carrollton is an island high-level platform between Tracks 2 and 3. Freight trains have the exclusive use of Track 1, which is widely separated from Tracks 2 and 3. Freight trains also may also use Track 2. Generally, at least one Amtrak train and one MARC train serve New Carrollton hourly in each direction during the off-peak period. The frequency of Amtrak train service is less than at Washington, D.C., or Baltimore, since most Acela Express trains do not stop. In FY 2013 there were 168,069 Amtrak boardings and alightings at the New Carrollton Station.

Amtrak is constructing a new interlocking in the Landover area to allow passenger trains to use the present freight-only track, and a new platform must be constructed at New Carrollton in order to take advantage of this improvement. Amtrak and MARC's long-term plans call for a fourth track at New Carrollton, plus the additional platform.

Metrorail has a parallel station with two tracks and an island platform, permitting convenient passenger transfers. New Carrollton is the eastern

terminus of Metrorail's Orange Line. Trains arrive/depart every 12 minutes off-peak. Service operates at six-minute intervals during the weekday peak periods.

### *BWI Thurgood Marshall Airport Rail Station*

Opened in 1980 as a result of a Congressional earmark, the BWI Airport Station, was one of the first attempts to link intercity rail and air service in the United States. The facility is owned by the MTA and leased to Amtrak, while Amtrak owns the track and platforms.[20] A shuttle bus service provides free passage between the rail station and the airport terminal. With its suburban location between Washington, D.C., and Baltimore and efficient highway access, the BWI Station provides a convenient alternative boarding point for passengers in the suburbs situated between Washington, D.C., and Baltimore. BWI Thurgood Marshall Airport, owned by the Maryland Aviation Administration (MAA), a modal Administration of MDOT, is also an important commuter station for MARC service. Almost all MARC Penn Line trains stop at BWI, ensuring at least hourly service from BWI to Baltimore or Washington, D.C. Two multilevel parking garages, owned by the MTA, serve the station. The current BWI Marshall station has two high-level platforms on the outside tracks (Tracks 1 and 3), and a high-speed track (Track 2) with no platform. Track 2 is less heavily utilized, since most Amtrak and virtually all MARC trains stop at the station. BWI has been one of Amtrak's fastest growing stations for the past several years. Total boardings and alightings for FY 2013 were 710,513, which makes the BWI station the second busiest in Maryland after Baltimore. In FY 2012 BWI Marshall was the 13th busiest station in the Amtrak system.

The MTA funded the joint benefit project for Amtrak to extend the southbound platform in 2007 and the northbound platform in 2010 and installed additional elevators in 2011. MDOT received a Federal HSIPR grant in 2010 to perform preliminary engineering and NEPA evaluation for nine miles of fourth track between Halethorpe and Odenton, new platforms on all tracks, and construct a new station building.

### *Baltimore Penn Station*

The Baltimore Penn Station public areas and platforms were renovated in 1983 as part of the Northeast Corridor Improvement Project. Parking facilities and station entry underwent major improvements in the 1990's. All Amtrak NEC trains (Acela Express, Northeast Regional and long-distance intercity) stop at Baltimore. Baltimore Penn Station is the northern terminus for most MARC Penn Line trains and the layover point and crew base for all but two train sets. The station has five platform tracks for passenger trains, plus a freight runaround track and an extra track for overnight train storage. MTA light rail trains to downtown Baltimore serve Penn Station directly, as do several local bus

[20] BWI Airport – Thurgood Marshall Airport, Maryland (BWI); http://www.greatamericanstations.com/Stations/BWI.

lines. Baltimore is the eighth busiest station in Amtrak's system with ridership of 1,028,909 in FY 2012.

### *Aberdeen*

Aberdeen Station serves Harford County and the U.S. Army's Aberdeen Proving Ground, an installation that is expected to grow significantly in employment as a result of the recent Federal Base Relocation and Closure (BRAC) program. The current configuration at Aberdeen is three main tracks numbered 2, 3, and 4. Tracks 2 and 4 are the outside tracks, each with low-level station platforms, and are the tracks used by Amtrak's high-speed trains as well as MARC commuter trains. The low-level platforms make the pickup and discharge of passengers relatively time-consuming since train crews must manually operate the doors and steps. An average of 11 daily Amtrak Northeast Regional trains currently serve Aberdeen, along with 11 daily MARC trains which are concentrated in the morning peak (southbound) and evening peak (northbound). MTA has funded a number of improvements to the station, including the addition of passenger information displays that allow passengers to better interline with transit. This station is also served by transit connections such as MTA Commuter Bus 420 and Harford Transit.

## Other Amtrak Service

In addition to its NEC service, Amtrak operates the Washington-Chicago *Capitol Limited* in Maryland. This train operates over the same CSX-owned lines as the MARC Brunswick Line, and serving stations at Rockville MD, Martinsburg WV, Harpers Ferry WV, and Cumberland MD. Amtrak FY 2012 ridership at Cumberland and Rockville was 11,835 and 5,024, respectively. Amtrak service to Cumberland represents an important public transportation service for western Maryland, while MARC Brunswick Line trains provide additional rail service between Washington, D.C., and Martinsburg, WV.

## Amtrak Performance Measurement

Amtrak measures performance by line through its monthly performance reports. Ridership and ticket revenue are tracked for the Acela and Northeast Regional services, which constitute the majority of Amtrak passenger traffic within Maryland. In addition, Amtrak tracks on time performance by line along with a description of the cause of delays split between train interference, weather and track and signals. For the last 12 months prior to March 2014:

- On-time performance of the Acela Express was 65.2 percent;
- On-time performance of the Northeast Regional was 68.1 percent;
- On-time performance of the Vermonter was 69.5 percent;
- On-time performance of the Silver Service/Palmetto was 60.2 percent;
- On-time performance of the Capitol Limited was 40.2 percent; and
- On-time performance of the Cardinal/Hoosier State was 32.5 percent.

## Other Intercity Providers

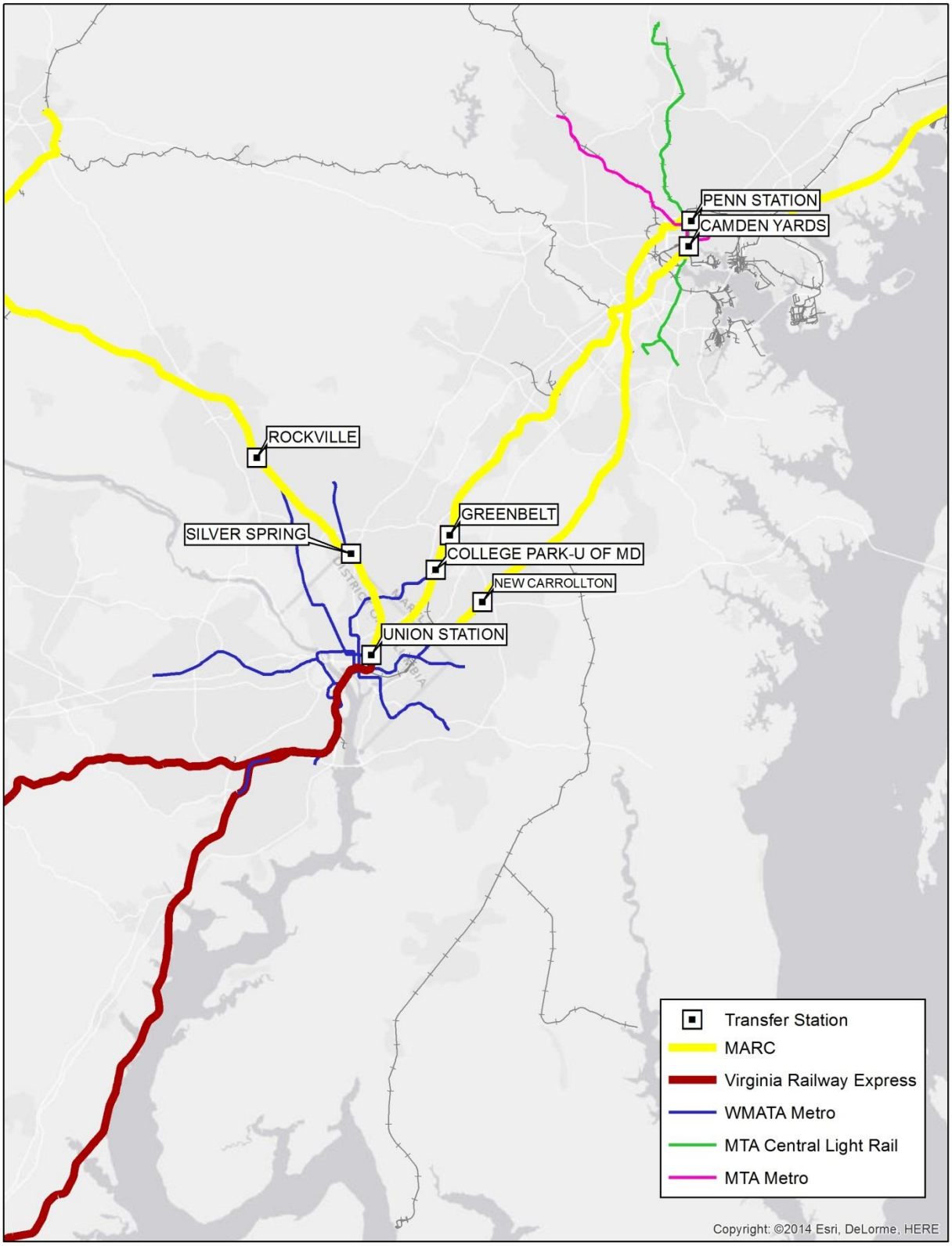
Current law permits other entities to enter the intercity rail passenger market in competition with Amtrak as either a for-profit enterprise or a public-private partnership. This law is a legacy of efforts in the 1990s to privatize Amtrak. While a competitive intercity operation remains a possibility, there are no active, viable proposals for operations in Maryland at this time.

### *Commuter Rail and Transit Service*

Federal oversight of passenger rail systems is divided functionally according to the type of service, whether commuter rail or transit. The FRA regulates commuter rail operations, including MARC service in Maryland. Commuter rail is a steel wheel-on-steel rail technology that operates on the national rail network, frequently in mixed operations with other passenger trains and freight trains. The American Public Transit Association (APTA) defines commuter rail as an electric or diesel propelled railway for urban passenger train service consisting of local, short-distance travel operating between a central city and adjacent suburbs. Such service is sometimes known as "metropolitan rail," "regional rail," or "suburban rail." Commuter rail service is generally characterized by a high percentage of home-to-work commuter trips, distance-based fares, stations spaced two to five miles apart, and the presence of one or two major stations in the central business district.

Heavy rail transit and light rail systems also utilize steel wheel-on-steel rail technology, but are separate and distinct from commuter rail both by definition and by regulation. Such systems are regulated by the Federal Transit Administration (FTA), which is responsible for overseeing urban public transportation systems and include the region's major urban rail transit systems operated by the Washington Metropolitan Area Transit Authority (WMATA) and the MTA. While they are not a focus of this rail plan, WMATA's Metrorail and MTA's Metro and Light Rail are integral components of the State's transportation system and work in concert with Amtrak and MARC to provide short- and long-distance mobility in the region. Figure 4.11 shows how the region's transit rail system interconnects with its commuter rail network.

## Figure 4.11 Transit Rail System and Commuter Rail Network Interconnection



## *MARC*

In 1974, Maryland embarked upon a program to provide financial support for commuter train service operated by the freight railroads in response to what was then the intention of the Chessie System (now CSX) to file for discontinuance. The State's original role was to provide operating subsidies. Since that time, this involvement has increased substantially to include system planning, ownership of rolling stock, construction and expansion of stations and parking facilities, and investment in upgrading and expansion of railroad infrastructure, including track, signaling systems, and train storage and maintenance facilities. While MTA staff perform a number of activities, virtually all day-to-day operating and maintenance functions are contracted out to Amtrak and Bombardier Transportation.[21]

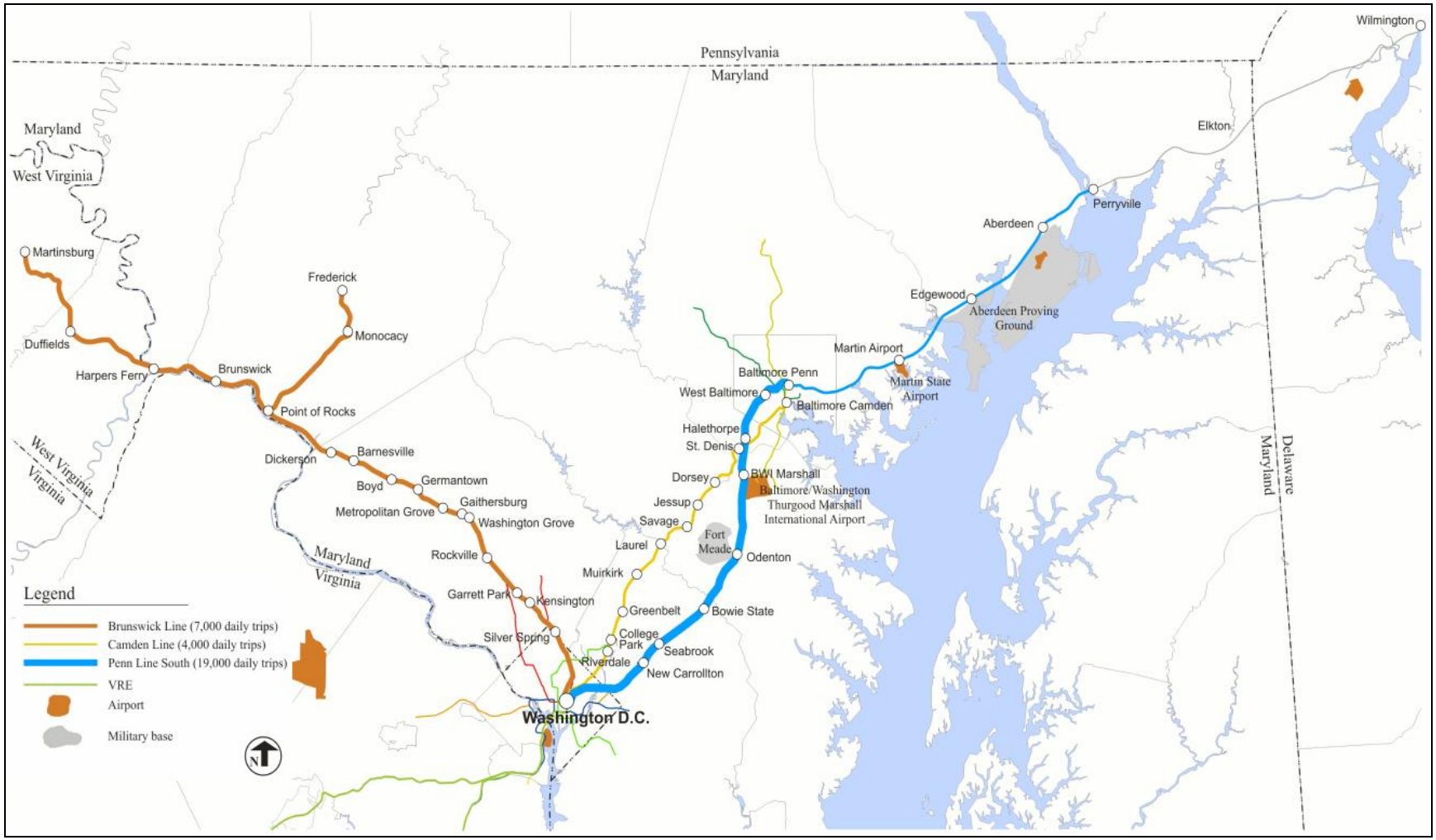
Amtrak operates the MARC Penn Line service over the NEC between Perryville and Washington, D.C. Bombardier operates MARC service over CSX's Baltimore-Washington route (the Camden Line) and between Martinsburg, West Virginia and Washington, D.C., with a branch to Frederick (the Brunswick Line). Figure 4.12 shows the extent of the system. Several elements of the service on each of the lines are summarized in Table 4.3.

**Table 4.3 MARC System Summary**
*FY 2014 Unless Noted*

| | Penn Line | Camden Line | Brunswick Line |
|---|---|---|---|
| Owner/Operator | Amtrak/Amtrak | CSX/Bombardier | CSX/Bombardier |
| Stations (excluding a common hub in Washington, D.C.) | 12 | 11 | 18 |
| Route-Miles | 77 | 37 | 88 |
| Weekday Trains | 57 | 18 | 19 |
| Train Sets | 8 | 5 | 9 |
| Weekday Peak Service Frequency | 25 minutes (Wash-Balt)<br>45 minutes (Perryville) | 30 minutes | 30 minutes (Brunswick)<br>60 minutes (Frederick) |
| Weekday Off-Peak Service Frequency | Hourly (Wash-Balt)<br>One train (Perryville) | None | One midday train |
| Saturday | 18 | None | None |
| Sunday | 12 | None | None |
| Daily Passenger Trips December 2013 | 21,029 | 3,133 | 6,355 |
| On-Time Performance (FY 2013) | 91% | 93% | 95% |

[21] Bombardier Transportation manufactures and operates locomotives and passenger rail vehicles.

## Figure 4.12 MARC System Map



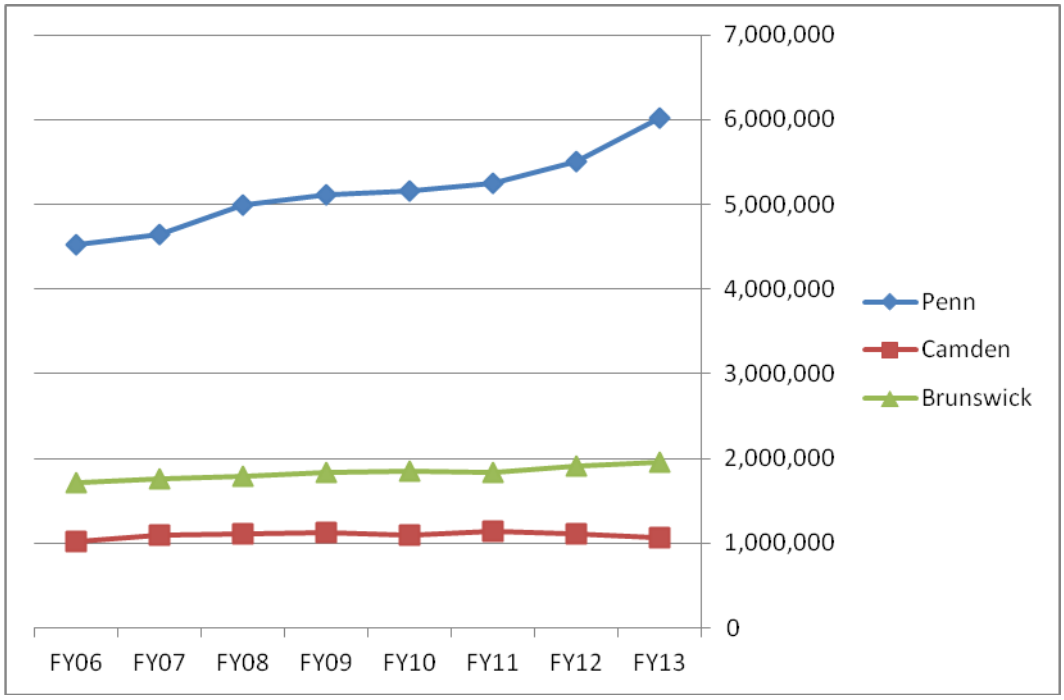
MARC ridership has increased by 83 percent from 1998 to 2012. As of February 2014, MARC operated 93 daily weekday trains, along with 18 trains on Saturday and 12 trains a day on Sunday. The service has historically been heavily oriented toward weekday commuting to workplaces in Washington, D.C. and the surrounding metropolitan area. With the initiation of weekend service in December 2013, MARC is broadening its appeal to workers with weekend schedules as well as tourist travelers. MARC Penn Line service north of Baltimore operates during peak hours between Perryville and Washington, D.C. as well as a limited off-peak service. Camden Line service operates bi-directionally on weekdays between Baltimore and Washington, D.C. during peak periods, with no off-peak service. Brunswick Line service operates exclusively as peak-period weekday morning service into Washington, D.C. and return trips from Washington, D.C. on weekday afternoons and early evenings. Brunswick Line service expanded in 2001 with the opening of service to. Table 4.4 summarized historical MARC Tran service ridership.

**Table 4.4 MARC Train Service Annual Fiscal Year Ridership**
*In Thousands*

| Fiscal Year | Penn Line | Camden | Brunswick | Total |
|---|---|---|---|---|
| 2013 | 6,014 | 1,063 | 1,952 | 9,030 |
| 2012 | 5,507 | 1,114 | 1,191 | 8,532 |
| 2011 | 5,249 | 1,145 | 1,839 | 8,233 |
| 2010 | 5,159 | 1,090 | 1,846 | 8,096 |
| 2009 | 5,112 | 1,126 | 1,842 | 8,081 |
| 2008 | 4,999 | 1,103 | 1,195 | 7,898 |
| 2007 | 4,642 | 1,095 | 1,767 | 7,504 |
| 2006 | 4,531 | 1,026 | 1,717 | 7,274 |
| 2005 | 4,178 | 1,036 | 1,670 | 6,884 |
| 2004 | 4,138 | 996 | 1,592 | 6,726 |
| 2003 | 3,829 | 988 | 1,519 | 6,336 |

The change in MARC ridership from FY 2006 to FY 2013 (July-June) is driven primarily by growth on the Penn Line. During this period, the Brunswick Line has seen modest growth while ridership on the Camden Line is essentially unchanged.

**Figure 4.13 MARC Total Ridership FY 2006-FY 2013**




Seasonal changes in ridership on the MARC system are modest, demonstrating its continued role as a commuter-based system as opposed to a recreational or tourism-oriented service. The long-term ridership trends point to a service that has established a mature market for its existing customer base of daily intercity commuters. However, this could change with the recent introduction of weekend service on the MARC Penn line. The weekend service has the potential to shift the orientation of MARC to appeal to a broader customer base. This may, in time, lead to benefits in ridership that extend to the weekday service as well.

While it is premature to draw definitive conclusions regarding the performance of MARC Penn weekend service, preliminary results from the first two full months of service (December 2013 and January 2014) shows an average of more than 1,300 riders per Saturday and 850 per Sunday of operation. These totals are expected to significantly increase as more potential customers learn about the service. Also, as the service caters to tourists and other noncommute users, totals from the summer months can be expected to be significantly higher than those in winter.

All Washington-bound MARC trains terminate at Union Station in Washington, D.C., which is also served by WMATA Red Line trains. In the Washington suburbs, MARC riders can transfer to Metrorail at New Carrollton (Orange Line), Silver Spring, and Rockville (Red Line) as well as at Greenbelt (Green Line).

## Tourist Rail Service

Rail operations aimed at tourists have proven to be popular entertainment attractions. Like the freight railroads, Amtrak, and the commuter railroads, they fall under the regulatory authority of the FRA. While tourist lines may provide some occasional switching of freight cars at industries along their lines, they are not always connected to the overall rail network and typically do not operate year-round. Their purpose is recreational and they are a destination in themselves rather than a mode of public transportation serving as a means to get from here to there. The two tourist lines in Maryland are not connected to the passenger rail network or to public transportation. These lines are the Western Maryland Scenic Railroad, which operates between Cumberland and Frostburg, and the Walkersville Southern Railroad, which operates on the former Frederick Secondary Track in Frederick County. Tourist railroads typically operate vintage equipment and some, like the Western Maryland Scenic Railroad, operate steam locomotives. Some of these operations have broadened their market appeal by operating theme trains, i.e., murder mystery trains, dinner trains, special charters, etc.

### *Western Maryland Scenic Railroad*

In 1990, the Western Maryland Scenic Railroad began operation between Cumberland and Frostburg, over former Western Maryland Railway right-of-way. State and local funds supported purchase of vintage equipment, including a 1916 Baldwin steam locomotive. In 1995, the State purchased the right-of-way and made financial contributions to the infrastructure maintenance effort. The State sold the right-of-way to Allegany County in 2004. Since its inception, ridership on the Western Maryland Scenic Railroad has ranged between 34,000 and 40,000 trips annually. Historical ridership is summarized in Table 4.5.

**Table 4.5 Western Maryland Scenic Ridership by Fiscal Year**

| Fiscal Year | Ridership |
|---|---|
| 2013 | 37,645 |
| 2012 | 36,392 |
| 2011 | 39,000 |
| 2010 | 38,000 |
| 2009 | 36,000 |
| 2008 | 35,000 |
| 2007 | 34,000 |
| 2006 | 35,600 |
| 2005 | 39,500 |
| 2004 | 36,200 |

### *Walkersville Southern Railroad*

The Walkersville Southern Railroad operates on the portion of the State-owned rail line situated between Frederick and Walkersville in Frederick County. Vintage equipment is operated on weekends and holidays from spring to fall. Maryland State Route 26 and its adjacent connection to U.S. Route 15 currently restrict the use of the rail line from Route 26 to downtown Frederick. However, the State is preserving the right-of-way for possible future freight, passenger, or utility use.

### *Special Trains*

In addition to tourist and recreational services, which operate on regular schedules on a seasonal basis, special passenger trains are scheduled and operated over existing rail lines on an infrequent and irregular basis by special arrangement with the owning railroad. This type of rail service often is associated with special events or excursions sponsored by a group. Special trains are operated by contract for a customer or agency for a special purpose such as an excursion. In some cases, an agency may contract with the operator to run special trains to special venues such as concerts and sports events. The number of such trains has always been small and has tended to decline over the past several years due to increased liability requirements for special train operations.

# 5.0 Freight, Commuter, and Intercity Passenger Rail Activities in Maryland

Maryland is projected to be one of most rapidly growing states in the Northeastern U.S. in coming decades and, consequently, demand for both freight, commuter, and intercity passenger rail within the State is expected to increase significantly. MDOT is engaged in several concurrent freight, commuter, and intercity passenger rail planning and project efforts aimed at ensuring that Maryland is ready to accommodate growth in demand. For freight, commuter, and intercity passenger rail, MDOT is leading efforts at the state, regional, and national level to implement policies, programs, and projects, particularly in cases of shared uses on the same infrastructure.

## 5.1 COMMUTER AND INTERCITY PASSENGER RAIL

### Amtrak and NEC Planning and Policy

MDOT takes an active role in promoting improvements on the NEC and advancing rail opportunities for the Eastern Shore and other parts of the State that are currently underserved by rail. MDOT helped shape the Northeast Corridor Infrastructure Master Plan and led the Mid Atlantic Rail Operations (MAROps) analysis sponsored by the I-95 Corridor Coalition. The Northeast Corridor Infrastructure Master Plan and MAROps highlighted the most important infrastructure needs of the NEC in order to accommodate the regional growth and help define the projects needed along the NEC to accomplish a high-speed rail corridor shared by both intercity, commuter and freight rail.

MDOT is taking an active leadership role in the NEC Commission, which is legislatively mandated by PRIIA to create a regional approach to NEC improvements. Through the NEC Commission, MDOT and representatives from neighboring states are aligning project needs, considering all the projects that require investment to reach state of good repair (SOGR), capacity, and safety and speed improvement goals, and working to prioritize and develop the means for implementation.

MDOT is also participating in FRA's NEC FUTURE effort to develop a Tier 1 EIS and Service Development Plan for the Northeast Corridor. Although led by FRA, NEC FUTURE relies on active participation from northeastern states, Amtrak and other interested stakeholders. MDOT's participation in the effort has allowed the State to incorporate FRA's long-term vision for the NEC into

project level planning efforts currently underway along the NEC in Maryland. Some of the NEC's highest priority projects are within Maryland's borders, including the replacement of the Amtrak Baltimore and Potomac Tunnel (B&P Tunnel), which has become the most significant impediment to improving speed and capacity on the NEC. Additional needs include the replacement of three Amtrak-owned bridges in the northeastern area of Maryland and the establishment of four tracks from Baltimore to Washington, D.C. to accommodate the simultaneous growth of Amtrak and MARC. Other key priorities include platform changes and station upgrades at BWI Thurgood Marshall Airport and Baltimore Penn Station.

## High-Speed Intercity Passenger Rail Program (HSIPR)

MDOT was awarded grant funding through the Federal HSIPR program to conduct engineering and environmental review for three projects on behalf of Amtrak: the B&P Tunnel, the Susquehanna River Bridge, and BWI Rail Station Improvements and 4th Track. The engineering and environmental review for these projects is underway and will set the stage for construction. MDOT works through the NEC Commission and other Federal and regional organizations to seek construction funding opportunities for these projects and the remaining NEC needs. The following section describes each currently funded project:

### *Maryland's High-Speed Intercity Passenger Rail Projects*

**Project: B&P Tunnel Preliminary Engineering and NEPA Review**
**Cost: $60 Million**


The Amtrak-owned B&P Tunnel is located under the City of Baltimore just south of Penn Station. The 1873 tunnel is not designed to accommodate modern train operations. Replacement and future augmentation of the existing tunnel is absolutely essential to support state of good repair, safety, and capacity improvements. One-fifth of Amtrak's passenger trips and one-third of its ticket revenues depend on travel over Baltimore railways, and a new tunnel is necessary to enable commuter and freight operations that support states all along the NEC. The B&P Tunnel has been identified as the most severe chokepoint on the NEC in studies such as the I-95 Corridor Coalition's MAROps phases I and II, and the AASHTO 2002 Intercity Passenger Rail Transportation report. The new tunnel is expected to serve both commuter and intercity train traffic. Preliminary engineering and environmental work will be completed by Amtrak and with support by MDOT.

Preliminary engineering will include development of construction cost estimates, but the Amtrak Northeast Corridor Master Plan identifies an estimated cost of $1.5 billion.

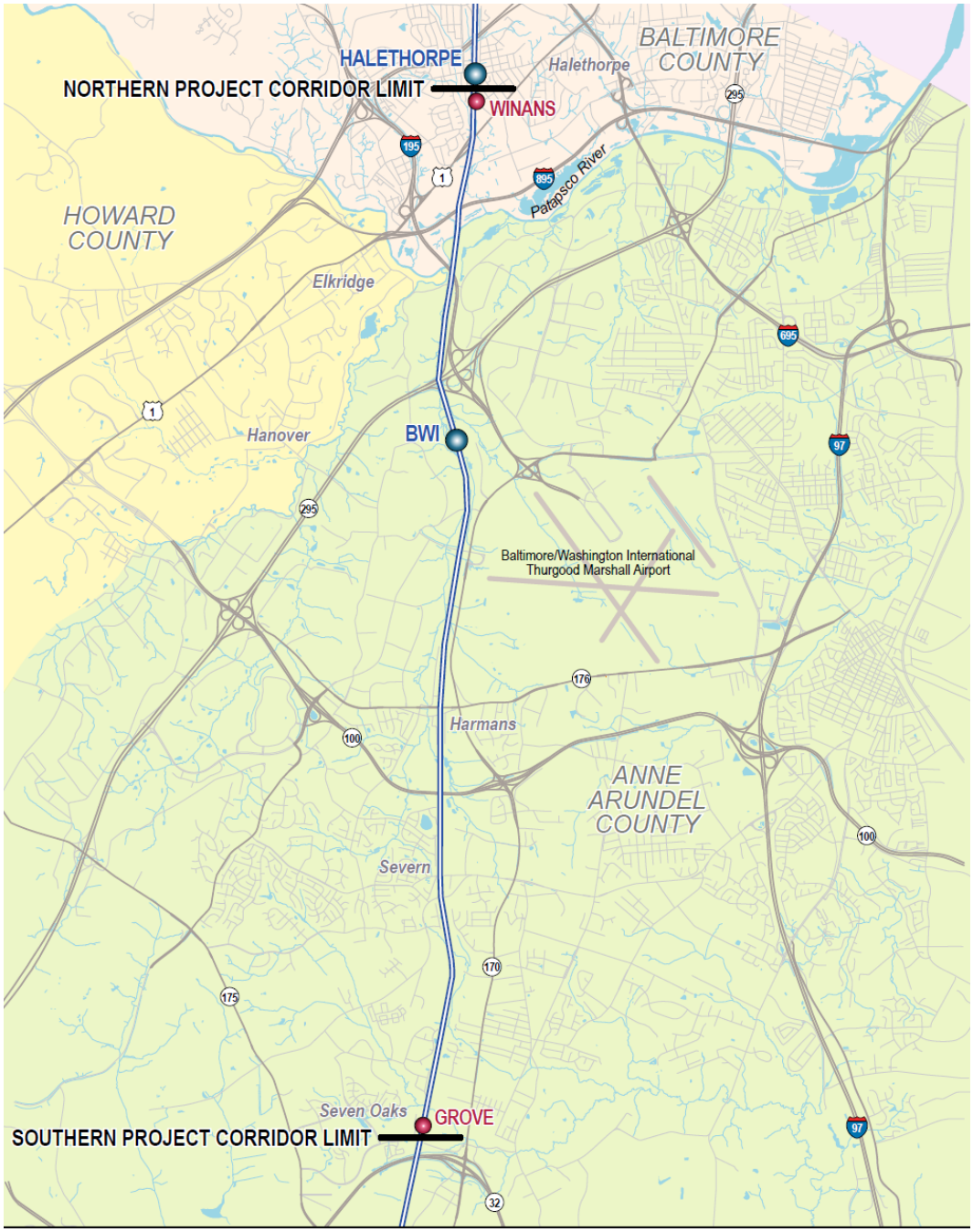
**Project: The Susquehanna River Railroad Bridge Replacement Preliminary Engineering and NEPA**
**Cost: $22 Million**

The Amtrak-owned Susquehanna River Bridge is located north of Baltimore on the NEC. While most of the railroad north of Baltimore is three or more tracks, the Susquehanna River Bridge is only two, limiting the capacity and versatility of the entire corridor. The bridge is approximately 100 years old, as are two nearby bridges over the Bush and Gunpowder Rivers. Both MGIP and Amtrak's Northeast Corridor Infrastructure Master Plan include replacing these bridges for state of good repair and capacity needs. The replacement bridges would be three or four tracks. Replacement of all of the bridges would eventually cost more than $1 billion.

**Project: BWI Rail Station Improvements and 4th Track**
**Cost: $9.4 Million**

Increasing the capacity of the NEC not only requires track capacity projects but also requires expansions to supporting infrastructure such as train depots and passenger terminals. Ridership at the BWI Rail Station is fourth highest for MARC, and thirteenth highest on the NEC. Despite being a gateway to multimodal transportation options and having a high projected ridership growth, the station building is over 30 years old and has inadequate waiting, ticketing and concession areas. There are three tracks through the station area, but only two have platforms. A fourth track and additional platform will be required to accommodate projected growth at the BWI Airport and the high level of current train traffic through the BWI Station area. To accommodate additional ridership the station needs to be reconfigured. MGIP calls for a tripling of trains utilizing the station by 2035, and Amtrak predicts a 44 percent increase in trains utilizing the NEC at BWI station. Improvements to the station will increase the market share of airport traffic handled by rail on the heavily congested I-95 corridor. The preliminary engineering and NEPA process for the station is $10.9 million (funded through the $9.4 million HSIPR grant plus $1.5 million of MTA/Amtrak Joint Benefit funding), and construction of all identified improvements is estimated to cost $650 million.

**Figure 5.1 BWI Rail Station Improvements and 4th Track – Project Extent**




## *MARC Growth and Investment Plan (MGIP)*

In late 2007, MTA released its MGIP. In September 2013, MARC released a draft update of the MGIP with plans through 2050. The 2013 release ties together projected ridership increases, rolling stock investments and facility parking expansions.

The 2007 plan details service expansion initiatives and major infrastructure improvements on all three MARC commuter rail lines to 2035, and envisions a substantial increase in train frequencies and expanded service hours.

Growth in MARC effective seating capacity is projected to increase, requiring substantial capital investment in stations and station parking, rolling stock, train storage and maintenance facilities, and rail infrastructure improvements.

The Penn Line plan in MGIP supports Amtrak's creation of a four-track main line railroad between New Carrollton and Perryville. A four-track NEC would provide capacity for MARC, Norfolk Southern, and Amtrak trains to operate largely independently of one another, at a higher level of service than at present. On the Camden and Brunswick Lines, the long-range plan calls for the addition of a third main track to both of the two-track CSX lines. On all three lines, it is estimated that the owner would support the construction of the additional main tracks in phases, focusing early investment in areas where improvements can be realized most cost-effectively for all users. Station parking would be expanded throughout the system. Existing stations would be upgraded to achieve consistent design standards, and new stations would be constructed to serve important regional activity centers, take advantage of transit-oriented development opportunities, and provide transfer connections to other regional transit services. The rolling stock fleet would be more than doubled in size to accommodate anticipated ridership growth, and fleet storage yards and maintenance shops would be constructed and/or expanded.

The 2013 update notes that parking and station capacity are emerging constraints to expansion of MARC service. Even with planned expansions, 9 of 11 stations on the Penn Line are expected to be at capacity by 2015. It also identifies $467 million in near-term capital improvements and $1,884 million in long-term improvements.[22]

### *Transit and Intermodal Connections*

There are opportunities to improve commuter and intercity passenger services through connections to intermodal options. Ongoing activities include joint benefit projects funded by the MTA that include alignment and station upgrades along the Penn Line. Additionally, MDOT is working with Amtrak and other partners to improve passenger stations and access. By planning for Transit-Oriented Development (TOD) and multimodal transit options, MDOT is leading efforts to improve access to transit services. For example, the MTA's MGIP identifies projected needs for the MARC system and capital investment required to support service growth and increased ridership. These investments include station improvements and potential new stations. MDOT and MTA are working with local governments on station planning and identifying opportunities for redevelopment and growth around stations to bolster transit.

[22] "MARC Growth and Investment Plan Update 2013-2050." http://mgip-update.com/.

Several transit-focused projects are moving forward in Maryland, including the Purple Line light rail service between New Carrollton and Bethesda and the Red Line light rail service in Baltimore City and Baltimore County. Maryland is nationally recognized for its leadership in policies and programs that link transportation land use to economic development, community revitalization and increased mobility and transportation options for the citizens of the State. MDOT has been proactive in its commitment to develop transportation investments and facilities and support for transit-oriented, joint and transit-adjacent development that support economic growth and neighborhood revitalization in close proximity to transit facilities.

## Coordination With Freight Activities

Given that commuter and intercity passenger rail shares track and other infrastructure with freight, the realization of long-term expansion plans for passenger rail will require successful coordination with freight rail. Freight rail projects were defined in the Statewide Freight Plan and updated in this Plan. With the increase in freight focus, a number of activities have been taking place that have the potential to expand the role that rail plays in the overall freight market share. MDOT, along with FRA, CSX, Norfolk Southern, and Amtrak completed a study of both rail tunnels in Baltimore, the Amtrak B&P, and CSX's Howard Street Tunnel. This Congressionally mandated study served to evaluate alternatives for replacing these tunnels.[23] While the initial intent was to respond to the fire that damaged the Howard Street Tunnel in 2001, the study determined that the Amtrak-owned B&P Tunnel should be replaced. FRA, as a partner in the study, understood the magnitude of the preexisting need for the B&P tunnel and awarded $60 million of HSIPR funding to complete preliminary engineering and NEPA documentation for a new tunnel. Norfolk Southern provides freight service through the B&P and would remain on the NEC in any new tunnel alignment. Due to its importance for freight, commuter, and intercity passenger rail operations, the B&P is the top rail priority for the State and for Amtrak.

Additional freight projects correspond with the projected forecast in goods movement, which is expected to double for Maryland over the next 30 years. These projects include investments to help Maryland achieve full double-stack rail capacity on major Class I lines, improving intermodal connectivity for freight flows, and identifying and preserving land uses that support rail service. MDOT supports both CSX and Norfolk Southern in their efforts to expand double-stack capacity through the National Gateway and Crescent Corridor projects, respectively. Double-stack capacity access creates economic efficiencies for shippers that translate into lower costs of doing business in Maryland. Additionally, MDOT's efforts are promoting rail expansion opportunities. MDOT was awarded a Federal Rail Line Relocation Grant to help a short line terminal railroad at the Port of Baltimore area, the Canton Railroad Company, to

[23] http://www.fra.dot.gov/downloads/rrdev/brn1.pdf.

expand and develop a new rail yard – the Kane Street Yard. This is a project with significant benefit for the region as expansion opportunities are limited in urban areas. The project will allow for additional capacity in the Port area.

### *Delmarva*

Preserving rail access to the Delmarva Peninsula is critical for preserving key industries on the Eastern Shore. Norfolk Southern freight services provide rail access to Eastern Shore industries both directly and via connectivity to the State-owned short lines. MDOT, Norfolk Southern and short line operator MDDE work together to identify new rail opportunities and necessary improvements. Eastern shore businesses are among the State's most important in importers and exporters. For example, paper imported through the Delmarva and onto a State-owned short line helps produce Starbucks coffee cups for the region. Perdue Agribusiness ships soybeans for export overseas.

Preserving rail corridors on the Eastern Shore will allow shippers to maintain a cost-effective option for moving goods. The deterioration of the lines would lead to an elevated rate of growth in truck traffic that would accelerate the deterioration of highways. A recent benefit/cost analysis of preserving and upgrading railroads on the Eastern Shore found that benefits exceeded costs by a factor of three to one based on shipper savings and avoided road maintenance costs.

MDOT and MTA are pursuing an economic investment strategy that will help to identify the necessary improvements for the State-owned short lines. Additionally, MDOT and MDDE are working with economic development entities to improve rail access through either capital improvements or transloading opportunities. MDOT and MDDE have turned to current rail served industries with trans-loading infrastructure to provide make rail freight service available to companies not directly served rail. Preserving the rail infrastructure helps to sustain the industries germane to the Eastern Shore and to provide environmental and economic efficiencies that benefit the region.

# 6.0 Rail Program Development

## 6.1 RAIL PROJECTS

The previous section highlighted some of the current activities that MDOT is undertaking to advance passenger and freight rail development. This section identifies short and long-term project needs for freight, commuter, and intercity passenger rail to help fulfill PRIIA requirements and guide MDOT capital programming efforts. The projects noted below are public-only, private-only, or proposed as P3s. While most rail infrastructure in Maryland is privately owned and operated, MDOT has direct financial responsibility for certain aspects. For example, MDOT is financially responsible for MARC service and equipment. MDOT also has financial authority over certain State-owned short line railroads. MDOT has also provided limited funding support for projects that are led by private railroads. The State's responsibilities are reflected in the six-year Consolidated Transportation Program (CTP).

The long-term plan below is a mix of public and private project needs as identified in previous plans and updated by the rail carriers for inclusion in this Plan. The projects are generally presented in terms of categories of needs and corridors within a planning horizon to 2040. This Plan covers projects from the various sources that were used to develop this document. Those sources include: MGIP, the NEC Infrastructure Master Plan, and the Statewide Freight Plan. Maryland rail carriers provided updated information to the plan during February and March 2014. The project list include cost estimates and potential funding sources. Most of the projects included in the project list consist of traditional rail projects; however, MDOT is always open to new technologies to meet the future needs of Maryland's rail network, such as magnetic levitation (Maglev) technology.

## 6.2 LONG-TERM RAIL PROJECT EVALUATION

Prioritization and evaluation of projects in the this Plan are based on the successful methodology established for the Statewide Freight Plan where prioritization criteria are based on MTP goals and weighted according to a project's ability to address the goals. In this Plan, project needs are evaluated and classified as either high-, medium-, or low-priority based on the criteria

described in Table 6.1.[24] A project's classification is based on the weighted average of the scores for the component criteria.

**Table 6.1 Evaluation Criteria for Rail Projects**

| Criteria | Weighting | Description |
|---|---|---|
| Quality of Service | 20.0% | Potential for the project to reduce delay and increase reliability |
| Safety and Security | 20.0% | Potential for the project to lower truck-auto crash exposure and/or to protect the public from terrorist events |
| System Preservation | 20% | Potential for the project to preserve existing assets and maximize the efficient use of resources and infrastructure |
| Environmental Stewardship | 10.0% | Potential for the project to reduce air and water pollution and encourage better coordination of transportation and land use |
| Community Vitality | 10% | Potential for the project to provide options for the movement of people and goods that support communities and quality of life |
| Economic Prosperity | 20.0% | Potential for the project to improve the movement of freight and support growth in the flow of goods within and through Maryland |

It is critical to understand that the project needs listed in this Plan are not the final project solutions. Final project solutions are the result of a process that includes scoping, project planning, and engineering, as well as public input. The project needs shown below have not been vetted through that process. Yet, because the railroads have recently updated their input to the project list, the scope of needs is current and accurate.

## *Evaluation Approach*

The evaluation and prioritization of projects show how the project needs align with MTP goals. Additionally, the evaluation and prioritization serves to illustrate the considerations recommended by PRIIA for projects. These include:

1. Contributions made by non-Federal and non-state sources through user fees, matching funds, or other private capital involvement;
2. Rail capacity and congestion effects;
3. Effects on highway, aviation, and maritime capacity, congestion, or safety;
4. Regional balance;
5. Environmental impact;

[24] While each project listed in this Plan is important, the prioritization methodology is designed to classify them as either high-, medium-, or low-priority. This classification is therefore relative to the other projects on the list – all of which are important.

6. Economic and employment impacts; and
7. Projected ridership and other service measures for passenger rail projects.[25]

This Plan provides prioritization of the proposed freight, commuter, and intercity passenger rail projects within the context of how the project might help MDOT reach its goals. Other considerations are given in selecting projects for programming, such as engineering and environmental costs, sourcing and availability of funding, and responsibility for project delivery (i.e., public versus private railroad). The prioritization and evaluation reflected in this Plan allow the State and stakeholders to comprehend how rail projects align with state goals and to enable the State to recognize where it can work best with stakeholders to accomplish the daunting task of addressing all of the rail needs in the State.

## Project Evaluation Criteria

The criteria listed in Table 6.1 are based on the newly updated goals of the 2035 MTP. Scores are qualitative and based on MDOT's judgment relative to the descriptions below. The criteria place a higher value on projects with high impacts or positive benefits to the busiest rail corridors for freight and passenger needs and lower value on projects with less substantial impacts. However, as stated in the introduction, projects with high values may have attributes that cause them to go un-implemented while lower value projects are more easily implemented (e.g., especially if funding is more attainable). Additionally, lower value does not necessarily mean less important. The values only serve to describe the level of overall impact. High-value projects are mostly those that will impact high numbers of passengers or freight movements, while lower value projects affect less people or freight.

The weighting of the goals was originally established through stakeholder input conducted for the Statewide Freight Plan. The weightings have been adjusted to reflect the new MTP goals yet remain fairly consistent with the weightings in the Statewide Freight Plan. The scores for evaluation for three goals are based on a five-point scale, and for two goals based on four points based on the criteria used for evaluation as described below.

- **Quality of Service –** Infrastructure projects that increase capacity on high-volume rail corridors are scored high (5.0); projects that address interlockings, track upgrades, maintenance, and operations improvements on high-volume rail corridors are scored medium-high (4.0); projects that address station issues, access and upgrades of facilities to improve service quality are scored medium (3.0); infrastructure projects that increase capacity on low-volume rail corridors are scored medium-low (2.0); other projects, such as station improvements and parking lots, are scored low (1.0).

[25] PRIIA.

- **Safety and Security –** Projects that increase capacity on high-volume rail corridors are scored high (5.0); projects to improve or construct passenger rail stations as well as rail grade crossing improvement projects are scored medium-high (4.0); projects that address interlockings, track upgrades, maintenance, and operations improvements on high-volume rail corridors are scored medium (3.0); projects that improve low-volume rail corridors are scored low (2.0).
- **System Preservation –** Passenger rail projects to replace locomotives or rail cars and update maintenance facilities, and freight rail projects that address bridge replacement, tunnel replacement, interlocking and track upgrades on high-volume corridors are scored high (5.0); projects to improve or construct passenger rail stations are scored medium-high (4.0); infrastructure projects that increase capacity on high-volume rail corridors, passenger station parking lot expansions and track upgrade projects on lower volume corridors are scored medium (3.0); projects that address bridge replacement, tunnel replacement, interlocking and track upgrades on low-volume corridors are scored medium-low (2.0); and tourist railroad improvements are scored low (1.0).
- **Environmental Stewardship –** Capacity increasing projects on high-volume rail corridors are scored high (5.0); projects to improve or construct passenger rail stations are scored medium-high (4.0); projects that address interlockings, track upgrades, maintenance, and operations improvements on high-volume rail corridors are scored medium-low (3.0); and projects to improve low-volume rail corridors are scored low (2.0).
- **Community Vitality –** Station improvements, new stations for passenger rail and projects designed to improve connections between and among modes and projects that increase access to freight customers are scored high (5.0). The upgrade of lower volume rail lines to increase connectivity, infrastructure capacity increasing projects on high-volume rail lines are scored medium high (4.0). Maintenance-related projects on high-volume rail lines, interlockings, track upgrades, and operations improvements on high-volume rail corridors are scored medium (3.0). Capacity and maintenance projects on low-volume rail lines are scored medium low (2.0). Finally, tourist railroad improvements are scored low (1.0).
- **Economic Prosperity –** Projects that increase infrastructure capacity on high-volume rail lines and upgrade of lower volume rail lines to increase connectivity are scored highest (5.0). Station improvements, new passenger stations, projects that increase access to freight customers, and projects designed to improve connections between and among modes are scored medium high (4.0). Maintenance-related projects on high-volume rail lines and interlockings, track upgrades, and operations improvements on high-volume rail corridors are scored medium (3.0). Projects that increase capacity on low-volume rail lines are scored medium low (2.0). Finally, tourist railroad improvements are scored low (1.0).

## 6.3 PRIORITIZED PROJECT LIST

Table 6.2 summarizes the results of the prioritization process and groups the selected projects based on the evaluation. The key (below) illustrates the range of scores – high, medium high, medium, medium low, and low – for each project, based on the prioritization evaluation criteria outlined in Section 6.2.

Project Evaluation Key:

| Low | Medium Low | Medium | Medium High | High |
|---|---|---|---|---|
| ○ | ◔ | ◒ | ◕ | ● |

Using the composite scores, the projects are organized into three broad categories: high, medium, and low priority. Projects were assigned a score based on the criteria above and then the weighting was applied. Scores of 4 and 5 are high priorities, scores of 2 to 3.99 are medium priorities, and scores of 1 to 1.99 are low priorities.

In cases where the capital investment benefits multiple parties, projects have been listed multiple times with the relative investment that each party is responsible, including both capital and maintenance expenditures. Similarly, where multiple MARC lines benefit from a project, the cost is split between the lines. Projects can also be listed more than once if they are phased into long-term and future project phases. The costs in table 6.2 have been rounded, as they represent estimates at various stages of assessment.

## Table 6.2 Rail Projects

| ID | Overall Score | Quality of Service Score (20%) | Safety and Security Score (20%) | System Preservation Score (20%) | Environ-mental Stewardship Score (10%) | Community Vitality Score (10%) | Economic Prosperity Score (20.0%) | Project | Estimated Cost (Millions) | Line | 212 Potential | Ownership |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 107 | 5 | ● | ● | ● | ● | ● | ● | Replace Amtrak B&P Tunnel | 1,500 | NEC | 212 | Amtrak |
| 129 | 5 | ● | ● | ● | ● | ● | ● | New freight tunnel in Baltimore (CSX) | 1,600 | CSX | | CSX |
| 134 | 5 | ● | ● | ● | ● | ● | ● | CSX National Gateway Initiative Clearances (Phase II) | 25 | CSX | | CSX |
| 208 | 5 | ● | ● | ● | ● | ● | ● | Electric traction upgrades: MP 41 - 96 | 4 | NEC | | Amtrak |
| 210 | 5 | ● | ● | ● | ● | ● | ● | Catenary structure rehab: MP 41 - 96 | 7 | NEC | | Amtrak |
| 102 | 4.9 | ● | ● | ● | ● | ◕ | ● | Amtrak Susquehanna River Bridge Replacement and 3 Track Approach Bacon to Prince | 1,000 | NEC | 212 | Amtrak |
| 100 | 4.9 | ● | ● | ● | ● | ◕ | ● | Amtrak Gunpowder River Bridge Replacement | 555 | NEC | 212 | Amtrak |
| 101 | 4.9 | ● | ● | ● | ● | ◕ | ● | Amtrak Bush River Bridge Replacement | 400 | NEC | 212 | Amtrak |
| 103 | 4.9 | ● | ● | ● | ● | ◕ | ● | Iron to Prince Interlocking: Fourth Track | 110 | NEC | | Amtrak |
| 109 | 4.9 | ● | ● | ● | ● | ◕ | ● | Upgrade Union Tunnel to River | 250 | NEC | | Amtrak |
| 122 | 4.9 | ● | ● | ● | ● | ◕ | ● | New 1.5-mile bridge over Susquehanna (CSX) | 80 | CSX | | CSX |
| 178 | 4.9 | ● | ● | ● | ● | ◕ | ● | NS – Crescent Corridor | 405 | NS | | NS |
| 194 | 4.8 | ● | ● | ◕ | ● | ● | ● | Electric traction upgrades: MP 96 - 132 | 7 | NEC | 212 | Amtrak |
| 257 | 4.8 | ● | ● | ● | ● | ◒ | ● | Continued expansion to three main tracks between Baltimore and Washington | 160 | MARC Camden Line | 212 | CSX |
| 282 | 4.8 | ● | ● | ◕ | ● | ● | ● | Maglev – Baltimore to Washington DC | TBD | New | | Private |
| 283 | 4.8 | ● | ● | ◕ | ● | ● | ● | Maglev – Baltimore to New York | TBD | New | | Private |
| 196 | 4.7 | ● | ● | ● | ◔ | ● | ● | Catenary structure rehab: MP 96 - 132 | 14 | NEC | 212 | Amtrak |
| 236 | 4.6 | ● | ● | ● | ◔ | ◕ | ● | Amtrak Union Tunnel – complete four tracks through Baltimore City | 100 | MARC Penn Line | | Amtrak |
| 136 | 4.5 | ● | ● | ◒ | ● | ◕ | ● | CSX Old Main Line Subdivision – improve clearances to allow double-stack | TBD | CSX | | CSX |

| ID | Overall Score | Quality of Service Score (20%) | Safety and Security Score (20%) | System Preservation Score (20%) | Environ-mental Stewardship Score (10%) | Community Vitality Score (10%) | Economic Prosperity Score (20.0%) | Project | Estimated Cost (Millions) | Line | 212 Potential | Ownership |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 137 | 4.5 | ● | ● | ◒ | ● | ◕ | ● | CSX Old Main Line Subdivision – add second main track segments or passing sidings | TBD | CSX | | CSX |
| 142 | 4.4 | ● | ● | ◒ | ● | ● | ◕ | Create bypass from CSX Cumberland Subdivision to Mountain Subdivision | TBD | CSX | | CSX |
| 105 | 4.3 | ● | ● | ◔ | ● | ◕ | ● | Upgrade Grace to Bush three tracks | 170 | NEC | | Amtrak |
| 113 | 4.3 | ● | ● | ◔ | ● | ◕ | ● | Landover to C (third track and high-density signals) | 110-115 | NEC | | Amtrak |
| 114 | 4.3 | ● | ● | ◔ | ● | ◕ | ● | BWI Station center platform and fourth track configuration (Grove to Winans) | 650 | NEC | 212 | Amtrak |
| 121 | 4.3 | ● | ● | ◔ | ● | ◕ | ● | Add 2.2 miles double track, Maryland state line to East Singerly and upgrade three sidings | 9 | CSX | | CSX |
| 123 | 4.3 | ● | ● | ◔ | ● | ◕ | ● | Add 13.6 miles second main and upgrade Van Bibber Siding (BAK 70-BAK 72.1). Segment includes CSX Susquehanna River Bridge, MP 56.8-58.1, 1.3 | 50 | CSX | | CSX |
| 127 | 4.3 | ● | ● | ◔ | ● | ◕ | ● | Second track, 39.3 miles from Wilmington to Baltimore | 19 | CSX | | CSX |
| 128 | 4.3 | ● | ● | ◔ | ● | ◕ | ● | CSX Maryland second and third main track projects – West Baltimore to Washington, D.C.; add six miles triple track | 7 | CSX | | CSX |
| 131 | 4.3 | ● | ● | ◔ | ● | ◕ | ● | Build second main from Doubs to Frederick Junction on CSX Old Main Line SD | 40-45 | CSX | | CSX |
| 140 | 4.3 | ● | ● | ◒ | ● | ◕ | ◕ | CSX Brunswick Yard – add longer tracks to stage unit trains to/from Baltimore | TBD | CSX | | CSX |
| 143 | 4.3 | ● | ● | ◔ | ● | ◕ | ● | CSX Metropolitan Subdivision – add third main line to increase capacity | TBD | CSX | | CSX |
| 218 | 4.3 | ● | ◕ | ◕ | ◕ | ● | ◕ | Washington Terminal planned expansion | TBD | MARC (All Lines) | 212 | Amtrak |
| 224 | 4.3 | ● | ◕ | ◕ | ◕ | ● | ◕ | MARC station modifications to support four main tracks at BWI, Odenton, Bowie State, Seabrook, and New Carrollton | 135 | MARC Penn Line | 212 | Amtrak/MARC |

| ID | Overall Score | Quality of Service Score (20%) | Safety and Security Score (20%) | System Preservation Score (20%) | Environ-mental Stewardship Score (10%) | Community Vitality Score (10%) | Economic Prosperity Score (20.0%) | Project | Estimated Cost (Millions) | Line | 212 Potential | Ownership |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 226 | 4.3 | ● | ◕ | ◕ | ◕ | ● | ◕ | Upgrade Perryville MARC station to handle northbound through trains, pedestrian overhead | 25 | MARC Penn Line | | MARC |
| 138 | 4.2 | ◕ | ● | ● | ● | ◒ | ◒ | CSX Hanover Subdivision – replace ties and rail to allow increased speed and capacity | TBD | CSX | | CSX |
| 266 | 4.2 | ● | ● | ◔ | ● | ◒ | ● | Three main tracks, Barnesville Hill | 25 | MARC Brunswick Line | | CSX |
| 279 | 4.2 | ● | ● | ◔ | ● | ◒ | ● | Additional triple tracking | TBD | MARC Brunswick Line | | CSX |
| 181 | 4.1 | ◕ | ◔ | ● | ● | ◕ | ● | Potential transload facility for Lehigh Cement | 9 | Maryland Midland | | Genesee and Wyoming |
| 176 | 4 | ◕ | ◕ | ◒ | ◕ | ◕ | ● | Freight Option from north to Baltimore (non-NEC) | 555 | NS | | NS |
| 249 | 4 | ◔ | ● | ◒ | ● | ● | ● | Extend third main track Savage-Laurel to reduce congestion | 20 | MARC Camden Line | | CSX |
| 111 | 3.9 | ◒ | ◕ | ◕ | ◕ | ● | ◕ | Station modifications to support four main tracks: Odenton, Bowie State, Seabrook | 70 | NEC | | Amtrak |
| 112 | 3.9 | ◒ | ◕ | ◕ | ◕ | ● | ◕ | New Carrollton New Track 1 Platform | 65 | NEC | 212 | Amtrak |
| 115 | 3.9 | ◒ | ◕ | ◕ | ◕ | ● | ◕ | ADA/SGR Station Improvements (Aberdeen, Baltimore, New Carrollton, Washington) | 120 | NEC | 212 | Amtrak |
| 116 | 3.9 | ◒ | ◕ | ◕ | ◕ | ● | ◕ | New Aberdeen Station and High-Level Platforms | 50 | NEC | 212 | Amtrak |
| 117 | 3.9 | ◒ | ◕ | ◕ | ◕ | ● | ◕ | Potential Amtrak Station at Martin State and high-level platforms | 50 | NEC | | Amtrak |
| 119 | 3.9 | ◒ | ◕ | ◕ | ◕ | ● | ◕ | New Carrollton – high-level center platform | 65 | NEC | | Amtrak |
| 120 | 3.9 | ◒ | ◕ | ◕ | ◕ | ● | ◕ | Baltimore – Penn Station building upgrades | 10-15 | NEC | 212 | Amtrak |
| 213 | 3.9 | ◒ | ◕ | ◕ | ◕ | ● | ◕ | New Bayview MARC Station | 65 | MARC Penn Line | | MARC |
| 219 | 3.9 | ◒ | ◕ | ◕ | ◕ | ● | ◕ | Platform construction at MARC Penn Line Stations | TBD | MARC Penn Line | | MARC |

| ID | Overall Score | Quality of Service Score (20%) | Safety and Security Score (20%) | System Preservation Score (20%) | Environ-mental Stewardship Score (10%) | Community Vitality Score (10%) | Economic Prosperity Score (20.0%) | Project | Estimated Cost (Millions) | Line | 212 Potential | Ownership |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 223 | 3.9 | ◒ | ◕ | ◕ | ◕ | ● | ◕ | Penn Station improvements to MARC facilities | 20 | MARC Penn Line | 212 | Amtrak |
| 225 | 3.9 | ◒ | ◕ | ◕ | ◕ | ● | ◕ | New Elkton MARC station | 25 | MARC Penn Line | | MARC |
| 227 | 3.9 | ◒ | ◕ | ◕ | ◕ | ● | ◕ | New Station at West Baltimore | 65 | MARC Penn Line | | MARC |
| 228 | 3.9 | ◒ | ◕ | ◕ | ◕ | ● | ◕ | Pedestrian overpass at Odenton MARC Station | 10 | MARC Penn Line | | MARC |
| 250 | 3.9 | ◒ | ◕ | ◕ | ◕ | ● | ◕ | Muirkirk MARC Station – Canopy and station improvements tied to ICC completion | 10 | MARC Camden Line | | CSX |
| 251 | 3.9 | ◒ | ◕ | ◕ | ◕ | ● | ◕ | Dorsey MARC station platform rehabilitation | 2 | MARC Camden Line | | CSX |
| 252 | 3.9 | ◒ | ◕ | ◕ | ◕ | ● | ◕ | New MARC Station at Camden Yards (Baltimore) | 10 | MARC Camden Line | | CSX |
| 261 | 3.9 | ◒ | ◕ | ◕ | ◕ | ● | ◕ | Add another Montgomery County MARC station or expand existing station | 25 | MARC Brunswick Line | | CSX |
| 268 | 3.9 | ◒ | ◕ | ◕ | ◕ | ● | ◕ | Point of Rocks MARC Station platform expansion and improved facilities | 2 | MARC Brunswick Line | | CSX |
| 159 | 3.8 | ◕ | ◒ | ◒ | ● | ● | ◕ | Canton Railroad improvements | 4 | Canton | | Canton |
| 180 | 3.8 | ◕ | ◒ | ◒ | ● | ● | ◕ | Reactivation of Canton Junction as part of Red Line Project | 5 | NS | | NS |
| 199 | 3.8 | ◒ | ◕ | ◕ | ◕ | ◕ | ◕ | Amtrak Perryville Substation Improvements | 0.5 | NEC | | Amtrak |
| 211 | 3.8 | ◒ | ◕ | ◕ | ◕ | ◕ | ◕ | Baltimore – Penn Station facilities upgrades | 60-65 | NEC | 212 | Amtrak |
| 130 | 3.7 | ◕ | ◒ | ◒ | ◔ | ● | ● | Aberdeen: CSXT track connection to NEC for freight | 70 | CSX | | CSX |
| 139 | 3.7 | ◕ | ◒ | ◒ | ◔ | ● | ● | Add connection track from Consol facility to CSX Hanover Subdivision | N/A | CSX | | CSX |
| 161 | 3.7 | ◒ | ◒ | ◒ | ◕ | ● | ● | Upgrade MDDE Snow Hill Line to 286K | 12 | MDDE | | MTA |
| 209 | 3.7 | ◕ | ◒ | ● | ◔ | ● | ◒ | Amtrak Signal Upgrades: MP 41 - 96 | 15 | NEC | 212 | Amtrak |

| ID | Overall Score | Quality of Service Score (20%) | Safety and Security Score (20%) | System Preservation Score (20%) | Environ-mental Stewardship Score (10%) | Community Vitality Score (10%) | Economic Prosperity Score (20.0%) | Project | Estimated Cost (Millions) | Line | 212 Potential | Ownership |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 278 | 3.7 | ◒ | ◕ | ◕ | ◔ | ● | ◕ | MTA investment in Washington Union Station Master Plan | TBD | MARC (All Lines) | 212 | Amtrak |
| 206 | 3.6 | ◔ | ◒ | ◒ | ● | ● | ● | Various Amtrak bridge improvements | 4 | NEC | | Amtrak |
| 237 | 3.5 | ◒ | ◒ | ◒ | ◒ | ◕ | ● | Sparrows Point rail improvements | TBD | Sparrows Point | | Private |
| 106 | 3.5 | ◕ | ◒ | ● | ◔ | ◒ | ◒ | NEC track stabilization/maintenance | 5 | NEC | 212 | Amtrak |
| 110 | 3.5 | ◕ | ◒ | ● | ◔ | ◒ | ◒ | Various interlocking and track upgrade projects | 50 | NEC | 212 | Amtrak |
| 132 | 3.5 | ◕ | ◔ | ◒ | ◔ | ● | ● | Jessup - Extend CSX freight leads east to Dorsey | 15 | CSX | | CSX |
| 179 | 3.5 | ◕ | ◒ | ◔ | ◕ | ● | ◕ | NS Bear Creek Branch connection to the NEC, link between Bayview and Dundalk | 12 | NS | | NS |
| 186 | 3.5 | ◕ | ◕ | ◕ | ◔ | ◒ | ◒ | Monocacy Boulevard crossing | 0.5 | WS | | MTA |
| 239 | 3.5 | ○ | ◕ | ◕ | ◕ | ● | ◕ | Canopy construction at Seabrook, Odenton, Bowie State, Martin Airport, and Perryville MARC Stations | TBD | MARC Penn Line | | MARC |
| 256 | 3.5 | ○ | ◕ | ◕ | ◕ | ● | ◕ | Parking facility expansions to be determined | TBD | MARC Camden Line | | MARC |
| 269 | 3.5 | ○ | ◕ | ◕ | ◕ | ● | ◕ | Germantown MARC Station parking garage | 10 | MARC Brunswick Line | | MARC |
| 270 | 3.5 | ○ | ◕ | ◕ | ◕ | ● | ◕ | Parking facility expansions to be determined | TBD | MARC Brunswick Line | | MARC |
| 271 | 3.5 | ◕ | ◕ | ◔ | ◕ | ◒ | ◕ | Brunswick MARC Station – additional access point | 2 | MARC Brunswick Line | | CSX |
| 175 | 3.4 | ◕ | ◒ | ◔ | ◒ | ● | ◕ | NS Port Road improvements | 4 | NS Port Road | | NS |
| 195 | 3.4 | ◕ | ◒ | ◒ | ◔ | ◔ | ● | Amtrak signal upgrades: MP 96 - 132 | 5 | NEC | | Amtrak |
| 217 | 3.3 | ◒ | ◕ | ◕ | ◔ | ◒ | ◒ | MARC Overnight Storage and Maintenance Facility – Penn Line north | 365 | MARC Penn Line | | MARC |
| 222 | 3.3 | ○ | ◒ | ◕ | ◕ | ● | ◕ | Odenton MARC Station – TOD, parking garage, and platform extension | 25 | MARC Penn Line | | MARC |

| ID | Overall Score | Quality of Service Score (20%) | Safety and Security Score (20%) | System Preservation Score (20%) | Environ-mental Stewardship Score (10%) | Community Vitality Score (10%) | Economic Prosperity Score (20.0%) | Project | Estimated Cost (Millions) | Line | 212 Potential | Ownership |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 234 | 3.3 | ◕ | ◒ | ◒ | ◔ | ◒ | ◕ | Maintain state of good repair Penn Station to Perryville | TBD | MARC Penn Line | 212 | Amtrak |
| 253 | 3.3 | ○ | ◕ | ◕ | ◕ | ◒ | ◕ | MARC ticketing improvements | 6 | MARC Camden Line | | MARC |
| 254 | 3.3 | ○ | ◕ | ◕ | ◕ | ◒ | ◕ | Install additional bike racks/lockers at MARC stations | 1 | MARC Camden Line | | MARC |
| 255 | 3.3 | ○ | ◕ | ◕ | ◕ | ◒ | ◕ | Increase EV chargers available to MARC riders | TBD | MARC Camden Line | | MARC |
| 280 | 3.3 | ○ | ◕ | ◕ | ◕ | ◒ | ◕ | Parking facility expansions to be determined | 105 | MARC Brunswick Line | | MARC |
| 163 | 3.2 | ◔ | ◕ | ◒ | ◔ | ◕ | ◕ | Rehabilitation of grade crossings | 10 | MDDE | | MTA |
| 171 | 3.2 | ◔ | ◕ | ◔ | ◒ | ● | ◕ | Upgrade Winchester and Western Railroad bridge over the Potomac River | 5 | Winchester and Western | | Winchester and Western |
| 191 | 3.2 | ● | ◒ | ◒ | ◔ | ◔ | ◒ | Hanson to Baltimore Track 1 and Track A upgrade | 15-20 | NEC | 212 | Amtrak |
| 192 | 3.2 | ◕ | ◒ | ◔ | ◔ | ◔ | ● | WAS-Gunpow high-density signals | 15-20 | NEC | 212 | Amtrak |
| 197 | 3.2 | ● | ◒ | ◒ | ◔ | ◔ | ◒ | Amtrak Jericho Park frequency converter upgrade | 4 | NEC | | Amtrak |
| 198 | 3.2 | ● | ◒ | ◒ | ◔ | ◔ | ◒ | Track 1 and Track A upgrades: Baltimore to Gunpow | 8 | NEC | 212 | Amtrak |
| 104 | 3.1 | ◕ | ◒ | ◒ | ◔ | ◒ | ◒ | Track upgrades: Prince to Perry, Gunpow to Biddle, Track A | 50 | NEC | | Amtrak |
| 108 | 3.1 | ◕ | ◒ | ◒ | ◔ | ◒ | ◒ | Paul Interlocking | 15 | NEC | | Amtrak |
| 229 | 3.1 | ○ | ◕ | ◔ | ◕ | ● | ◕ | Ticketing improvements | 6 | MARC Penn Line | | MARC |
| 235 | 3.1 | ◕ | ◒ | ◒ | ◔ | ◒ | ◒ | Increase capacity BWI Airport to New Carrolton | TBD | MARC Penn Line | | Amtrak |
| 245 | 3.1 | ○ | ◕ | ◔ | ◕ | ● | ◕ | Parking facility expansions to be determined | 75 | MARC Camden Line | | MARC |

| ID | Overall Score | Quality of Service Score (20%) | Safety and Security Score (20%) | System Preservation Score (20%) | Environ-mental Stewardship Score (10%) | Community Vitality Score (10%) | Economic Prosperity Score (20.0%) | Project | Estimated Cost (Millions) | Line | 212 Potential | Ownership |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 272 | 3.1 | ◕ | ◒ | ◔ | ◔ | ◒ | ◕ | Brunswick MARC Maintenance Service Facility expansion | 10 | MARC Brunswick Line | | CSX |
| 273 | 3.1 | ○ | ◕ | ◕ | ◔ | ◒ | ◕ | E-Ticketing | 6 | MARC Brunswick Line | | MARC |
| 274 | 3.1 | ○ | ◕ | ◕ | ◔ | ◒ | ◕ | Install additional bike racks/lockers at MARC stations | 1 | MARC Brunswick Line | | MARC |
| 275 | 3.1 | ○ | ◕ | ◕ | ◔ | ◒ | ◕ | Increase EV chargers available to MARC riders | TBD | MARC Brunswick Line | | MARC |
| 188 | 3 | ◕ | ◒ | ◒ | ◔ | ◔ | ◒ | Bridge Interlocking renewal | 2 | NEC | | Amtrak |
| 189 | 3 | ◕ | ◒ | ◒ | ◔ | ◔ | ◒ | Amtrak B&P Tunnel rail and tie replacement | 10-15 | NEC | 212 | Amtrak |
| 190 | 3 | ◕ | ◒ | ◒ | ◔ | ◔ | ◒ | Hanson Interlocking upgrade | TBD | NEC | 212 | Amtrak |
| 193 | 3 | ◕ | ◒ | ◒ | ◔ | ◔ | ◒ | Odenton M/W Facility upgrades | 1 | NEC | | Amtrak |
| 200 | 3 | ◕ | ◒ | ◒ | ◔ | ◔ | ◒ | Biddle Interlocking renewal | 0.5 | NEC | | Amtrak |
| 201 | 3 | ◕ | ◒ | ◒ | ◔ | ◔ | ◒ | Point Interlocking renewal | 2 | NEC | | Amtrak |
| 202 | 3 | ◕ | ◒ | ◒ | ◔ | ◔ | ◒ | Perry turnout replacement | 2 | NEC | | Amtrak |
| 203 | 3 | ◕ | ◒ | ◒ | ◔ | ◔ | ◒ | Magnolia Interlocking renewal | 2 | NEC | | Amtrak |
| 204 | 3 | ◕ | ◒ | ◒ | ◔ | ◔ | ◒ | River Interlocking renewal | 4 | NEC | | Amtrak |
| 205 | 3 | ◕ | ◒ | ◒ | ◔ | ◔ | ◒ | Bay Interlocking renewal | 3 | NEC | | Amtrak |
| 207 | 3 | ◒ | ◒ | ◒ | ◔ | ◔ | ◕ | Perryville M/W Facility Upgrades | 1 | NEC | | Amtrak |
| 183 | 2.9 | ◕ | ◒ | ◔ | ◔ | ◒ | ◒ | Potential transload facility for Propane | 1 | Maryland Midland | | Genesee and Wyoming |
| 184 | 2.9 | ◕ | ◒ | ◔ | ◔ | ◒ | ◒ | Potential rehab on MDOT sub north from MP 18.6 to MP 22.6 | 0.5 | Maryland Midland | | Genesee and Wyoming |
| 185 | 2.9 | ◕ | ◒ | ◔ | ◔ | ◒ | ◒ | Extend passing runaround track at WS yard | 0.3 | WS | | MTA |
| 187 | 2.9 | ◒ | ◒ | ◕ | ◔ | ◒ | ◔ | Fountain Rock crossing | 0.25 | WS | | MTA |
| 232 | 2.9 | ◕ | ◒ | ◔ | ◔ | ◒ | ◒ | MARC service extension to L'Enfant Plaza and Northern Virginia | TBD | MARC Penn Line | | MARC |

| ID | Overall Score | Quality of Service Score (20%) | Safety and Security Score (20%) | System Preservation Score (20%) | Environ-mental Stewardship Score (10%) | Community Vitality Score (10%) | Economic Prosperity Score (20.0%) | Project | Estimated Cost (Millions) | Line | 212 Potential | Ownership |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 233 | 2.9 | ○ | ◕ | ◔ | ◔ | ● | ◕ | Station platform rehabilitation (locations to be determined) | 50 | MARC Penn Line | | MARC |
| 220 | 2.9 | ○ | ○ | ◕ | ◕ | ● | ◕ | Parking facilities expansion to be determined | TBD | MARC Penn Line | | MARC |
| 160 | 2.8 | ◔ | ◔ | ◔ | ◔ | ◕ | ● | New interchange between Maryland Midland Railway and York Railway (Taneytown MD – Hanover PA) | 0.5 | Maryland Midland | | Genesee and Wyoming |
| 169 | 2.7 | ◔ | ◕ | ◕ | ○ | ◔ | ◒ | Rehabilitate/replace drainage culverts in New Castle County, Delaware | 2 | MDDE | | MTA |
| *280* | 2.7 | ◔ | ◒ | ◕ | ○ | ◔ | ◒ | Repair rail freight bridges and culverts (Eastern Shore) | TBD | MDDE | | MTA |
| 281 | 2.7 | ◔ | ◒ | ◕ | ○ | ◔ | ◒ | Repair rail freight bridges and culverts (Frederick County) | TBD | WS | | MTA |
| 246 | 2.7 | ◔ | ◒ | ◔ | ◔ | ◒ | ◕ | Laurel MARC Station state of good repair | 6 | MARC Camden Line | | CSX |
| 247 | 2.7 | ◔ | ◒ | ◔ | ◔ | ◒ | ◕ | Muirkirk MARC Station state of good repair | 6 | MARC Camden Line | | CSX |
| 248 | 2.7 | ◔ | ◒ | ◔ | ◔ | ◒ | ◕ | Laurel Park Racetrack Station state of good repair | 6 | MARC Camden Line | | CSX |
| 126 | 2.6 | ◔ | ◔ | ◔ | ◔ | ◕ | ◕ | North Maryland second main: Add one-mile second main track on CSX Sparrows Point Branch | 4 | CSX | | CSX |
| 124 | 2.5 | ◔ | ◒ | ◔ | ◔ | ◒ | ◒ | CSX Bay View Yard runaround track | 10 | CSX | | CSX |
| 165 | 2.5 | ○ | ○ | ◒ | ◔ | ● | ◕ | Rehabilitate fertilizer transloading facilities | 15 | MDDE | | MTA |
| 168 | 2.5 | ○ | ○ | ◒ | ◔ | ● | ◕ | Construct siding and transloading facility (Upper Shore) | 25 | MDDE | | MTA |
| 158 | 2.4 | ◔ | ○ | ◔ | ○ | ● | ◕ | Bay Coast improvements | 17 | Bay Coast | | ANTD |
| 166 | 2.4 | ◔ | ○ | ◔ | ○ | ● | ◕ | MDDE storage capacity improvements | 1 | MDDE | | MTA |
| 167 | 2.3 | ○ | ● | ◔ | ○ | ◔ | ◔ | Stabilize inactive lines to maintain safety and drainage | 35 | MTA | | MTA |

| ID | Overall Score | Quality of Service Score (20%) | Safety and Security Score (20%) | System Preservation Score (20%) | Environ-mental Stewardship Score (10%) | Community Vitality Score (10%) | Economic Prosperity Score (20.0%) | Project | Estimated Cost (Millions) | Line | 212 Potential | Ownership |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 182 | 2.2 | ◔ | ◔ | ◒ | ◔ | ◔ | ◔ | Potential rehab of Walkersville Southern Line | TBD | WS | | MTA |
| 162 | 2 | ◔ | ○ | ◒ | ◔ | ◔ | ◔ | Rehabilitation and upgrade of all active lines | TBD | MDDE | | MTA |
| 172 | 1 | ○ | ○ | ○ | ○ | ○ | ○ | Various WMSRy Improvements | 2 | WMSRy | | WMSRy |

Project Evaluation Key:

| Low | Medium Low | Medium | Medium High | High |
|---|---|---|---|---|
| ○ | ◔ | ◒ | ◕ | ● |

## 6.4 RAIL FUNDING PLAN

This project list identifies public and private rail needs through 2040. The major challenge of implementing the Plan is identifying funding to meet the needs. Funding for rail programs in Maryland is available from various sources depending on the ownership of the rail assets, the magnitude of the project, and the degree to which passenger rail is part of the project mix. MARC commuter rail projects – including capital infrastructure, stations, and rolling stock – are often supported in full or in part by funding from the State. Yet the need for funding almost always exceeds the available resources. There are some exceptions – like the special infusion of funds such as those provided from the 2013 Transportation Infrastructure Investment Act to fund MARC weekend service and locomotive replacements. Amtrak provides funding for some of its own projects, but because its funding is contingent upon Congress, and because the costs of needed megaprojects are substantial, there is a persistent sense of uncertainty about which projects may be realized. The federal HSIPR grants have made many projects possible on the NEC, including preliminary engineering for major investments. Like MARC, Amtrak needs exceed available funding, often leaving the commuter system and Amtrak unable to make long-term commitments toward some major projects. Given the need to replace aging infrastructure like the bridges and tunnels on the NEC, the lack of predictable funding complicates long-term planning.

Maryland's freight railroads fund the majority of their own investment needs, but in some circumstances they join with public agencies on projects of mutual benefit. Both CSX and Norfolk Southern have recently applied for and obtained Federal funding for projects through the TIGER grant program. The State, on a discretionary basis, has provided funding for short line improvements, especially on State-owned lines operated by MDDE. The State is also pursuing innovative financing strategies in order to supplement existing funding resources. Innovative financing strategies may enable Maryland to more rapidly advance the projects identified in this Plan.

# 7.0 Rail Safety and Security

## 7.1 RAIL SAFETY BACKGROUND

Regulations pertaining to rail safety are promulgated by the FRA. These rules set safety requirements for freight railroads dealing with the interchange of railroad cars and equipment and all commuter and intercity passenger carrying railroads (excluding light-rail and heavy-rail (metro) facilities). Federal rail safety regulations and laws preempt state rail safety laws. Maryland's rail safety laws are under the jurisdiction of the Department of Labor, Licensing, and Regulation (DLLR).

The Rail Safety Improvement Act of 2008 mandates implementation of positive train control (PTC) technology by 2015 on certain main lines. PTC refers to a variety of systems designed to avoid train-to-train collisions, over-speed derailments, and injuries to railway workers working within their limits of authority. The FRA issued regulations governing this new requirement, and railroads submitted PTC implementation plans to the FRA in April 2010.

Class I railroads operating in Maryland have submitted PTC implementation plans to the FRA. According to FRA regulations, railroads are required to describe the extent of their network equipped with PTC, the installation of wayside equipment, the numbers of locomotives equipped, and an overall implementation risk mitigation strategy. Because this detailed information is not available for all Class I railroads in Maryland, it is not possible to estimate PTC implementation in Maryland.

Other Federally mandated rail safety requirements include:

- **Train Horn Use and Quiet Zones –** The conditions for creating a quiet zone – a corridor of adjacent highway-rail grade crossings at which locomotives do not sound train horns – are governed by FRA rules and overseen by FRA grade crossing staff in the FRA's eight regions, including the FRA Region 2 office in Philadelphia which has jurisdiction over Maryland.
- **Routing of Hazardous Materials Shipments –** The FRA, the Pipeline and Hazardous Materials Safety Administration, and the railroads manage the direction of how hazardous materials are routed along rail lines through urban areas under Federal law.
- **Bridge Management Plans –** The 2008 Rail Safety Improvement Act requires railroads to implement bridge management programs in order to keep records on bridge conditions, maintenance, and inspections. These programs are required to maintain inventory records on all bridges for load capacity, design, maintenance, and inspection records, a program for regular bridge inspections once a year, and requirements for bridge engineers who assess

bridge capacity, bridge inspectors who inspect bridges, and bridge supervisors who supervise maintenance or construction.

- **Tank Car Safety Standards –** The FRA works with the Transportation Security Administration (TSA) to set new tank car safety standards. The FRA tracks tank cars manufactured prior to 1989 made of brittle steel proven to contribute to high-energy derailments.

## 7.2 RAIL SAFETY ENFORCEMENT

The rail safety program's primary concerns are enforcement of state and Federal rail safety standards for track, locomotives, freight cars, signal and train controls; operating practices of employees; and transportation of hazardous materials. The state program must comply with requirements of "State Safety Participation Regulations" (49 C.F.R., Part 212) and participate with the FRA in the enforcement of Federal standards. These regulations specify requirements for inspector training and coordination with FRA regional offices and are governed by a multiyear agreement between the state and the FRA.

A rail safety inspector is qualified in one of the FRA's safety disciplines:

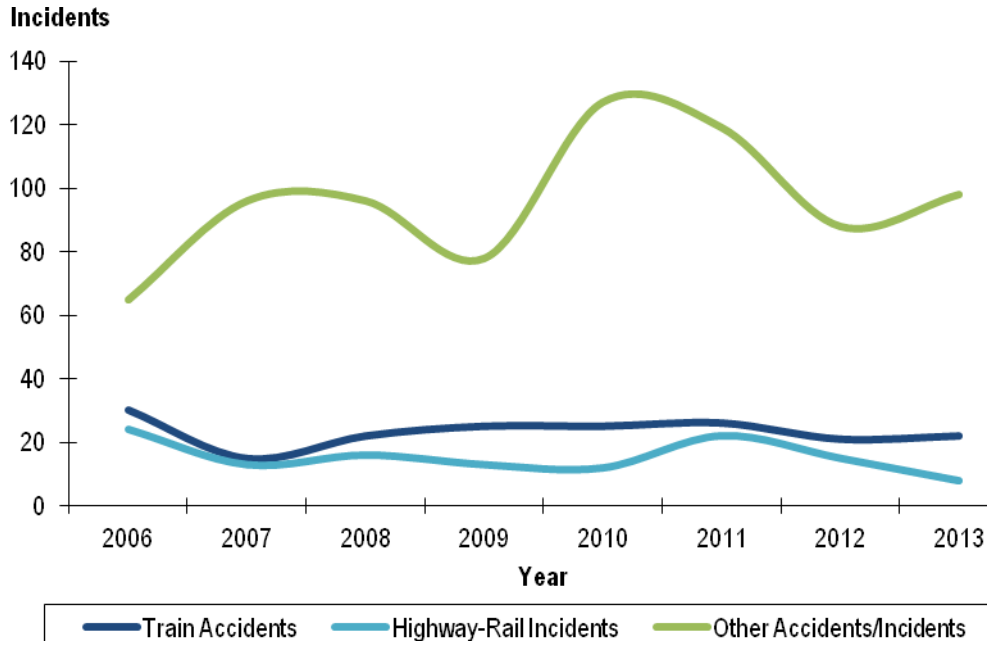
- Track (which includes bridges);
- Motive power and equipment (MP&E);
- Operating practices (OP);
- Signal and train controls (STC); or
- Hazardous materials (hazmat).

DLLR has three Federally certified rail safety inspectors, one each for track, operating practices, and motive power and equipment.

## 7.3 RAIL SAFETY STATISTICS

Rail safety performance in Maryland has remained fairly constant since 2006 for train accidents and highway grade accidents. The exception is "Other Accidents/Incidents," which includes pedestrian or trespasser incidents other than highway-rail grade crossings. Figure 7.1 shows the recent history of rail accidents and incidents by general type of rail accident.

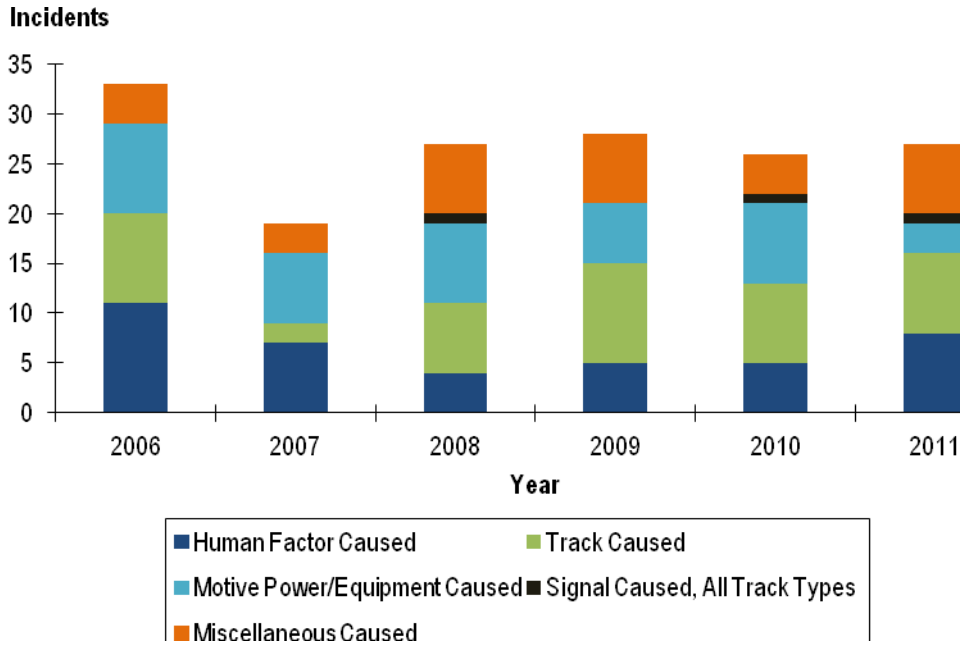
**Figure 7.1 Maryland Rail Accidents**
*2006-2013*




Source: FRA Safety Database.

Figure 7.2 displays the causes of the train accidents shown in Figure 7.1. The graph illustrates a reduction in track and human factor-related accidents after 2007.

**Figure 7.2 Train Accidents by Cause**
*2002-2011*




Source: FRA Safety Database.

Impacts of these rail incidents can be expressed in personal terms, considering the injuries or fatalities associated with these incidents. Table 7.1 reveals the rail fatalities associated with the types of persons involved in the incidents, which matches the relative proportions of rail accidents shown in Figure 7.1.

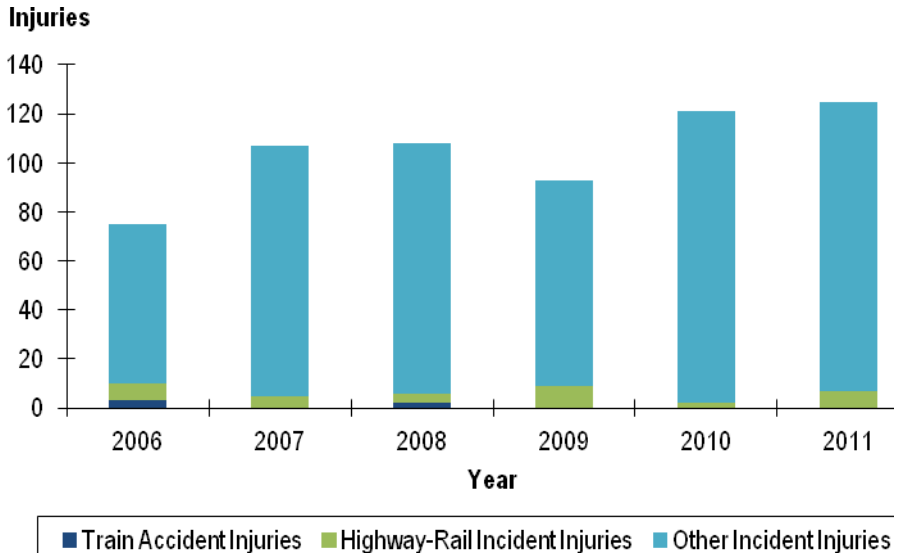
**Table 7.1 Rail Accident/Incident Fatalities**
*2002-2011*

| Category | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|---|---|---|---|---|
| Employee on duty deaths | – | – | – | 1 | – | – | 1 | – | – | 1 |
| Highway-rail incidents deaths | – | – | – | 1 | 1 | 1 | – | – | – | 4 |
| Other incident deaths | 9 | 7 | 10 | 11 | 10 | 9 | 8 | 5 | 16 | 10 |
| Train accident deaths | – | 1 | – | – | – | – | – | – | 1 | – |
| **Total fatalities** | **9** | **8** | **10** | **12** | **11** | **10** | **9** | **5** | **17** | **14** |

Source: FRA Safety Database.

Figure 7.3 shows the nonfatal injuries for rail accidents and incidents.

**Figure 7.3 Nonfatal Injuries from Rail Accidents/Incidents**
*2002-2011*




According to FRA statistics, Maryland has 1,302 highway-rail grade crossings with an equal percentage public crossings and private crossings. SHA is responsible for grade crossing program implementation, administering Federal highway set-aside funding for grade crossing protection. Of the State's 628 public crossings, only a passive cross-bucks sign protects 32 percent, 31 percent have lights, and 19 percent have lights and gates.

## 7.4 RAIL SECURITY

Since the CSX Howard Street Tunnel fire in Baltimore on July 18, 2001, and the September 11, 2001 terrorist attack on the U.S., Federal Homeland Security officials and freight railroads have greatly increased their emphasis on preventative security measures on the U.S. freight rail system. The major concerns involve the operational handling and tracking of railcars that carry Toxic Inhalation Hazard (TIH) materials, which can cause fatalities if released into the atmosphere. Certain characteristics of the freight rail system make it vulnerable and difficult to secure as many sections of rail infrastructure traverse densely populated urban areas. The ability to prevent attacks on infrastructure such as tunnels or bridges requires surveillance technology, locality assistance, and the efficient training and use of railroad employees as an extra set of eyes in the field. The interdependency of freight and passenger rail operations that share bridges, tunnels, control centers, tracks, signals, and switches, increases the impact of potential security threat on a system that carries freight and passengers. MDOT's Offices of Homeland Security and Emergency Management (OHS) work with all railroads to stay abreast of security issues and threats.

Most of the information involving specific security efforts, procedures, and intelligence gathering by the railroads is considered classified and is usually only available to a select few that operate in the departments of transportation safety and security. Improvements to the networks and operations allow for more secure transport of freight and passengers. The U.S. Department of Homeland Security (DHS) has identified the need for improvements in three areas to help prevent high-risk incidents.

First, railroads must attempt to reduce the dwell time of standing, unattended, loaded, and toxic inhalation hazard cars in high-threat urban areas.

Second, the DHS is concerned about a lack of robust standardized security planning at the corporate and facility level for all railroad operations. TSA plans to close this gap through robust security measures, which could include possible rule-making.

Third, improved worker security awareness training to enhance the security of the freight rail network is critical because often railroad employees are the first line of defense against preventing and detecting acts of terrorism.

Over the past eight years, MTA has received Transit Security Grant Program funding for procurement and installation of an intelligent CCTV surveillance system at its Metro, Light Rail and MARC passenger stations. The installations have been completed in phases, with the most recent Phase IV given notice-to-proceed in December 2013. Phases II, III and IV have all included MARC stations, with the latter adding significantly to video coverage of the MARC Penn Line. Phase II included Camden Station (Camden Line), which was completed in June 2009. Phase III included BWI Airport, Odenton and New Carrolton, which were completed in 2013. Rockville, on the Brunswick Line, was also part of Phase III. CCTV has been installed at the Rockville station with remote monitoring pending final fiber connectivity to the site. Phase IV will complete the Penn Line Stations with the exception of Union Station. Perryville and Seabrook was completed in July 2014 with Aberdeen, Edgewood, Martin State Airport, Penn Station, West Baltimore, Halethorpe and Bowie Station scheduled for completion in May 2015. College Park Station (Camden Line) will also be completed under Phase IV in May 2015. At the completion of Phase IV, over $7 million will have been spent providing video surveillance coverage at the MARC Stations. Video coverage includes all public areas in and around the station platforms. The system is remotely monitored at MTA's Police Monitoring Facility (PMF).

# 8.0 Implementation and Action

This plan identifies rail investment projects that, if implemented, would improve freight, commuter, and intercity passenger rail operations and productivity throughout the State. This section outlines steps and identifies tools to help the State advance a proactive rail agenda that matches actions to challenges, the greatest of which is funding rail projects.

## 8.1 ACTION PLAN TO GUIDE NEXT STEPS

To implement the investments and program changes necessary to better accommodate today and tomorrow's rail demand, the State should advance the following actions.

### Step 1 – Review/Adopt Prioritized Projects

The State invested significant energy and time to identify, organize, and prioritize rail investments. The next step is to determine which projects to move forward into programming and implementation by way of inclusion into MDOT's capital program, the Maryland CTP. In the future, rail projects will need to be aligned with the Joint Benefit program, PRIIA Section 212 and FTA Assessment Management Plan.

### Step 2 – Identify Funding

The greatest obstacle to implementation is funding. With more than $12 billion in unfunded needs identified through this Plan, the State will have to pursue Federal funding sources, boost state spending, and establish P3s to close the gap between available resources and rail infrastructure needs. The likelihood of funding will be the major filter limiting progression of freight projects through MDOT's capital program. While a number of the rail projects in this Plan are those of private entities, the need for rail infrastructure improvements is so great that a focused effort on helping these companies and entities such as Amtrak to advance is critical for the State and regional rail sustainability.

### Step 3 – Raise Awareness

This Plan serves as a means of communicating rail needs to policy-makers and businesses in the State. In the future, the Plan should help sustain the rail planning actions of MDOT by expanding the base of advocates for rail transportation projects and programs. One key action may be the presentation of Plan concepts and findings at future state freight summits and other venues throughout the region. Continued participation in the NEC Commission will help to raise awareness to the critical projects on the NEC, and involvement in other organizations and efforts may help with the freight rail needs.

## Step 4 – Seek Institutional Support and Outreach

MDOT should continue to engage its internal and external rail stakeholders groups in regular, meaningful, and actionable dialogue to preserve the momentum of this effort and to advance the needs and actions contained in the Plan for freight rail projects. One potential venue for this dialogue is the Maryland Freight Stakeholder Advisory Committee which is comprised of public and private-sector rail and freight stakeholders. In addition, the State should seek ways to expand the circle of stakeholders through regional outreach meetings, and increased engagement of the State's MPO freight coordinators.

## Step 5 – Continue Planning

To keep pace with ever-changing economic and political conditions, MDOT will update some elements of the Plan on a continuous basis and will update the entire Plan on a five-year cycle to maintain a living document that reflects current and anticipated conditions, especially given ongoing planning and engineering activities by the NEC Commission, Amtrak, and FRA on the NEC. The next full update of the Plan will also adhere closely to the newly established FRA guidance for state rail plans.

### *Funding Assessment and Financing Strategies*

MDOT has been successful in garnering over $93 million in federal funding for freight, commuter, and intercity passenger rail projects within the State. The State should continue to pursue Federal funding and should also explore innovative financing strategies and funding to advance the projects identified in this Plan. Federal financing tools, such as loans, credit enhancement, and tax-exempt financing programs, and other programs can help address rail transportation needs. Federal funding is available through traditional transportation agencies (U.S. DOT, FRA, etc.) but also through non-transportation agencies. Federal funds can be used for a variety of freight-related projects and the Federal share of projects is often based on a sliding scale and can cover up to the full cost of a project.

Another option for Federal funding is the Congestion Mitigation and Air Quality Improvement Program (CMAQ), which funds transportation projects and programs that improve air quality. CMAQ funds have been used for freight-related projects that improve air quality by reducing truck, locomotive, or other emissions. Examples of CMAQ-funded freight projects include construction of intermodal facilities for moving containers from highways onto rail, defraying barge operating costs, rail track rehabilitation, diesel engine retrofits, idle-reduction projects, and new rail sidings.

At the state level, grant and loan programs and financing tools are used to facilitate rail investments. A number of states have programs ranging from direct financial assistance (loans and grants) funded through sources such as bond revenues. Among the states with established programs to fund freight, Maryland does not currently have a dedicated rail funding mechanism, although several states have established such programs. Instead, Maryland has a flexible Transportation Trust Fund to allow funding for all modes with options for P3s and grants for rail improvements. At times the Transportation Trust Fund has been utilized, to encourage rail use through siding development and other improvements.

Among the states with established programs to fund freight projects, there is no predominant approach. The State may consider researching the feasibility and scope of a rail funding program that best fits its needs.

## 8.2 INSTITUTIONAL AND ORGANIZATIONAL RELATIONSHIPS

To effectively carry out the projects, programs, and policy directions suggested by this Plan, the State should formalize the institutional rail planning regime that has evolved during the development of this Plan and through other activities of the OPCP and the OFM. The current rail structure consists of:

- **OPCP** offering statewide planning and multimodal integration advice, and as the planning arm of the Secretary's Office, continuing to serve in a custodian role over the capital program and all planning activities.
- **OFM** providing day-to-day monitoring and management of rail activities and programs, including state support of short line rail services and liaison to state, regional, and local agencies engaged in freight rail operations and planning activities, such as economic development officials or safety officials. Additionally, OFM oversees intercity passenger rail project planning and implementation and the management of the State's HSIPR projects and coordination with Amtrak.

Beyond OPCP and OFM, several other state agencies engage in rail planning and policy activities. Representatives of these agencies are members of the Interagency Advisory Committee (IAC) as shown in Table 8.1. The IAC met at key milestones during the development of the Statewide Freight Plan and periodically now that the plan is in implementation mode.

**Table 8.1 Interagency Advisory Committee**

| Agency | Role | Freight Activities |
|---|---|---|
| Office of Freight and Multimodalism | Lead | Motor carrier support, freight rail support, regional coordination and planning, passenger/intercity passenger rail policy and program management |
| Office of Planning and Capital Programming | Co-lead | Statewide multimodal planning and coordination |
| Maryland Port Administration | Member | Oversight, planning, administration of Port of Baltimore |
| Maryland Aviation Administration | Member | Air cargo planning, management, promotion at BWI and other airports |
| Maryland Transit Administration | Member | Commuter Rail and Transit Operations, Policy and Planning, Capital Program for Short Lines |
| State Highway Administration | Member | Highway coordination, grade crossing management |
| Office of Real Estate | Member | Real Estate, TOD Coordination |

The other important institutional body supporting freight rail planning activities in Maryland and advocating for implementation is the Freight Stakeholder Advisory Council (FSAC). This group was formed during the Statewide Freight Plan development, and it convened several times at important milestones. Members include executive-level representatives of trucking companies, freight-rail carriers, steamship lines, major shippers, and facility operators. In addition, U.S. DOT representatives of FHWA and FRA participate. In the future, the FSAC should meet on a more regular basis to inform MDOT, other state agencies, or the General Assembly of private-sector freight needs.

## 8.3 EXTERNAL COORDINATION

To strengthen and engage state agencies and the rail firms, MDOT should continue to cultivate freight planning relationships with neighboring states. Interaction with Delaware (on Delmarva freight issues) and other neighboring states will result in more careful planning and mutually beneficial investments for the region. Similarly, continued involvement with the I-95 Corridor Coalition's freight planning efforts will improve both Maryland and corridor states' goods movement actions.

## 8.4 CONTINUING PERFORMANCE OVER TIME

A comprehensive and consistent set of performance measures of the rail transportation system in Maryland is essential for ensuring the continued movement of goods by rail. Rail-specific performance measures help to identify needed transportation improvements and monitor their effectiveness. The need to allocate resources wisely is vital if Maryland is to meet its goals of providing a high standard of service quality, maintaining safe and secure systems, improving the efficiency and performance of the existing network, protecting and preserving Maryland's environment, and pursuing increased system connectivity. In Maryland, continually evaluating the performance of the transportation system is legally mandated for MDOT and other State agencies.

Maryland has several options in place to advance rail performance measurement. MDOT already has in place processes that track performance measures, which also can be used to evaluate the movement of rail. The annual Attainment Report on Transportation System Performance presents performance results from MDOT and its five modal agencies and shows progress towards strategic goals and objectives that guide transportation decisions in Maryland. OFM established a freight performance measure program that synthesizes measures already captured by the modal administrations. The State could utilize measures provided by Amtrak and MARC – such as on-time performance, passenger miles, and others to evaluate passenger system performance.

# 9.0 Compilation of Studies and Reports for Rail

The following is a list of the planning and study efforts in which the State currently is engaged or was recently involved and completed. Many of these studies are available on the MDOT web site at www.mdot.state.md.us under the Office of Freight and Multimodalism web page.

- Northeast Corridor Studies:
  - NEC FUTURE Tier 1 Environmental Impact Study and Service Development Plan
  - NEC Infrastructure 2010 Master Plan;[26] and
  - The Amtrak Vision for the Northeast Corridor 2012 Update Report
  - http://www.amtrak.com/ccurl/453/325/Amtrak-Vision-for-the-Northeast-Corridor.pdf
  - NEC Commission:
    - » Programmatic Environmental Impact Statement;
    - » Service Development Plan; and
    - » Other studies.
- HSIPR Studies:
  - Amtrak's B&P Tunnel;
  - Amtrak's Susquehanna River Bridge; and
  - BWI Rail Station Improvements and 4th Track.
- Baltimore's Railroad Network: Challenges and Alternatives:
  - 2005 Report http://www.fra.dot.gov/rpd/passenger/1605.shtml; and
  - 2011 Report http://www.fra.dot.gov/rpd/downloads/BaltimoreRailroadNetworkReport.pdf.
- MARC Growth and Investment Plan http://mta.maryland.gov/sites/default/files/marcplanfull.pdf.
- CSX National Gateway http://www.nationalgateway.org/.

[26] http://www.amtrak.com/ccurl/870/270/Northeast-Corridor-Infrastructure-Master-Plan.pdf.

- Norfolk Southern Crescent Corridor http://www.thefutureneedsus.com/crescent-corridor/.
- I-95 Corridor Coalition http://www.i95coalition.org/i95/Projects/ProjectDatabase/tabid/120/agentType/View/PropertyID/178/Default.aspx:
  - Mid Atlantic Rail Operations Report I; and
  - Mid Atlantic Rail Operations Report II.
- Maryland Statewide Freight Plan.
- National Transit Database, www.ntdprogram.gov.
- http://www.mdot.maryland.gov/Office_of_Planning_and_Capital_Programming/Freight_Planning/Documents/Freight_Plan_Final.pdf.
- National Rail Plan Progress Report, http://www.fra.dot.gov/eLib/Details/L02696.

# A. Section-by-Section Analysis of PRIIA

## Title I – Authorizations

### *Section 101. Authorization for Amtrak capital and operating expenses.*

This section would authorize capital and operating grants to Amtrak for each of the Fiscal Years 2009 through 2013. Operating grant authorizations are as follows:

- FY 2009: $530 million;
- FY 2010: $580 million;
- FY 2011: $592 million;
- FY 2012: $616 million; and
- FY 2013: $631 million.

This section would authorize capital grants for the national railroad transportation system, for expenses to bring the Northeast Corridor to a state of good repair, and to make grants directly to states for other intercity rail passenger improvements under section 301. Capital grant authorizations are as follows:

- FY 2009: $715 million;
- FY 2010: $975 million;
- FY 2011: $1.02 billion;
- FY 2012: $1.275 billion; and
- FY 2013: $1.325 billion.

One-half of one percent of the available capital funds would be available to the DOT Secretary to perform project management oversight for Amtrak and state capital projects funded under this section.

### *Section 102. Repayment of long-term debt and capital leases.*

Funds would be authorized to be appropriated to pay interest and principal on Amtrak's long-term debt for Fiscal Years 2009 through 2013. The average amount authorized per year for interest and principal repayment is $280 million. Funds also would be authorized, to the extent necessary, to exercise early buyout of existing Amtrak debt or capital leases, if advantageous to Amtrak and therefore the taxpayers.

### *Section 103. Authorization for the Federal Railroad Administration.*

This section authorized to be appropriated to FRA such funds as are necessary to implement responsibilities authorized by this Act for Fiscal Years 2009 through 2013.

## Title II – Amtrak Reform and Operational Improvements

### *Section 201. National railroad passenger transportation system-defined.*

The definition of the basic Amtrak route system, which has been obsolete since 1997, would be repealed, and a new "national rail passenger transportation system" would be defined as: Amtrak's Boston Washington NEC; high-speed corridors designated by the DOT Secretary once they have been improved for high-speed service; long-distance routes (of greater than 750 miles) operated on the date of enactment of the Act; and short-distance routes operated by Amtrak or a non-Amtrak recipient of Federal capital assistance under section 301. Amtrak and a state may agree on the operation of an intercity route or service not included in the National Rail Transportation System.

Subsection (c) states that Amtrak's general powers to develop and operate non-high-speed intercity service are unaffected by this bill.

Subsection (d) states that the provision of law pertaining to the discontinuance of Amtrak routes applies to all routes operated by Amtrak regardless of a route's inclusion in the National Railroad Passenger Transportation System. This provision affirms that a route's inclusion in the National Railroad Passenger Transportation System does not protect that route from possible discontinuance.

### *Section 202. Amtrak board of directors.*

Effective, October 1, 2007, the Amtrak Board would be expanded to nine members as follows: the DOT Secretary, the President of Amtrak, and seven individuals with experience in transportation, freight and passenger rail transportation, travel, hospitality, cruise line, or passenger air transportation businesses, or representatives of employees or users of passenger rail transportation or a state government, who are appointed by the President of the United States, by and with the advice and consent of the Senate, for a term of five years or until their successors have been appointed and qualified. The President would be required to consult with Congressional leaders to ensure balanced representation of regions served by Amtrak. Members of Amtrak's Board serving on the date of enactment of the Act would be allowed to continue to serve to the end of their terms.

### *Section 203. Establishment of improved financial accounting system.*

Section 203 would direct Amtrak to implement a modern accounting and reporting system that enables the railroad to: assign revenues and expenses to each of its lines of business and major activities, such as train operations,

equipment maintenance, ticketing, and reservations; separate costs of infrastructure and rail operations; analyze ticketing and reservation data on a real time basis; and provide cost accounting data. This section would further require the DOT IG to review the accounting system and ensure it accomplishes the specified purposes.

### *Section 204. Development of five-year financial plan.*

This section would require Amtrak to submit its annual budget for the next fiscal year and a five-year financial plan to DOT on the first day of the fiscal year or 60 days after enactment of an appropriation for such fiscal year. The budget should specify how Amtrak plans to spend its Federal subsidy that it has received in the appropriations act. This budget would be distinct from the budget request that Amtrak submits to the Administration and Congress.

The five-year plan shall include projected revenues, expenditures, ridership, capital funding requirements, cash flow forecasts, and an assessment of Amtrak's continuing financial stability. The DOT IG shall report to the Congress on the annual budget and the five-year plan prepared by Amtrak.

### *Section 205. Restructuring long-term debt and capital leases.*

This section authorizes the Treasury Secretary, in consultation with the DOT Secretary and Amtrak, to be able to enter agreements to restructure Amtrak's debt. The provision would direct the Treasury Secretary to enter into negotiations with the holders of such debt for the purpose of restructuring and assuming, or repaying, the debt on terms significantly more favorable to the U.S. Government. To the extent Amtrak's principal and interest payments would be reduced as a result of this section, authorizations for such payments under section 102 of this Act are correspondingly reduced. Amtrak may incur no new debt without advance approval of the DOT Secretary.

### *Section 206. Establishment of grant process.*

This section would require the DOT Secretary to establish substantive and procedural requirements for Amtrak grant requests. The requirements should include controls that ensure that Federal funds appropriated for capital projects are not diverted to cover operating costs. After Amtrak submits a complete grant request, including a schedule for funding, the Secretary must approve or disapprove it within 30 days. If the request is denied, the Secretary must notify Amtrak of the reasons, and Amtrak must submit a modified request within 15 days. If the Secretary denies the modified request, the Secretary must, within 15 days of its receipt, notify the appropriate House and Senate Committees of the reasons for such disapproval and recommend a process for resolving the outstanding issues. This grant process would provide additional Federal oversight ensuring that funds appropriated for the use of Amtrak are used efficiently and for purposes consistent with this Act.

### *Section 207. Metrics and standards.*

This section would provide that, in consultation with STB and the operating freight railroads, FRA and Amtrak will jointly develop metrics and standards for measuring the performance and service quality of intercity train operations within 180 days after the date of enactment of the Act. These metrics and standards would include cost recovery; on-time performance; ridership per train mile; on board and station services; and the connectivity of routes. This section would require FRA to publish a quarterly report on train performance and service quality.

### *Section 208. Methodologies for Amtrak route and service planning decisions.*

This section would direct FRA to retain a consultant to develop and recommend objective methodologies for route and service decisions, including expansion or elimination of services. Cost recovery and on-time performance of existing routes, connections with other routes, transportation needs of communities not served by other public transportation services, and the methodologies used by rail service providers in other countries must be considered. The Amtrak Board would be required to consider adoption of the consultant's recommendations.

### *Section 209. State-supported routes.*

Within two years after the date of enactment of the Act, Amtrak, in consultation with the Secretary and the Governor of each state, would be required to develop a standardized methodology for computing and allocating operating and capital costs of short-distance routes of 750 miles or less. Within five years after the date of enactment of the Act, the new methodology must be implemented and ensure equal treatment to all states supporting short-distance service. In the event of a failure to adopt and implement such a methodology, STB would be required to develop and implement an allocation methodology. Grants to a state described under section 301 would be available to pay capital costs under this section. Currently Federal financial participation for corridor routes varies widely. In some cases the Federal Government supports the full subsidy, in other cases the routes are supported exclusively by state funds. The purpose of this provision is to standardize Federal participation across all corridors.

### *Section 210. Long-distance routes.*

Using the metrics and standards developed under section 207, Amtrak would be required annually to evaluate each long-distance route. Further, Amtrak would be required to rank the routes, based on their performance in 2008, as the best performing third of such routes, the second best performing third, and the worst performing third. Amtrak must develop a performance improvement plan for its long-distance routes and implement it in FY 2010 with respect to the worst-performing routes; in FY 2011 for the second best performers; and in FY 2012 for the best performing. FRA would monitor the development and implementation of the long distance route performance plan and may withhold, following notice

to Amtrak which has an opportunity to be heard, appropriated funds for operating a route on which reasonable progress in improving performance is not being made.

### *Section 211. Northeast corridor state of good repair plan.*

Within six months after the date of enactment of the Act, Amtrak, in consultation with the Secretary and the NEC states, would be required to prepare a capital spending plan to return the right-of-way, including trackage, signals, auxiliary structures and infrastructure, equipment, stations, and facilities of the NEC to a state of good repair by the end of FY 2018. The Secretary would review the plan and annual updates for approval. The Secretary would make capital grants of appropriated funds, as authorized by section 101 of this Act, for capital investments contained in the spending plan. The bill also would allow the Secretary to withhold up to one-half percent of funds appropriated for the NEC to fund project management oversight (PMO). PMO is used in other DOT programs to ensure that funds are effectively spent. Additionally, in the development and execution of the capital spending plan, Amtrak shall have the flexibility to allocate the estimated funds attributed to the state of good repair needs for a particular asset towards the refurbishment, renewal, or replacement of that asset.

### *Section 212. Northeast corridor infrastructure and operations improvements.*

Within six months after the date of enactment of the Act, the Secretary would be required to establish a NEC Infrastructure and Operations Advisory Commission, which would include representatives of Amtrak, FRA, and each of the states in the NEC, with none of these parties constituting a majority. The Commission then would develop future funding requirement recommendations for capital improvements and scheduling and safety enhancements. Further, within one year after the date of enactment of PRIIA, the Commission would develop a proposal for a standardized formula to determine costs and compensation to be paid by the NEC commuter authorities for the use of facilities or services provided to them by Amtrak. If Amtrak and the commuter authorities do not implement the recommended formula, they may go to arbitration or petition STB for a ruling. This provision also would direct the Secretary to establish a NEC Safety and Security Committee.

This section also would require Amtrak and the Rhode Island Department of Transportation (RIDOT) to reach agreement by no later than December 15, 2007, on access terms and other conditions for RIDOT's use of the NEC for additional commuter service in Rhode Island. If Amtrak and RIDOT cannot reach agreement on the terms of access, FRA, after consultation with both parties, would resolve any outstanding disagreements impeding the agreement by January 30, 2008. FRA would ensure that the agreement would not allow for the cross-subsidization of intercity passenger rail and commuter passenger rail service.

### *Section 213. Passenger train performance.*

This section would provide that if for any two consecutive quarters, the on-time performance of any intercity passenger train averages less than 80 percent, or the service quality fails to meet the standards established under the previous section, STB may investigate the extent to which such failure is due to causes that could reasonably be addressed by the operating freight railroad. Additionally, Amtrak, freight railroads that host Amtrak trains, or states that financially support Amtrak services also would be permitted to petition STB directly for an investigation of Amtrak delays. If the Board determines that the cause is the failure of a freight railroad to provide preference to Amtrak over freight trains, the Board shall enforce that preference under applicable law and may award damages to Amtrak or a state that financially supports Amtrak's services.

### *Section 214. Alternate passenger rail service pilot program.*

Within one year after the date of enactment of this Act, FRA would be required to develop a program under which a rail carrier or carriers that own a route over which Amtrak operates may petition FRA to become a passenger rail carrier for that route in lieu of Amtrak. Under the program, the rail carrier and Amtrak would submit a bid to provide service over the entire route, and FRA would award the right to provide such service in accordance with standards it may prescribe. In addition, the operating subsidy provided by FRA would not exceed that which Amtrak received for the route prior to the petition. An entity operating as a rail carrier that has negotiated a contingent lease agreement with a railroad that owns the infrastructure over which Amtrak currently operates may participate in this program in affiliation with the host freight railroad. Any contract awarded by FRA under this section would require the operator to meet the metrics and standards under section 207.

### *Section 215. Employee transition assistance.*

For Amtrak employees adversely affected by the cessation of Amtrak as the operator of a long-distance route under section 210, the Secretary would be required to develop a program under which the Secretary may provide up to $100,000 per employee in benefits in lieu of other termination-related payments due from Amtrak. If the affected employees do not accept the incentives offered under such program, the Secretary would make grants to Amtrak of funds otherwise appropriated to FRA to permit Amtrak to pay termination-related benefits to such employees under existing contractual agreements.

### *Section 216. Special passenger trains.*

This provision would prompt Amtrak to seek out business with private-sector customers (i.e., charters, etc.) in order to decrease its Federal operations grant amounts.

### *Section 217. Access to Amtrak equipment and services.*

Under this section, states wishing to use operators other than Amtrak for the provision of state-supported services would have access to Amtrak equipment, facilities, and reservation systems for the purpose of operating that particular route. If Amtrak and a state fail to reach an agreement governing such use, STB shall determine reasonable terms of use in accordance with section 209 of this Act and direct Amtrak to make such assets available to the state, so long as such use is essential to the planned service and will not impair or degrade Amtrak's other operations.

### *Section 218. General Amtrak provisions.*

This section would repeal the operating self sufficiency requirement imposed on Amtrak in 1997, along with the 2002 "sunset trigger" for failing to meet the requirement. This repeal is technical in nature and is not meant to indicate that Amtrak should not strive to reduce it dependency on Federal funds or improve the efficiency of how it spends Federal funds as elaborated through this bill. Also repealed would be the requirement to redeem Amtrak's outstanding common stock. In addition, the provision would authorize Amtrak to continue leasing vehicles from the General Services Administration.

### *Section 219. Study of compliance requirements at existing intercity rail stations.*

Under this section, Amtrak would be required to evaluate the improvements necessary to make all existing stations it serves readily accessible as required under the ADA. The evaluation would be required to include the estimated cost of such improvements and the earliest date they could be made.

### *Section 220. Oversight of Amtrak's compliance with accessibility requirements.*

This provision would allow FRA to use funding from section 103 to monitor and conduct periodic reviews of Amtrak's compliance with applicable sections of the Americans with Disabilities Act of 1990 and the Rehabilitation Act of 1974 to ensure that Amtrak's services and facilities are accessible to individuals with disabilities to the extent required by law.

### *Section 221. Amtrak management accountability.*

This section would require the DOT IG to complete an overall assessment within three years following the date of enactment of this Act and two years thereafter of the progress made by Amtrak management and the DOT in implementing the provisions of this Act.

### *Section 222. On-board service improvements.*

Under this provision, Amtrak would develop and implement a plan to improve on-board service based on the metrics and standards developed under section 207. Amtrak would provide a report to Congress describing how it will improve on board service and provide a timeline for implementing such improvements. Amtrak's on-board service has frequently been the subject of criticism. The Committee believes major improvements can be made to improve the experience of passengers, and suspects such improvements will directly increase the corporation's profits.

### *Section 223. Incentive pay.*

This section would encourage Amtrak to develop an incentive pay program for Amtrak management employees.

### *Section 224. Passenger rail service studies.*

This section would require Amtrak to carry out a number of studies or reports of certain routes to determine whether to reinstate certain routes, expand service or add stops. In addition, DOT is required to conduct studies with respect to certain high-speed rail corridors and to establish a process for a state or group of states to petition the Secretary to redesignate or modify any previously designated high-speed rail corridors.

### *Section 225. Report on service delays on certain passenger rail routes.*

This provision mandates that DOT OIG conduct two studies to Congress within six months of the date of enactment that describes the service delays and their sources or underlying causes as well as recommendations for improving on-time performance for Amtrak's Coast Starlight and Cascades Routes.

### *Section 226. Plan for restoration of service.*

This section requires Amtrak to report to Congress a plan for restoring passenger service between New Orleans, Louisiana and Sanford, Florida, including a projected timeline, projected costs and any needed legislative changes required to do so.

### *Section 227. Maintenance and repair facility utilization study.*

This section requires that DOT-OIG report to Congress on Amtrak's utilization of its equipment maintenance and repair facilities, including Beech Grove Mechanical facility in Indiana.

### *Section 228. Sense of Congress regarding the need to maintain Amtrak as a national passenger rail system.*

This section provides findings from Congress and the sense of Congress that: 1) long-distance passenger rail is a vital and necessary part of our national transportation system and economy; and 2) Amtrak should maintain a national passenger rail system, including long-distance routes, that connects the continental United States from coast to coast and from border to border.

## Title III – Intercity Passenger Rail Policy

### *Section 301. Capital assistance for intercity passenger rail service.*

This section establishes the authority for the DOT Secretary to make capital grants to a state to fund improvements to intercity passenger rail transportation from the funds authorized for capital improvements under section 101. Authorizes the Intercity Passenger Rail Service Corridor Capital Assistance Program which in concert with the State Rail Plan requirement, creates the framework for a new intercity passenger rail system program. Funds are authorized to be appropriated to DOT to provide grants for capital investments benefiting intercity rail passenger service. Eligible applicants include states (including D.C.), groups of states, Interstate Compacts, and public agencies with responsibility for providing intercity passenger rail service. DOT is authorized to use the appropriated funds to make grants to assist in financing the capital costs of facilities, infrastructure, and equipment necessary to provide or improve intercity passenger rail transportation. The Secretary also would allocate an appropriate portion of grants under this section to states with no intercity rail passenger service (Hawaii, South Dakota, and Wyoming) and to the State of Alaska.

Although these grants are primarily established for states to fund improvements to intercity passenger rail transportation, these projects may benefit other infrastructure owners or users. Greater consideration will be given to projects that among other things:

i. Encouragement of intermodal connectivity through provision of direct connections between train stations, airports, bus terminals, subway stations, ferry ports, and other modes of transportation;

ii. Anticipated improvement of freight or commuter rail operations;

iii. Encouragement of the use of positive train control technologies;

iv. Environmental benefits, including projects that involve the purchase of environmentally sensitive, fuel-efficient, and cost-effective passenger rail equipment; and

v. Anticipated positive economic and employment impacts.

### *Section 302. Congestion grants.*

This section authorizes the appropriation of funds for DOT to make grants to states or to Amtrak in cooperation with states for financing the capital costs of facilities, infrastructure, and equipment for high-priority rail corridor projects necessary to reduce congestion or facilitate ridership growth in intercity rail passenger transportation.

Eligible projects would be those identified by Amtrak to reduce congestion or facilitate ridership growth in heavily traveled rail corridors, those identified by STB to improve on time performance and reliability, and those designated by the Secretary as meeting the purpose of the program and being sufficiently advanced as to be ready for implementation.

### *Section 303. State rail plans.*

States would be authorized to prepare and maintain a state rail plan in accord with requirements listed in this section. A state rail plan would be required to designate an authority to approve and carry out the plan and be reviewed by the Secretary. The section also provides criteria for the purpose and content of the state rail plans, including a long-range service and investment program.

### *Section 304. Tunnel Project.*

This section authorizes $60 million for the period of FY 2009-FY 2013 to the FRA to work with the City of Baltimore, the State of Maryland, Amtrak, STB, and interested freight railroads to complete the preliminary alignment selection and environmental review necessary to construct a new tunnel for intercity passenger rail through Baltimore, Maryland.

### *Section 305. Next generation corridor train equipment pool.*

Amtrak would be required to establish, within 180 days of enactment of this Act, a committee, along with FRA and interested states, to design and develop specifications for a joint procurement of standardized next-generation corridor equipment (i.e., passenger cars, locomotives, etc.).

This section also authorizes $5 million in FY 2010 to remain available until expended, for grants to Amtrak and states participating in the Next Generation Corridor Train Equipment Pool Committee.

### *Section 306. Rail cooperative research program.*

The Secretary would be directed to establish a research program to examine issues relating to intercity, commuter, and freight rail enhancements, including impacts on highway and airport congestion, rail capacity constraints, and development of high-speed rail services.

### *Section 307. Federal rail policy.*

Under this section, the organization of FRA would be modified and its responsibilities would be expanded. Under this section FRA would be required to develop a national rail plan, performance goals, and railroad safety laws.

## Title IV – Miscellaneous Provisions

### *Section 401. Commuter rail mediation.*

This section establishes a process whereby the STB would conduct nonbinding mediation in situations where a public transportation authority is unable to reach agreement with a rail carrier to use trackage of, and have related services, provided by, the rail carrier for purposes of commuter rail passenger transportation.

### *Section 402. Routing efficiency discussions with Amtrak.*

This section states that Amtrak, commuter rail entities, regional and state public transportation authorities, and freight railroad carriers are encouraged to engage in good faith discussions with respect to the routing and timing of trains to efficiently move a maximum number of commuter, intercity, and regional rail passengers, particularly during the peak times of commuter usage.

### *Section 403. Sense of Congress regarding commuter rail expansion.*

This section states that it is the sense of the Congress that expanded commuter rail service on the rail line between New Haven, Connecticut, and Springfield, Massachusetts, is an important transportation priority, and Amtrak should work cooperatively with the states of Connecticut and Massachusetts to enable expanded commuter rail service on such line. It also requires Amtrak to report to Congress on the total cost of incomplete infrastructure maintenance on the rail line between New Haven, Connecticut and Springfield, Massachusetts.

### *Section 404. Locomotive biofuel study.*

This section would require FRA to conduct a study within one year of enactment on the extent to which Amtrak, freight railroads, and other passenger rail operators can use biofuel blends to power locomotive fleet that can operate on diesel fuel. FRA would be required to consult with the Department of Energy and the Environmental Protection Agency in conducting the study.

### *Section 405. Study of use of bio-based technologies.*

This section requires that DOT issue a report to Congress containing the results of a study of the feasibility of using readily biodegradable lubricants for freight and passenger railroad locomotives, rolling stock, or other equipment. The Secretary shall work with an agricultural-based lubricant testing facility or facilities to complete this study.

### *Section 406. Cross-border passenger rail service.*

This section requires Amtrak to develop a strategic plan to facilitate expanded passenger rail service across the international border between the United States and Canada during the 2010 Olympic games on the Amtrak Cascades routes and to develop recommendations for the Department of Homeland Security to efficiently process rail passengers traveling on this route.

### *Section 407. Historic preservation of railroads.*

This section requires the Secretary to conduct a study in consultation with the Advisory Council on Historic Preservation, the National Conference of State Historic Preservation officers, the Department of the Interior, appropriate representatives of the railroad industry, and representative stakeholders on ways to streamline compliance with the requirements of section 303 of title 49 U.S.C. (dealing with issues of parks, wildlife refuges, historic sites, etc.) and section 106 of the National Historic Preservation Act for Federal-funded railroad infrastructure repair and improvement projects.

It also mandates that the Secretary take immediate action to cooperate with the North Carolina Department of Transportation, the North Carolina State Historic Preservation Office, the Virginia State Historic Preservation Office, the Advisory Council on Historic Preservation, and the Department of the Interior, in expediting the decision-making process for safety-related railroad projects of the North Carolina Department of Transportation and the Southeast High-Speed Rail Corridor involving property and facilities that have disputed historic significance.

## Title V – High-Speed Rail

### *Section 501. High-speed rail corridor program*

This section authorizes the appropriation of funds to establish and implement a high-speed rail corridor development program. Eligible applicants include a state (including D.C.), a group of States, an Interstate Compact, a public agency established by one or more states with responsibility for high-speed rail service or Amtrak. Eligible corridors include the 10 high-speed rail corridors previously designated by the Secretary of Transportation. Grants could be used for capital projects which are broadly defined to include typical activities in support of acquiring, constructing, or improving rail structures and equipment.

### *Section 502. Additional high-speed projects.*

This section authorizes the Secretary to issue a request for proposals for projects for the financing, design, construction, operation, and maintenance of high-speed intercity passenger rail systems operating within a high-speed corridor. Would authorize the Secretary to establish a commission comprised of governors of the affected states, mayors of municipalities located on HSR corridors,

representatives from freight rail companies, representatives from transit agencies, labor unions, the President of Amtrak to review responses to RFP.

## Title VI – Capital and Preventive Maintenance Projects for Washington Metropolitan Area Transit Authority

### *Section 601. Authorization of capital and preventive maintenance projects for Washington Metropolitan Area Transit Authority.*

This title authorizes the appropriation of funds for grants to the Washington Metropolitan Area Transit Authority to finance in part the capital and preventive maintenance projects included in the Capital Improvement Program approved by the Transit Authority's Board of Directors.

# B. List of Acronyms with Definitions

**Passenger Rail Investment and Improvement Act (PRIIA**) **–** The Passenger Rail Investment and Improvement Act of 2008 (PRIIA) reauthorizes the National Railroad Passenger Corporation, better known as Amtrak, and strengthens the U.S. passenger rail network by tasking Amtrak, the U.S. Department of Transportation (U.S. DOT), Federal Railroad Administration (FRA), states, and other stakeholders in improving service, operations, and facilities.

**MARC –** Maryland Area Regional Commuter – MARC Train Service is a commuter rail system whose service areas include Harford County, Maryland; Baltimore City; Washington, D.C.; Brunswick, Maryland; Frederick, Maryland and Martinsburg, West Virginia.

**MTP –** Maryland Transportation Plan.

**MDOT –**The Maryland Department of Transportation.

**MGIP –** MARC Growth and Investment Plan – The 2007 plan which identified MARC investment needs. The plan is currently being updated and will track projected needs through 2050.

**MTA –** Maryland Transit Administration – A modal administration of MDOT which is responsible operating MARC Train Service.

**OFM –** MDOT Office of Freight and Multimodalism – MDOT office that establish policies that will improve freight operating efficiencies, promote safe and reliable mobility, and advance initiatives to mitigate climate impacts. OFM oversees the State's High-Speed Intercity Passenger Rail efforts.

**OPCP –** Office of Planning and Capital Programming – OPCP is comprised of Capital Programming, Regional Planning, and Transportation Planning, as well as Interrelated Programs, such as Air Quality, Bicycle and Pedestrian, and Community Enhancements. OPCP satisfies many legislative and Federal mandates for the Maryland Department of Transportation (MDOT) and the Secretary of Transportation.

**FSAC –** MDOT's Freight Stakeholder Advisory Committee – an appointed group of freight railroads, stakeholders, and government officials that advises the State on freight and freight rail issues.

**NEC Commission –** Northeast Corridor Infrastructure and Operations Commission, comprised of members from each of the NEC states, Amtrak, and the U.S.