West Virginia
State Rail Plan

DECEMBER
2020

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Contents

Abbreviations

AADT	Annual Average Daily Traffic
AAGR	Average Annual Growth Rate
AAR	Association of American Railroads
ABS	Automatic Block Signaling
ACS	American Community Survey
ADA	Americans with Disabilities Act
AO	Appalachian and Ohio Railroad
ARRA	American Recovery and Reinvestment Act
ASDP	Accessible Stations Development Program
B&O	Baltimore and Ohio Railroad
BBRR	Buckingham Branch Railroad
BCA	Benefit-Cost Analysis
BEEM	Beech Mountain Railroad
BSA	Boy Scouts of America
BTS	Bureau of Transportation Statistics
BUILD	Better Utilizing Investments to Leverage Development
C&O	Chesapeake & Ohio Railroad
CAGR	Compound Annual Growth Rate
CAP	Capital Improvement Revolving Loan Program
CFR	Code of Federal Regulations
CMAQ	Congestion Mitigation and Air Quality
CPH	Collis P. Huntington Railroad Historical Society, Inc.
CRISI	Consolidated Rail Infrastructure and Safety Improvements
CSI	Customer Service Index
CSR	Cass Scenic Railroad
CSXT	CSX Transportation
CTB	Commonwealth Transportation Board
CTC	Centralized Traffic Control
DC	District of Columbia
DGVR	Durbin & Greenbrier Valley Railroad
DIP	Development Infrastructure Grant Program
DPU	Distributed Power Units
DTC	Direct Traffic Control
EDA	Economic Development Administration
ELKR	Elk River Railroad
EPA	Environmental Protection Agency
EPTA	Eastern Panhandle Transit Authority
FAF	Freight Analysis Framework
FAST	Fixing America's Surface Transportation Act
FFY	Federal Fiscal Year
FHWA	Federal Highway Administration
FRA	Federal Railroad Administration
FRT	Four Rivers Transportation, Inc.
FTE	Full-Time Employee
FTZ	Free Trade Zone
FY	Fiscal Year
GAO	Government Accountability Office
GDP	Gross Domestic Product
GSP	Gross State Product
HSIP	Highway Safety Improvement Program
INFRA	Infrastructure for Rebuilding America Grants Program
INVEST	Investing in a New Vision for the Environment and Surface Transportation in America Act
IPROC	Intercity Passenger Rail Operating and Capital Fund
KRAP	Kentucky Railroad Assistance Program

KRCI	Kentucky Railroad Crossing Improvement Program
KSRA	Kentucky Short Line Railroad Assistance
KVRTA	Kanawha Valley Regional Transportation Authority
K	Thousand
KY	Kentucky
KYTC	Kentucky Transportation Cabinet
LKRR	Little Kanawha River Rail
LBS	Pounds
LLC	Limited Liability Corporation
LOS	Level of Service
LRTP	Long Range Transportation Plan
MAP-21	Moving Ahead for Progress in the 21st Century Act
MARC	Maryland Area Regional Commuter Rail
MDA	Mississippi Development Authority
MDOT	Mississippi Department of Transportation
MPH	Miles Per Hour
MPO	Metropolitan Planning Organization
MRAC	MARC Riders Advisory Council
MS	Mississippi
MTA	Mountain Transit Authority
N&W	Norfolk and Western Railroad
NALS	National Adult Literacy Survey
NC	North Carolina
NCDOT	North Carolina Department of Transportation
NGLs	Natural Gas Liquids
NHFC	National Highway Functional Classifications
NHS	National Highway System
NPS	National Park Service
NRT	New River Train
NS	Norfolk Southern Corporation
OH	Ohio
ORDC	Ohio Rail Development Commission
OTP	On-time Performance
PA	Pennsylvania
P&L	P&L Transportation, Inc.
PennDOT	Pennsylvania Department of Transportation
PESR	Potomac Eagle Scenic Railroad
PIP	Piedmont Improvement Program
PMTM	Passenger Miles per Train Mile
PSC	Public Service Commission of West Virginia
PRIIA	Passenger Rail Investment and Improvement Act
PTC	Positive Train Control
QR	Quick Response
RAIL	Freight Rail Service Revolving Loan Program
REF	Rail Enhancement Fund
RPF	Rail Preservation Fund
RFAP	Rail Freight Assistance Program
RHCP	Railway-Highway Crossing Program
RIA	Rail Industrial Access
RJCV	R.J. Corman Railroad Company/West Virginia Line, Inc.
RPDC	Rail Planning and Development Councils
RPF	Rail Preservation Fund
RR	Railroad
RRIF	Rail Rehabilitation and Improvement Financing

RTAP	Rail Transportation Assistance Program
SAFETEA-LU	Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users
SAP	Safety Action Plan (Rail)
SBR	Summit Bechtel Reserve
SBVR	South Branch Valley Railroad
SFY	State Fiscal Year
SHSP	Strategic Highway Safety Plan
SOGR	State of Good Repair Grant Program
SRA	State Rail Authority
STB	Surface Transportation Board
STIP	State Transportation Improvement Program
STP	Surface Transportation Program
STRACNET	National Strategic Rail Corridor Network
TC	Traffic Control
TIF	Tax Increment Financing
TIFIA	Transportation Infrastructure Finance and Innovation Act
TIGER	Transportation Investment Generating Economic Recovery Grant Program
TIP	Transportation Improvement Program
TMA	Transportation Management Area
TOD	Transit-Oriented Development
URL	Uniform Resource Link
U.S.	United States
USDA	United States Department of Agriculture
USDOT	United States Department of Transportation
VA	Virginia
VDOT	Virginia Department of Transportation
VDRPT	Virginia Department of Rail and Public Transportation
VMT	Vehicle Miles of Travel
VRR	Vaughan Railroad Company
WATCO	Watco Companies, LLC
WLE	Wheeling & Lake Erie Railway
WM	Western Maryland Railway
WNFR	Kanawha Rail Corporation
WVCR	West Virginia Central Railroad
WVDNR	West Virginia Division of Natural Resources
WVDOH	West Virginia Division of Highways
WVDOT	West Virginia Department of Transportation
WVPPA	West Virginia Public Ports Authority
WVSFP	West Virginia State Freight Plan
WVSRA	West Virginia State Rail Authority
WVSRPU	West Virginia State Rail Plan Update
WW	Winchester and Western Railroad
WV	West Virginia

Glossary of Rail Terminology

Advanced Guideway - A term used to describe high-speed fixed transit systems, including passenger rail, monorail, maglev, or other rapid travel technologies.

Association of American Railroads (AAR) - The railroad policy, research, standard setting, and technology organization that focuses on the safety and productivity of the U.S. freight rail industry.

Backhaul - The process of a transportation vehicle (typically a truck) returning from the original destination point to the point of origin. A backhaul can be with a full or a partially loaded trailer or rail car.

Branch Line - A rail line that serves one or more stations beyond the junction of the main line or another branch line. A feeder line that brings freight to main lines.

Boxcar - An enclosed railcar, typically 40 or more feet long, used for packaged freight and some bulk commodities.

Bulk Cargo - Cargo that is unbound as loaded or is without count in a loose unpackaged form. Examples of bulk cargo include coal, grain, ore, or petroleum products.

Capacity - The number of trains that can pass through an area in a certain period of time, depending on the quantity and configuration of tracks.

Carload - Quantity of freight (in tons) required to fill a railcar; the amount normally required to qualify for a carload rate.

Carrier - A firm that transports goods or people via land, sea, or air.

Class I Carrier - A classification of regulated carriers based on annual operating revenues-motor carrier of property greater than or equal to $5 million. For railroads, carriers with annual carrier operating revenues of $467 million or more.

Class II Carrier - A classification of regulated carriers based on annual operating revenues-motor carrier of property $1 to $5 million. For railroads, carriers with annual carrier operating revenues of less than $467.0 million but more than $37.4 million.

Class III Carrier - A classification of regulated carriers based on annual operating revenues-motor carrier of property less than or equal to $1 million. For railroads, carriers with annual carrier operating revenues of $37.4 million or less and all switching and terminal companies regardless of operating revenues.

C**lassification Yard** - A railroad terminal area where railcars are grouped to form train units.

Commodity - An item that is traded in commerce. The term usually implies an undifferentiated product competing primarily on price and availability.

Commodity Flows - Data that describes the movement of goods. This information is used for transportation planning and decision-making.

Commuter Rail - Short-haul passenger transportation usually with routes less than 50 miles in metropolitan and suburban areas with morning and evening peak period operations.

Container - A “box,”’ typically 10 to 40 feet long, that is used primarily for ocean freight shipment. For travel to and from ports, containers are loaded onto truck chassis or on railroad flatcars.

Containerized Cargo - Cargo that is transported in shipping containers that can be transferred easily from one transportation mode to another.

Conventional Rail - Traditional intercity passenger rail services of more than 100 miles with as little as one to as many as 7 to 12 daily frequencies; may or may not have a strong potential for future high-speed rail service. Top speeds of up to 79 mph to as high as 90 mph generally on shared track. Intended to provide travel options and to develop the passenger rail market for further development in the future.

Crossdocking - Logistics process involving unloading materials from an incoming truck, a trailer, or a railroad car and loading the material directly into outbound trucks, trailers, or rail cars with little or no storage in between.

Demurrage - A penalty charge assessed by railroads for the detention of cars by shippers or receivers of freight beyond a specified free time.

Distribution Center - A centrally located warehouse where goods shipped long distances by rail are loaded onto trucks for short-haul delivery to regional retail stores or final business destinations. Also called a reload center, it combines the economies of rail with the flexibility of truck pickup and delivery.

Dock - A space used for receiving merchandise at a freight terminal.

Double stack - A train of specially equipped flat cars on which containers are stacked two-high.

Drayage - Transporting of rail or ocean freight by truck to an intermediate or a final destination; typically, a charge for pickup/delivery of goods moving short distances (e.g., from marine terminal to warehouse).

Export - Goods moving out of a location. Can be domestic export (destination within the United States) or international export (destination outside the United States).

Flatbed - A trailer without sides used for hauling machinery or other bulky items.

Freight Analysis Framework (FAF) - A dataset produced by the US Bureau of Transportation Statistics and Federal Highway Administration that integrates data from various sources to analyze freight movement among states and major metropolitan areas by all transportation modes. Starting with data from the 2012 Commodity Flow Survey and international trade data from the Census Bureau, FAF incorporates data from agriculture, extraction, utility, construction, service, and other sectors.

Freight Forwarder - A person whose business is to act as an agent on behalf of a shipper. A freight forwarder frequently consolidates shipments from several shippers and coordinates booking reservations.

Freight Rail - The movement of goods and cargo in purpose-built freight rolling stock (e.g., boxcars and flatcars) that is typically, but not necessarily, hauled by diesel-power locomotives.

Free Trade Zone (FTZ) - An area or a zone set aside at or near a port or an airport, under the control of the U.S. Customs Service, for holding goods duty-free pending customs clearance.

Grade Crossing - Intersections where a highway, a road or a street, including associated sidewalks or pathways, crosses one or more active railroad tracks at grade. Crossings may be public, if the roadway is public, or private, if located exclusively on private lands and roads.

Gross State Product (GSP or GDP) – Measurement of a state's economic output that is approximately equal to the total value added from all industries in a state.

Gross Weight - The total weight of a rail car, along with the weight of its entire contents. Much of the U.S. Class I rail system is approved for heavy axle rail cars that can handle up to 286k lbs., or in some cases 315k lbs., gross weight. However, some rail lines, or locations along rail lines—in most cases, bridges—are not capable of adequately handling and distributing excess weight and may have restrictions for rail cars greater than 286k lbs. or more based on the length of the rail car.

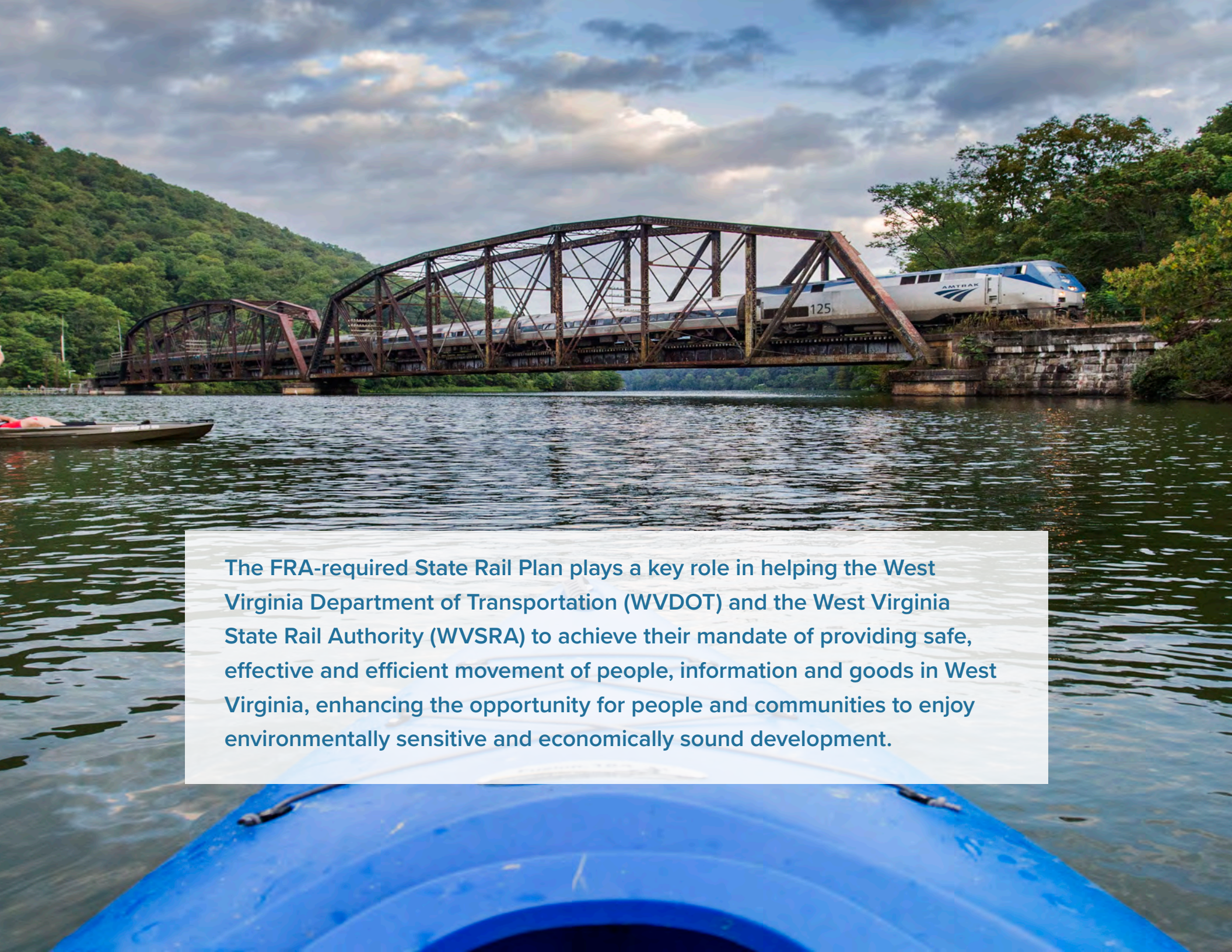
Hazardous Material (Hazmat) - A substance or material that the U.S. Department of Transportation has determined to be capable of posing a risk to health, safety, and property when stored or transported in commerce.

High-Speed Rail, Express - Frequent express service between major population centers 200 to 600 miles apart, with few intermediate stops. Top speeds of at least 150 mph on completely grade-separated, dedicated rights-of-way (except for some shared track in terminal areas). Intended to relieve air and highway capacity constraints.

High-Speed Rail, Regional - Relatively frequent service between major and moderate population centers 100 to 500 miles apart, with some intermediate stops. Top speeds of 110 to 150 mph, grade-separated, with some dedicated and some shared track (using positive train control technology). Intended to relieve highway and, to some extent, air capacity constraints.

Import - Goods moving into a location. Can be domestic import (origin within the United States) or international import (origin outside the United States).

Intercity Rail - Long-distance passenger rail service generally greater than 125-mile route distances, including Amtrak services.



The FRA-required State Rail Plan plays a key role in helping the West Virginia Department of Transportation (WVDOT) and the West Virginia State Rail Authority (WVSRA) to achieve their mandate of providing safe, effective and efficient movement of people, information and goods in West Virginia, enhancing the opportunity for people and communities to enjoy environmentally sensitive and economically sound development.

1. Introducing the State Rail Plan and Rail Plan Governance in West Virginia

Introduction

West Virginia's rail systems are what link Midwest freight and urbanized markets with the Atlantic coast and the lower Southeast. Railroad corridors within West Virginia allow for the efficient flow of commodities and people between surrounding markets that are experiencing both freight growth and population increases.

West Virginia is within 500 miles of more than 84 million people, or more than 25% of the U.S. population. As populations and businesses continue to grow in urbanized areas surrounding West Virginia's border, the state's existing rail infrastructure will prove increasingly important as the artery that transports products and people.

The West Virginia State Rail Plan examines the state's ability to leverage rail transportation as a catalyst for growth and further investment. Regional growth in surrounding markets is naturally driving new audiences through the state for business and leisure, creating new opportunities for multimodal hubs and recreational activities. This Plan provides a look at West Virginia's railroads today and recommends phased infrastructure, policy and operational changes for continued investment that will benefit West Virginia's economy and its people for generations to come.

Figure 1-1 West Virginia Rail System

Who Oversees Rail in West Virginia?

Given the importance of rail at every level of government within the State, as well as at the regional and federal levels, the governance and funding of rail are multifaceted; focused generally on policy, operations and capital projects. This section discusses governance and funding of rail in West Virginia.

Federal Governance & Funding

United States Department of Transportation (USDOT)

The USDOT is responsible for the nation's transportation systems and is a Cabinet agency of the U.S. government. The department's leadership is comprised of a secretary and deputy secretary with administrators representing the various sub-agencies in areas of aviation, roadways and bridges, trucking, railways, public transit, maritime and other transportation systems. The department is the leading federal agency providing regulatory oversight, research and technology, policy and grant administration for transportation systems.

Three modal agencies within the USDOT affect rail transportation: Federal Railroad Administration (FRA), Federal Transit Administration (FTA) and Federal Highway Administration (FHWA). FRA is the primary modal agency involved with West Virginia rail programs.

Federal Railroad Administration (FRA)

The FRA is a USDOT agency that fulfills its mission to "enable the safe, reliable, and efficient movement of people and goods for a strong America, now and in the future" through:

- development and enforcement of safety regulations;
- investment in passenger and freight rail services and infrastructure;
- research into and development of innovations and technology solutions.

The FRA will ultimately approve the updated 2020 West Virginia State Rail Plan (2020 Plan) after reviewing the document and ensuring it meets the criteria set forth in the 2008 Passenger Rail Investment and Improvement Act (PRIIA) and subsequent updates through the Moving Ahead for Progress in the 21st Century (MAP-21) Act, enacted July 6, 2012, and the Fixing America's Surface Transportation Act of 2015 (FAST Act). These pieces of legislation require that any state seeking federal assistance for either passenger or freight improvements must have an updated state rail plan.

Before awarding funds to help realize the full potential of the 2020 Plan, the FRA will ascertain that projects submitted for funding are included in the State Rail Plan. The FRA is also responsible for coordinating the 2020 Plan with national and multi-state rail planning efforts and should be kept apprised of engagement with neighboring states. Finally, the FRA can provide technical assistance and guidance in developing state rail plans as needed.

WVDOT will use the 2020 Plan to advocate for policy changes and funding in the West Virginia Legislature that will help bring the operational and capital recommendations in the phased implementation plan to fruition.

WVDOT provides required matching funds for federal financial assistance programs, such as grade crossing improvement and grade separation projects. WVDOT works directly with WVSRA on rail-related capital projects and other infrastructure needs.

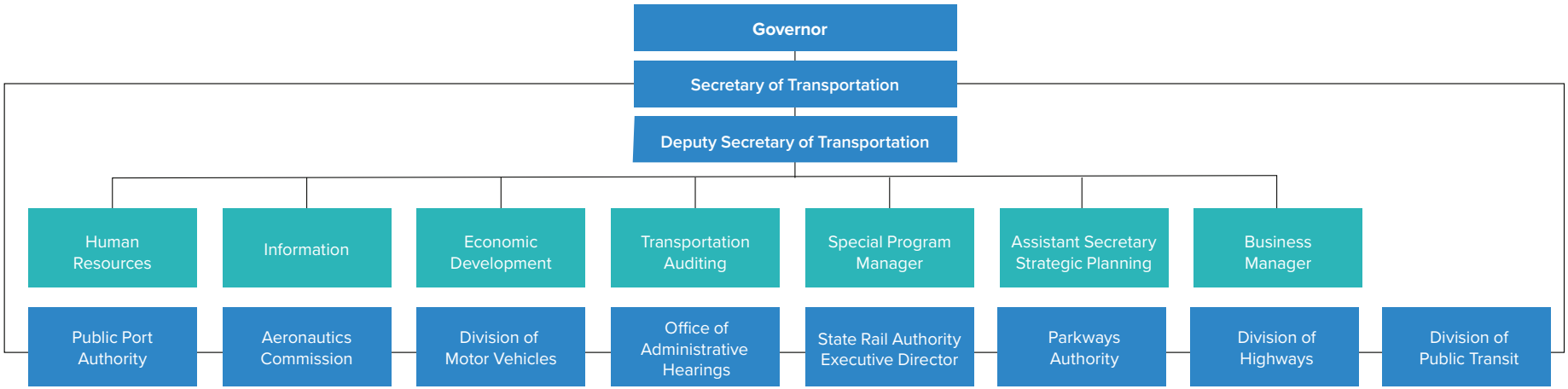
State of West Virginia Rail Governance and Funding

WVSRA, a division of WVDOT, is overseen by a seven-member board of directors, with the Secretary of Transportation as chair. Daily operations are conducted by the executive director and staff. WVSRA is the primary keeper of the State Rail Plan, using it to guide phased planning decisions, operations and maintenance and funding priorities. WVSRA receives funding from the state's general fund each year as part of the state budget process.

Funds appropriated to WVSRA from the general fund are used to pay for the salaries of WVSRA staff, insurance, commuter rail station upkeep at two locations, capital projects on rail lines owned or managed by the WVSRA and office expenses.

WVSRA received $4.9 million for fiscal year 2021 from the general fund through the state budget appropriations process. These funds help pay for staffing, insurance, commuter station upkeep, and capital projects.

Figure 1-2 West Virginia Rail Governance Structure



West Virginia Department of Transportation (WVDOT) Organization

WVDOT is responsible for coordinating the overall transportation improvement strategy for the state. Under this mandate, it is primarily responsible for various types of modal planning and project development activities. WVDOT is led by a governor-appointed secretary and is organized into sub-authorities, like the WVSRA, which report directly to the Secretary of Transportation.

CSX serving industry partner.

Funds are also generated by freight revenues on the state-owned South Branch Valley Railroad (SBVR). These revenues pay for all operating costs on the SBVR and some of its capital projects. Additional revenues are received from track and right-of-way lease agreements with freight and tourist railroads using state-owned tracks.

WVSRA has received federal funds in the past to assist with specific projects, although the bulk of the authority's funding today is generated from the state general fund and operating revenues. Combined, these funds help WVSRA perform a number of functions, including Policy and Governance, Operations and Maintenance and Capital Infrastructure, as shown on the next page.

In addition to these responsibilities, WVSRA has wide-ranging legal authority to establish, fund, construct, acquire, replace, operate and maintain railroads and railroad projects. Action on this empowerment is subject to resource availability.

While WVSRA does not currently have a discretionary grant or loan program, it does have the ability to issue bonds to implement projects if the revenues generated are sufficient to service the bonds.

Policy & Governance

- Maintaining a comprehensive inventory of rail lines within the state;
- Monitoring proposed line abandonments and finding alternatives for shippers, including short line operations, to preserve essential rail service or rail to truck transfer if feasible; and
- Administering state responsibilities regarding federal grants to aid railroad transportation in West Virginia.

Chapter 29, Article 18 of the West Virginia Code is cited as the "West Virginia State Rail Authority Act." This act grants WVSRA the powers necessary to carry out its corporate purpose and to serve as the coordinator of the State Rail Plan. Other powers and duties are as follows:

- Acquire rail properties, including the acquisition in concert with another state or states to ensure continued rail service in the state;
- Enter into agreements with rail property owners for the acquisition or use of property;
- Establish, administer, and coordinate the state rail plan;
- Provide for equitable distribution of federal rail service continuation subsidies among state, local, and regional transportation authorities;
- Maintain research, promotional, and development programs and provide for public participation;
- Be fiscally responsible for any federal funds paid to the state for rail grants, programs, or services;
- Comply with the Secretary of Transportation and USDOT regulations for federal rail assistance funds; and
- Maximize federal assistance to the state and to qualify for rail service continuation subsidies.

Operations & Maintenance

- Owning and operating the 52.4-mile South Branch Valley Railroad;
- Overseeing the 132.1-mile West Virginia Central Railroad;
- Assisting with the establishment of short line and tourist railroad operations and promoting increased rail tourism development;
- Participating in the MARC commuter service to Washington, DC, by overseeing operating subsidies as allocated by the State of West Virginia, paying for snow removal and utilities at two train stations in the Eastern Panhandle and leasing a third station for commuter use;
- Rail-banking abandoned rail lines that may be used again if future conditions make it economically feasible and encouraging the interim use of these banked lines as trails for public recreation;
- Promoting, supervising and supporting safe, effective and efficient rail services; and
- Employing sufficiently trained and qualified personnel for these purposes.

Capital Infrastructure

- Maintaining bridges and other infrastructure on the South Branch Valley, West Virginia Central and Cass Scenic railroads; and
- Making improvements to station facilities served by MARC trains in the Eastern Panhandle.

The West Virginia Division of Highways (WVDOH) Railroads & Utilities Section and Right of Way Division oversee the state's Grade Crossing Improvement Program and any other projects where coordination between railroads and the state's highway program is required. It administers the federal Railway-Highway Crossings (Section 130) Program and provides safety analysis, project selection and funding for the implementation of grade crossing improvements and closings.

Highway Safety Improvement Program (HSIP)

HSIP is a core federal-aid funding program with the goal of achieving a significant reduction in traffic fatalities and serious injuries on all public roads. As part of HSIP, states are required to draft and implement a Strategic Highway Safety Plan (SHSP)[1] to receive federal funding. West Virginia receives approximately $32 million annually for the HSIP program.[2] The federal share of HSIP funding is 90%.

Funding from HSIP is set aside for West Virginia's Railway-Highway Crossings Program with the purpose of reducing the number of fatalities and serious injuries at public highway-railway crossings through the elimination of hazards and/or the installation/upgrade of protective devices at crossings.

West Virginia Public Port Authority

The Public Port Authority is responsible for combining highway, rail and water transportation infrastructure to maximize overall economic advantages to business, industry, and the people of West Virginia. The authority's link to rail focuses on the development and operation of public port and intermodal facilities in the state. Port Authority funding was removed from the state budget in 2019, and it is unlikely that the state will continue supporting this function. WVDOT is currently overseeing the authority's functions.

Other State Agencies or Authorities with Rail-Related Responsibilities

Public Service Commission of West Virginia

The Public Service Commission of West Virginia (PSC) employs a team of state rail inspectors to administer and enforce federal and state regulations governing transportation by rail. The inspectors operate within the PSC's Transportation Enforcement Division Railroad Safety Section. Their primary responsibilities are the inspection of railroad track and equipment, operations and the movement of hazardous materials. These state inspectors address complaints and conduct state-level rail accident investigations as well. Railroad signal and train control inspectors also conduct final inspections for grade crossing improvements.

The Collis P. Huntington Railroad Historical Society's New River Train rolls through historic Thurmond, WV, in the New River Gorge.

1 2017-2021 West Virginia Strategic Highway Safety Plan, https://transportation.wv.gov/ highways/programplanning/STIP/Documents/Stip_16_21/STIP_16_21_Narrative.pdf.

2 West Virginia 2016-2021 Statewide Transportation Improvement Program (STIP) 2016-2021, https://transportation.wv.gov/highways/programplanning/STIP/Documents/ Stip_16_21/STIP_16_21_Narrative.pdf.

West Virginia Department of Commerce

The Department of Commerce's mission is to improve the quality of life for all West Virginians by strengthening its communities and expanding the state's economy to create more and better jobs. The Department of Commerce's financial assistance programs have been used to help attract new industries on the state's rail lines through assistance in track rehabilitation and the construction of spur tracks to industries.

West Virginia Division of Homeland Security and Emergency Management

The West Virginia Division of Homeland Security and Emergency Management is responsible for addressing transportation security issues, identifying critical infrastructure assets, developing protection strategies for these assets, developing emergency management plans and coordinating with federal and state transportation agencies. The division works with its federal partners to train and deploy personnel and assets for high risk areas, develop and test new security technologies and provide funding to state and local partners, among other duties. The division also manages disaster preparedness, mitigation, and response and recovery efforts throughout the state by coordinating with all responsible agencies.

The West Virginia Division of Homeland Security and Emergency Management is notified of the transportation within the state of certain hazardous materials – like chemicals, coal, oil and gas – via rail.

Local and Regional Organizations

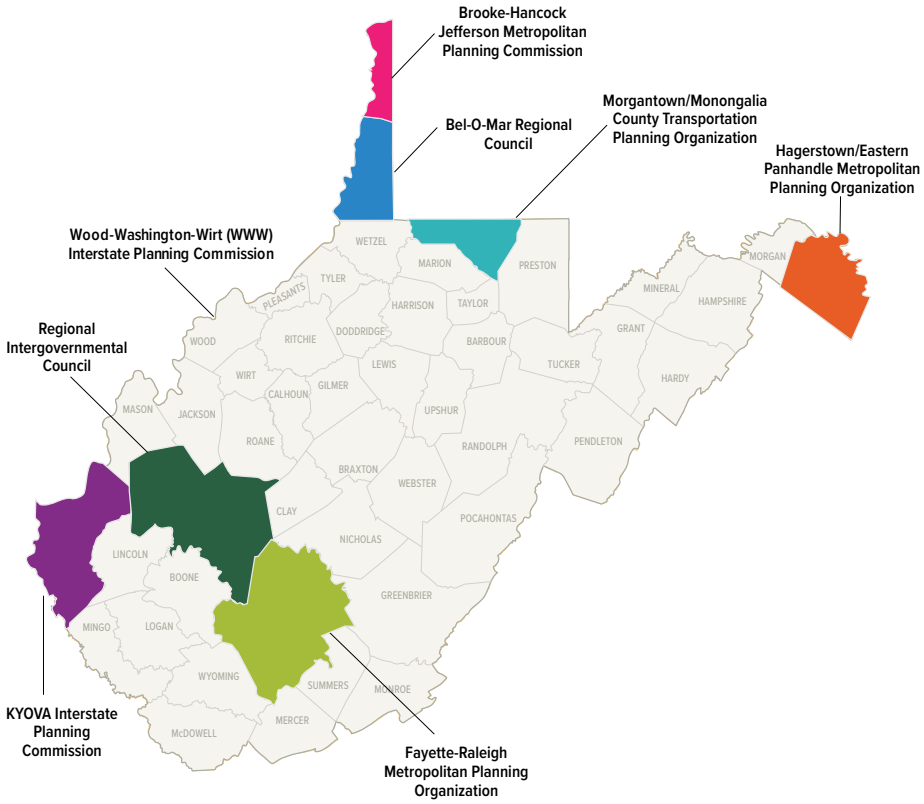
Metropolitan Planning Organizations

Metropolitan Planning Organizations (MPOs) are federally mandated and funded transportation policy-making organizations comprised of local government and transportation officials. The formation of an MPO is required for any urbanized area with a population greater than 50,000 people. West Virginia has eight MPOs, as shown in Figure 1-3.

MPOs are required to maintain and continually update a Long Range Transportation Plan (LRTP) as well, as a Transportation Improvement Program (TIP), which is a multi-year program of transportation projects to be funded with federal and other transportation funding sources. As MPO planning activities have evolved to address the movement of freight as well as passengers, they have included consideration of multimodal solutions, improved intermodal connections and more specific rail and rail-related project solutions. MPOs must work cooperatively with local transportation stakeholders to understand and anticipate the area's travel needs and to develop these documents.

WVSRA coordinates with MPOs in delivering the stakeholder and public engagement program for the State Rail Plan and works to ensure alignment across plans.

Figure 1-3 Metropolitan Planning Organizations



Regional Planning and Development Councils (RPDCs)

The state is also divided into regional planning and development councils (RPDCs), through the 1971 Regional Planning & Development Act and reenacted West Virginia Code, Chapter 8, Article 25, which mandates that West Virginia be divided into 11 regions to serve as "development districts." The RPDCs focus on expansion and improvement of: water and sewer facilities, infrastructure, transportation, employment, industry, small business development, housing, health care, education and recreation. RPDCs offer local jurisdictions assistance in community planning, applying for funding packages, soliciting for consultant services and administering projects.

Local Economic Development Agencies

The State of West Virginia has several local, public and private, economic development agencies that recruit industries and businesses based on location, available labor force, room for growth and access to rail and other transportation assets.

I-64 Leon Sullivan Way Exit, Charleston, WV

The West Virginia Directory of Economic Development Organizations[3] lists 48 entities around the state, including economic development agencies and authorities, chambers of commerce, alliances, development councils, corporations and associations at the regional, county and local levels of government. Many of these agencies offer incentives, such as tax exemptions, credits, or other means of assistance to attract businesses.

Although these agencies do not generally work directly with railroad operators, they do have a vested interest in the level of rail services and rail assistance programs available to supplement their incentives.

The West Virginia Economic Development Authority also provides financial assistance for infrastructure improvements to support economic development projects. The Economic Development Authority provided a $325,000 grant to WVSRA to provide rail access to the Petersburg Industrial Park on the SBVR in 2009.

Collectively, these federal, state and local partners are integral voices for continued rail infrastructure investment in West Virginia. Federal transportation funding streams; collaborative partnerships with state, regional and local partners; and the various grants and assistance programs can be leveraged to improve West Virginia's railroads and economic development statewide.

WVSRA's current funding structure is equally contingent on state budget appropriations and revenues received from its freight-hauling railroad and lease agreements, hindering its ability to make long-term investments and expand existing services.

Recommendations and a more thorough review of how rail projects can benefit from additional funding opportunities and partnerships will be discussed in Chapter 7.

3 West Virginia Directory of Economic Development Organizations, https:// businessfacilities.com/site-selection-directory/west-virginia/.

2020 West Virginia State Rail Plan Overview

The 2020 West Virginia State Rail Plan establishes a long-term vision for the future of rail in the state, to move people and goods within, to and from the Mountain State. The 2020 Plan was developed based on past years' plans, engagement with stakeholders and the public, and technical and financial analysis. The State Rail Plan is followed most closely by WVSRA and also sets the stage for governance and funding of rail at every level of government.

WVSRA completed its last State Rail Plan in 2013 – the first fully PRIIA-compliant plan in the nation. Updates to state rail plans are required by the FRA every four years, and, since 2013, many changes have influenced freight and passenger rail in West Virginia, including the FAST Act and FRA's Final State Rail Plan Guidance, which was released in 2013 after the completion of the West Virginia State Rail Plan. West Virginia's rail network is also impacted by changes in the state and national economy, demographics, technology, goods movement and passenger travel patterns, as well as transitions across multiple levels of government, emerging innovations and technology and changes to the local and global natural environment. The development of the 2020 Plan occurred over 2019-2020, as shown in the Figure 1-4.

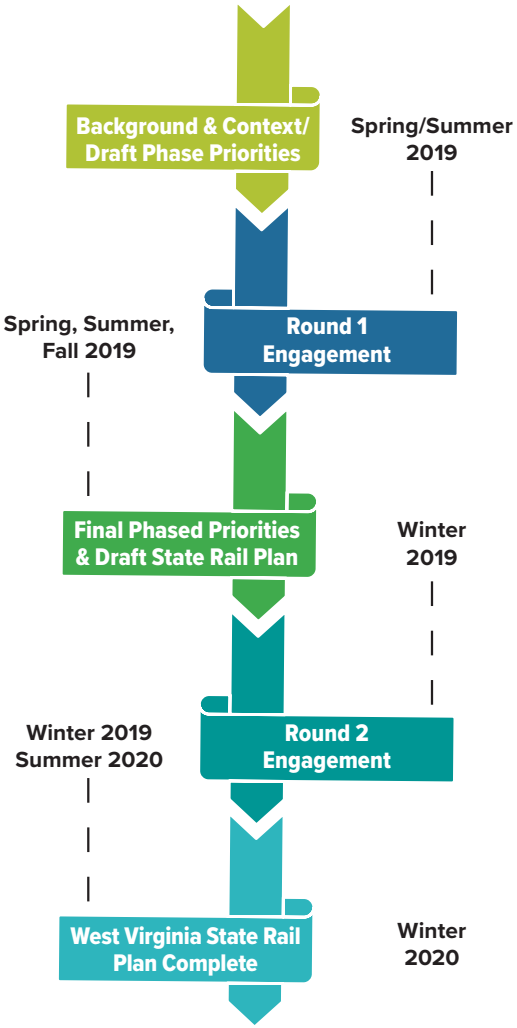
Plan Foundations

The 2020 Plan will serve as a framework for the state's rail freight and passenger transportation planning activities, outlining short-, medium- and long-term priorities over the next 20 years. These phased priorities are detailed in Chapter 7 and are aligned with the 2020 Plan's goals and objectives for rail in West Virginia.

2020 Vision

A safe, efficient, modern passenger and freight railroad network that supports a thriving state economy by promoting an integrated intermodal transportation system.

Figure 1-4 Rail Plan Development 2020 West Virginia State Rail Plan Overview



2020 West Virginia Rail Planning Goals and Objectives

1. Promote rail safety

- Promote rail safety at commuter stations.
- Promote rail safety education programs.
- Analyze public grade crossings, identify high-risk crossings and prioritize safety improvements.
- Streamline process for Section 130-funded crossing safety projects utilizing a collaborative structure.
- Identify additional opportunities for funding partnerships for implementation of crossing sign improvements.
- Collaborate with Operation Lifesaver to develop and implement rail safety education programs to support state initiatives, including outreach through the Division of Motor Vehicles and schools.
- Review existing crossing inventory data and develop improvement program based on obligated funds.
- Increase safety and efficiency by reducing at-grade crossings.

2. Maintain a dedicated funding source to preserve, protect, evaluate and improve, as needed, West Virginia's rail infrastructure.

- Re-examine intermodal rail enhancement fund.
- Maximize funding opportunities, both federal and state.
- Identify and leverage federal loan and competitive grant programs, including Railroad Rehabilitation & Improvement Financing (RRIF), Consolidated Rail Infrastructure and Safety Improvements Program (CRISI), Better Utilizing Investments to Leverage Development (BUILD), Infrastructure for Rebuilding America (INFRA) and others for state rail projects and operations.
- Coordinate with the USDOT national freight network, as defined in the FAST Act.
- Improve return on investment through improved modal coordination.

3. Support statewide business development and environmental stewardship initiatives by leveraging rail infrastructure and the movement of goods by rail.

- Support movement of goods by rail and through enhancing existing freight rail customers and new freight rail business opportunities.
- Assist short line railroads to be FRA-compliant.
- Analyze main line capacity needs.
- Preserve rail rights-of-way.
- Support the development of rail spurs and industrial development.
- Support development of inland ports and enhancements to rail connectivity.
- Work in conjunction with other agencies on economic development initiatives.
- Improve coordination within WVDOT to deliver all rail-related projects.
- Integrate and promote rail into the statewide multimodal network.
- Support statewide economic development projects and promote the movement of freight goods by rail.
- Increase yard storage space.

4. Preserve, protect, evaluate and improve, as needed, intercity passenger rail service.

- Explore improved frequency of the Amtrak *Cardinal* train.
- Improve multimodal connectivity by evaluating multimodal connections to existing intercity rail service.
- Improve station accessibility needs.
- Coordinate with other states.
- Enhance passenger train on-time performance and service reliability and address additional track capacity needs.
- Reduce passenger train-freight train conflicts and improve passenger service on-time performance by increasing capacity and adding passenger rail frequencies.

5. Support rail-related tourism as part of an economic development program.

- Work with private industry to enhance economic opportunities.
- Identify rail tourism and infrastructure needs.
- Support rail-related tourism as part of West Virginia's economic programs, including exploring the opportunity for themed excursion trains and sponsorships.

6. Preserve and support commuter rail service.

- Evaluate the need for existing/additional commuter rail service.
- Work with MARC to support West Virginia initiatives.
- Analyze commuter rail station accessibility needs.

The 2013 State Rail Plan has been partially implemented by WVSRA, but several of the Plan's recommendations are outstanding. This fact means the 2020 Plan should refresh and re-confirm these priorities with stakeholders and the public; the 2020 Plan should stand on the shoulders of the good work completed in 2013 and also reflect the changes West Virginia has seen since the last plan.

A westbound CSXT intermodal train passes through the New River Gorge and Hawks Nest, WV on its way to Midwestern consumption markets from Virginia's Atlantic Coast.

Coordination with other agencies and plans

State rail plans can be submitted to the FRA as stand-alone documents or as part of a wider State Long-Range Transportation Plan. The 2020 West Virginia State Rail Plan will integrate with and expand upon the 2010 West Virginia Multimodal Statewide Transportation Plan and the 2018 West Virginia Freight Plan. However, it will remain an independent plan that meets the planning and implementation needs of WVSRA as well as FRA requirements. The 2020 Plan will also influence and inform the West Virginia Multimodal Statewide Transportation Plan update currently underway.

Multimodal planning requires close coordination within a state Department of Transportation itself, as well as with other federal and state agencies, local transportation agencies, railroads operating within the state and the general public. Figure 1-5 provides an overview of existing plans with which the 2020 West Virginia State Rail Plan aligns.

Intrastate Coordination

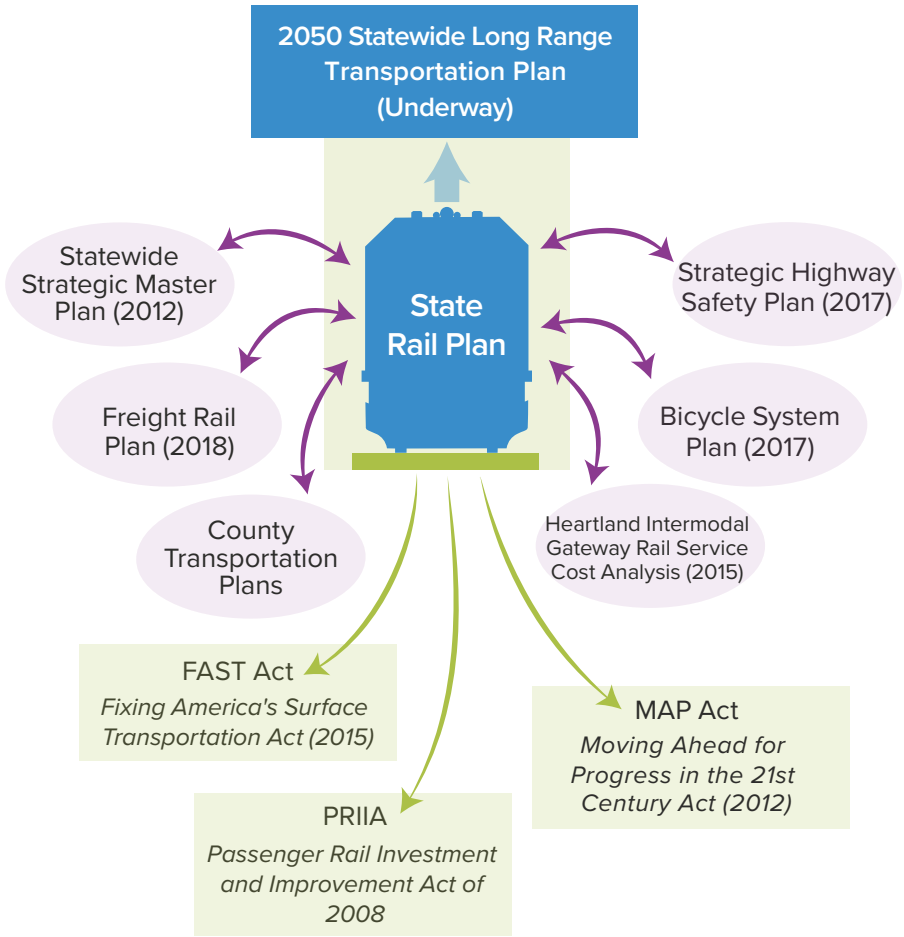
The 2020 West Virginia State Rail Plan has been crafted in alignment with the 2010 Multimodal Statewide Transportation Plan (STP).[4] The vision of the STP is "A well-maintained and modern multimodal transportation system," and includes specific goals to:

- Preserve past investments by maintaining the existing system;
- Support West Virginia's economic development goals with multimodal access to markets in West Virginia, the United States and overseas;
- Support the health and well-being of West Virginians, as well as the environment and overall quality of life, with a range of mobility options; and
- Promote efficient use of resources, especially in light of diminishing revenues.

The 2020 West Virginia State Rail Plan's own vision and goals closely align with the STP's.

In addition, the 2020 Plan has factored in the role of 25-year Long Range Transportation Plans (LRTP) and Transportation Improvement Program (TIP) initiatives coordinated by the state's MPOs.

Figure 1-5 How Other Plans Align with State Rail Plan



4 http://transportation.wv.gov/highways/programplanning/planning/statewide/Documents/ West_Virginia_Long_Range_Multi-modal_Transportation_Plan.pdf.

Interstate Coordination

During the development of the 2020 West Virginia State Rail Plan, rail plans from neighboring states of Kentucky, Maryland, Ohio, Pennsylvania and Virginia were reviewed.

West Virginia has contacted surrounding states for peer review and coordination efforts. As the regions' states have developed and completed their plans since 2013, it is likely that coordination of plan content will increase as states complete future updates.

Additionally, West Virginia, through the WVDOH, participates in the Interstate 81 (I-81) Coalition, a multistate initiative to improve the safety and efficiency of freight and passenger movement on the I-81 Corridor through cooperation and information sharing.

National Coordination

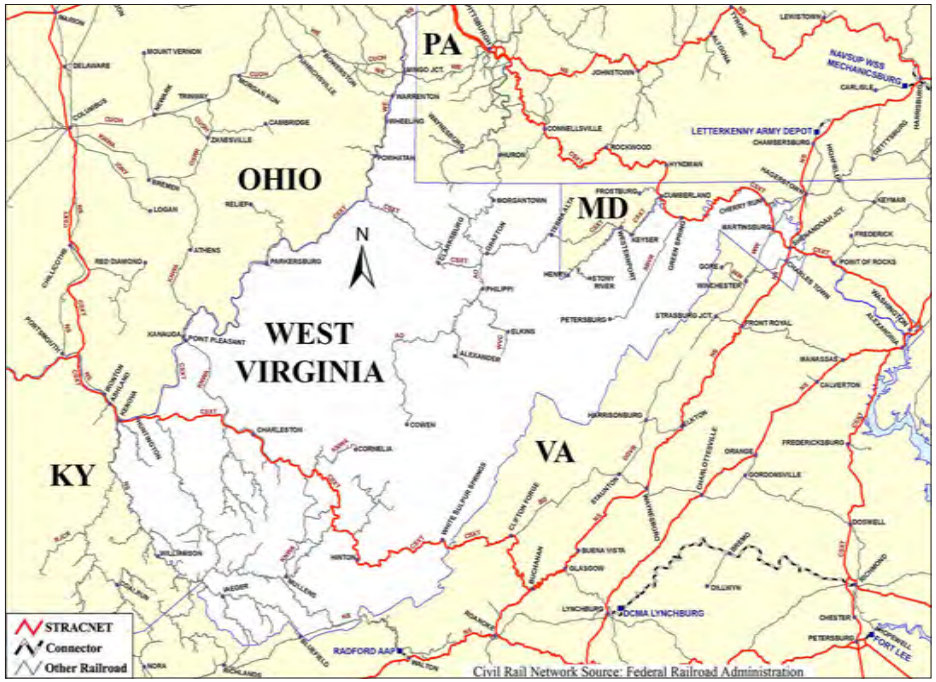
The enaction of PRIIA directed the FRA to develop a National Rail Plan to address the rail needs of the United States. The Preliminary National Rail Plan, published in October 2009, provided objectives for rail as a means of improving the performance of the U.S. transportation system, which include:

- Increased passenger and freight rail performance;
- Integration of all transportation modes to form a more complementary transportation system;
- Identification of projects of national significance; and
- Increased public awareness.

A final National Rail Plan will account for state rail planning practices and reflect the issues and priorities addressed in various state rail plans. The National Rail Plan is intended to be developed through the integration of individual state rail plans. WVDOT will work with FRA and other states to ensure that the region's rail perspectives and issues are adequately addressed within the final National Rail Plan when it is published.

In addition to the need to coordinate the 2020 West Virginia State Rail Plan with the National Rail Plan, the state will also coordinate as necessary with the U.S. Military Surface Deployment and Distribution Command's Transportation Engineering Agency, which oversees the National Strategic Rail Corridor Network (STRACNET). The STRACNET is comprised of a 32,000-mile interconnected network of rail corridors and associated connector lines most important to national defense. In addition to providing main line corridor throughput capability, these lines provide access to major defense contractors, logistics sites and military facilities critical to national defense.

Figure 1-6 STRACNET in West Virginia



Coordination with Stakeholders and the Public

The 2020 Plan has been informed through online, in-person and telephone conversations with stakeholders and the public over the course of its development. Key government and industry stakeholders have been engaged through steering and advisory committees, and the general public has been engaged in two rounds of outreach; one in summer 2019 and one in spring 2020. More detail on coordination with stakeholders and the public is found in Chapter 4.

Summary

This 2020 West Virginia State Rail Plan is an update of the 2013 West Virginia State Rail Plan. It meets federal planning requirements of PRIIA, requiring states to complete state rail plans at regular intervals, and meets the objectives of the FRA State Rail Plan Guidance, which specifies the plan content. The 2020 State Rail Plan consists of the following chapters:

Chapter 1	Introducing the State Rail Plan and Rail Plan Governance in West Virginia and discusses the current role of rail in West Virginia's multimodal transportation system. It describes how the political, legal, and financial elements support rail transportation in West Virginia.
Chapter 2	West Virginia's Rail System provides an overview and inventory of the state's existing rail system.
Chapter 3	Trends Influencing Rail in West Virginia builds upon the rail overview through research about larger industry and national freight trends that will affect the state rail system.
Chapter 4	State Rail Coordination and Review outlines how stakeholders were involved in the development of this plan.
Chapter 5	Passenger Rail Needs and Opportunities identifies issues and opportunities about passenger rail service in the state and proposes future improvements.
Chapter 6	Freight Rail Needs and Opportunities identifies issues and opportunities with freight rail in West Virginia and proposes future improvements.
Chapter 7	Rail Service and Investment Program is the culmination of the earlier chapters' analysis combined with the needs and opportunities list to put forth a program of recommended projects that forward the goals of the State Rail Plan. This chapter also identifies potential funding and financing sources, based on project level estimates.

Chapter 2 inventories West Virginia's existing multi-modal transportation system as it relates to the freight and passenger rail networks. This background will provide important context for planning and decision-making outlined in subsequent chapters by defining existing infrastructure, operations and ownership.

2. West Virginia's Rail System

Rail's Impact on the State

Rail is deeply rooted in West Virginia's culture and economy with rail lines serving all corners and industries of the state.

From industrial rail serving businesses in populated cities to feeder lines in some of the state's most rural areas, West Virginia's rail network touches hundreds of communities serving a wide variety of industries. Intercity passenger rail services utilize existing freight networks to provide communities with vital transportation options. As industries evolve in the state, rail lines are being repurposed to grow rail tourism opportunities, allowing for a mixed-use of the more than 2,300-mile rail network.

West Virginia's rail network is comprised of both privately-owned and state-owned railroads that are operated by the state or its contracted operators. Class I railroads own and operate more than 1,600 miles of rail in West Virginia with short line railroads and tourist trains operating the remaining miles. Some of the state's short line railroads are privately owned, while others fall under the jurisdiction of WVSRA.

The Durbin & Greenbrier Valley Railroad's New Tygart Flyer crosses the Cheat River near High Falls in West Virginia's eastern mountains.

Figure 2-1 West Virginia Railroads

Today, WVSRA is the leading authority on rail policy and governance in the state. It is responsible for the operational and capital needs of the 52-mile state-owned South Branch Valley Railroad (SBVR) and it oversees the capital needs of the 132-mile West Virginia Central Railroad (WVCR). WVSRA also provides funding support for MARC Commuter Rail services in West Virginia's Eastern Panhandle. In addition to these financial responsibilities, WVSRA supports freight and passenger rail initiatives statewide with other public and private partners. These responsibilities give WVSRA a unique voice and role in West Virginia's railroads. Despite limited funding, WVSRA plays an active role in all aspects of rail development in West Virginia.

West Virginia's rail lines hauled 160 million tons of freight in 2017. That figure equates to more than 8.9 million trucks taken off West Virginia's roadway systems.[5]

5 https://www.aar.org/wp-content/uploads/2019/01/AAR-West-Virginia-State-Fact-Sheet.pdf

Amtrak's westbound Cardinal No. 51 rolls through St. Albans, WV, after departing Charleston.

Rail in West Virginia Today

West Virginia's rail system is far-reaching, linking goods and people throughout the state. West Virginia's rail network includes two Class I railroads, 12 regional or short line railroads, two intercity rail passenger services, one commuter rail service and four tourist railroads.

Freight Rail Route Mileage[6]	
Freight: Class I Railroads	1,657
Freight Class II/III Railroads	554
Freight Switching & Terminal Railroads	3

Passenger Rail Route Mileage	
Intercity Passenger Rail	296
Tourist Train Service	184

Rail is an economic force yielding many benefits to West Virginia businesses and its residents; the rail industry is an important employer of West Virginians, particularly those residing in rural areas where other employment options are limited. In the tourism and hospitality sector, tourist rail attractions provide jobs not only for railroad workers, but also support businesses such as hotels, restaurants, and other attractions. In 2017, freight rail alone employed more than 2,100 people in West Virginia with average wages and benefits per employee totaling more than $118,000 per year.[7]

The adaptability of the state's rail network shields it from being too reliant on a single commodity or business model. Infrastructure investment in rail-related assets are a catalyst for spurring economic development, and the state's proximity to key business markets and highway systems supports the growth and diversification of a multi-modal transportation system.

6 https://www.aar.org/wp-content/uploads/2019/01/AAR-West-Virginia-State-Fact-Sheet.pdf .

7 Ibid 6.

West Virginia's Passenger Railroads

Amtrak's intercity rail services and commuter rail services provided by the Maryland Area Regional Commuter (*MARC*) give West Virginians rail access to neighboring regions. Amtrak currently operates two long-distance routes through West Virginia, the daily *Capitol Limited* and the tri-weekly *Cardinal*. The addition of *MARC's* daily commuter rail services means that at least eight trains serve West Virginia communities daily.

Service levels, ridership stations and station information are described in greater detail in this chapter.

Amtrak's eastbound Cardinal No. 50 passes the Collis P. Huntington Railroad Historical Society's New River Train in New River Gorge at Hinton, WV.

Amtrak Intercity Rail Services

West Virginia is served by two long-distance Amtrak trains linking Washington, DC, and other East Coast cities with Chicago – the *Capitol Limited* and the *Cardinal*.[8] There are currently no high-frequency corridor services provided within the state. Amtrak also connects other communities from its *Cardinal* route to north central West Virginia using its Thruway Bus Service connections. Three of the state's five most populated communities are either served by intercity passenger trains or by Amtrak's Thruway Bus Service connection. There were 54,262 boarding and alighting passengers at West Virginia stations in FY 2018. In 2018, West Virginia's top three busiest stations included Charleston (11,251), Martinsburg (10,784), and Huntington (10,296).

West Virginia's ability to manage specific levels of intercity and commuter rail service is limited by the fact that these services are provided by other owners and operating entities. Both Amtrak routes are long-distance services that remain under the control of Amtrak and serve multiple states. MARC service is provided by the Maryland Transit Authority. Therefore, West Virginia's ability to control minimum levels of service such as frequencies and scheduling – which directly impact capacity and ridership – is extremely limited.

In general, the state is committed to preserve, protect, evaluate, and improve intercity and commuter passenger rail service and to support rail-related tourism. These goals and objectives are addressed further during the Plan's rail analysis phase, and specific projects have been recommended to meet objectives in some cases.

8 Amtrak West Virginia fact sheet - FY2019

Capitol Limited

The *Capitol Limited* operates between Washington, DC, and Chicago, IL. The service consists of one daily round trip stopping at Harpers Ferry and Martinsburg, WV, with key intermediate stops outside West Virginia in Maryland, Pennsylvania, Ohio and Indiana. Westbound trains leave Washington, DC at 4:05 PM and reach Chicago at 8:45 AM the next day. Eastbound trains leave Chicago at 6:40 PM and arrive in Washington, DC at 1:05 PM the next day. The *Capitol Limited's* scheduled departure and arrival times in Washington, DC supplement MARC rush-hour commuter service between Martinsburg, Harpers Ferry and Washington, DC. The *Capitol Limited* reported in FY 2019 an on-time performance ratio of 36.5% serving a total of 209,578 passengers and generating $44.6M in revenue.

Cardinal

The *Cardinal* operates tri-weekly between New York City, NY and Chicago, IL. The serving intermediate stations at Philadelphia, PA; Baltimore, MD; Washington, DC; Charlottesville, VA; White Sulphur Springs, WV; Alderson, WV; Hinton, WV; Prince, WV; Thurmond, WV; Montgomery, WV; Charleston, WV; Huntington, WV; Cincinnati, OH; and Indianapolis, IN, among other intermediate locations. Westbound trains leave New York City Sunday, Wednesday and Friday at 6:45 AM and reach Chicago the next day at 10:00 AM. Eastbound trains leave Chicago Tuesday, Thursday and Saturday at 5:45 PM, reaching New York City the next day at 9:58 PM. The *Cardinal* travels through Virginia horse country, the Shenandoah Valley, the Blue Ridge and Allegheny mountains and the New River Gorge. It is a link from the Northeast and Midwest to many of West Virginia's recreational areas. The *Cardinal* reported in FY 2019 an on-time performance ratio of 53% serving a total of 108,935 passengers and generating $8.4M in revenue.[9]

9 https://www.amtrak.com/content/dam/projects/dotcom/english/public/documents/corporate/monthlyperformancereports/2019/Amtrak-Monthly-Performance-Report-FY2019-Final.pdf.

Maryland Area Regional Commuter (MARC)[10]

The Maryland Area Regional Commuter (MARC) Train Service is part of the Maryland Transit Administration, a modal agency of the Maryland Department of Transportation. MARC has been operating the service into West Virginia since the 1970s. One of its key routes serving the Baltimore-Washington metropolitan area is the Brunswick Line, which uses CSXT-owned lines to serve West Virginia's three Eastern Panhandle communities of Martinsburg, Duffields and Harpers Ferry to provide weekday commuter service.

MARC's Brunswick Line service in West Virginia is comprised of three morning departures from each of the three West Virginia stations and three late afternoon and early evening arrivals. West Virginia does not have a dedicated funding source to subsidize the service; however, recently the West Virginia legislature allocated $1.1 million to operate the service temporarily. WVSRA is responsible for station maintenance and improvements at the three West Virginia Stations that serve MARC. These stations had an average weekday ridership of 237 in FY 2019.[11]

Transit buses from the Eastern Panhandle Transit Authority (EPTA-Pan Tran) serve the Martinsburg, Duffields and Harpers Ferry stations. Pan Tran buses also provide connections with selected trains at the Brunswick MARC Station.

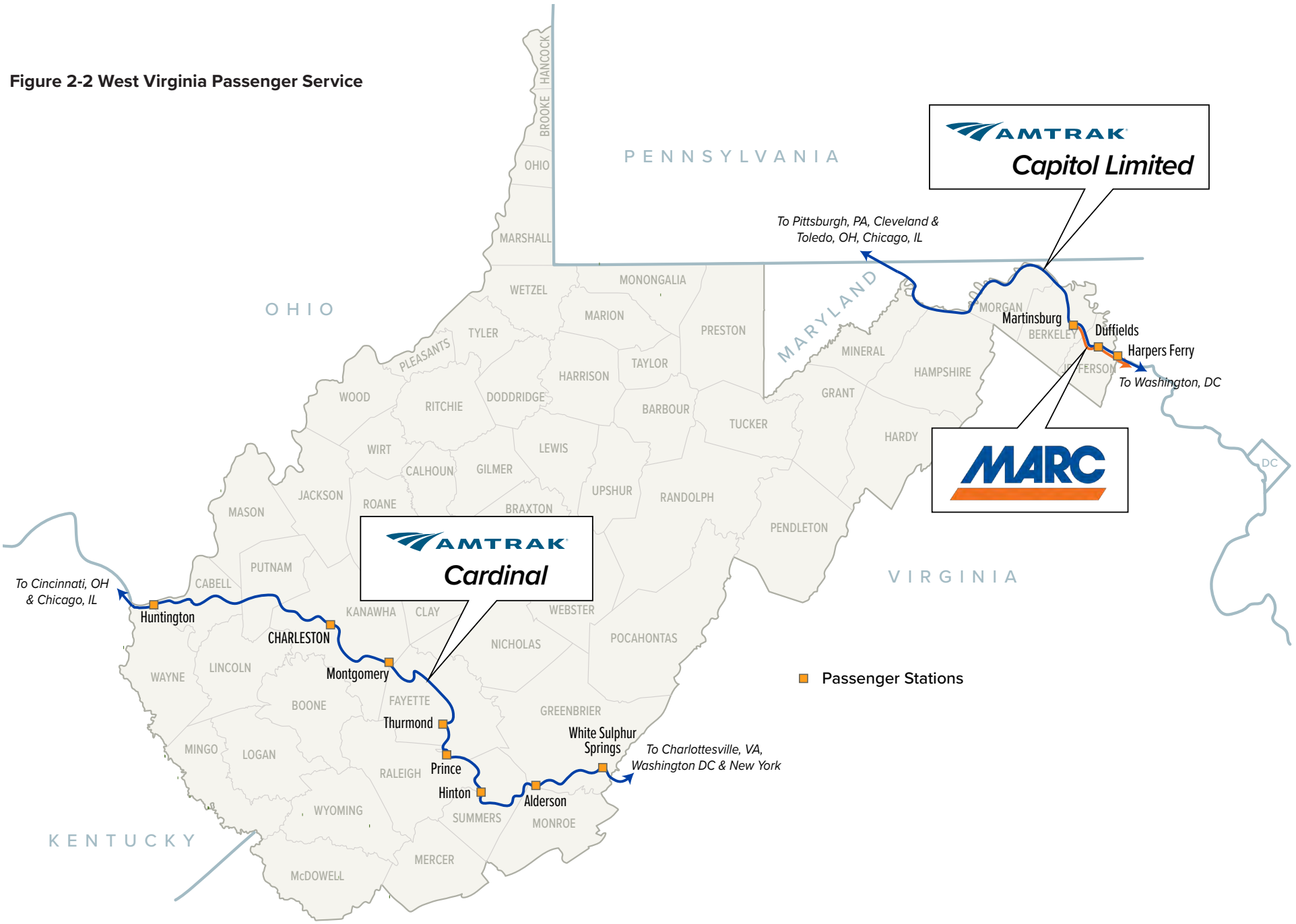
10 MARC

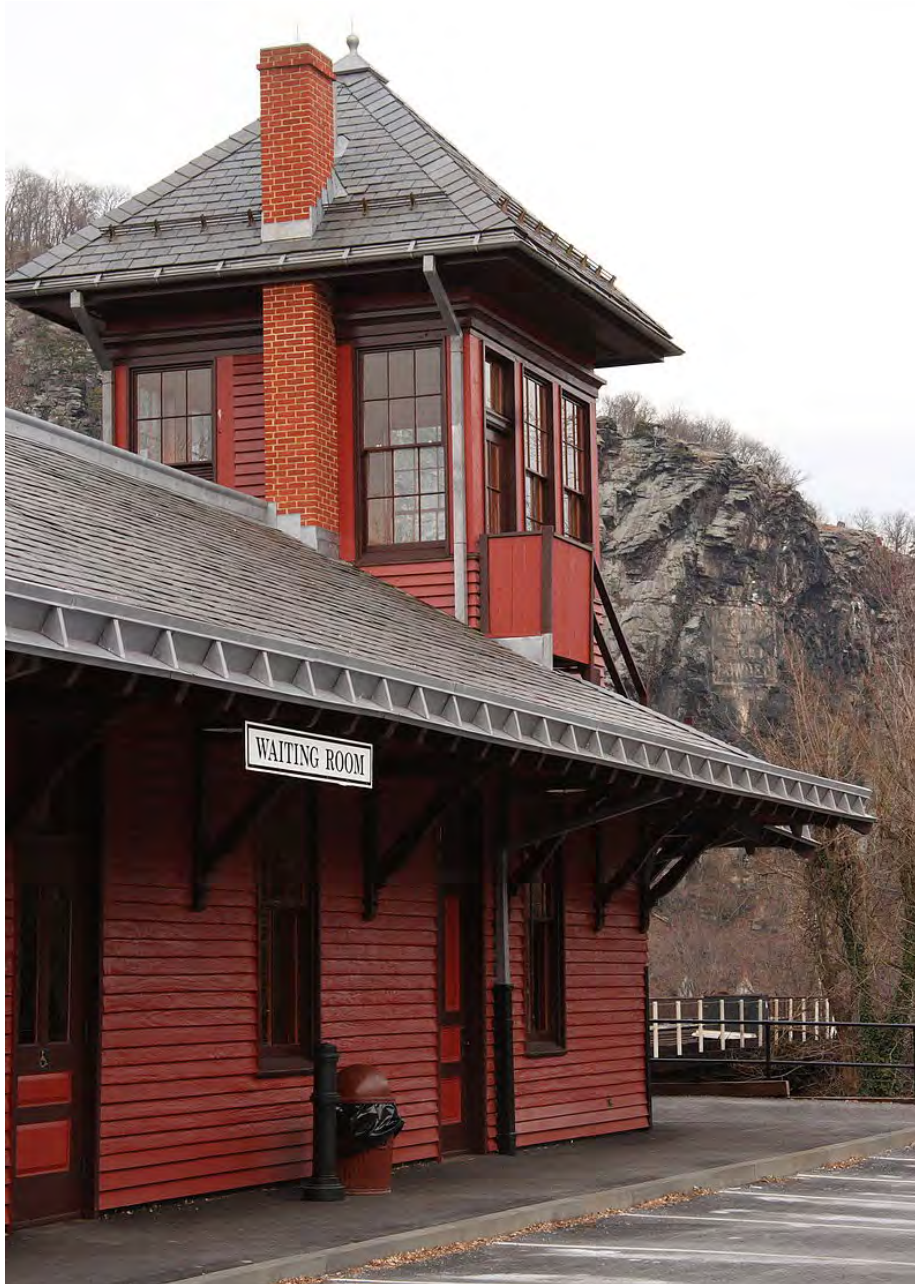
11 https://data.imap.maryland.gov/datasets/e476dcb6dc154683ab63f23472bed5d6_6

WV Passenger Rail Snapshot

Route	Service Type	Stations Served in WV	Host Railroad
Capitol Limited	Daily, Intercity Washington, DC to Chicago, IL	Harpers Ferry, Martinsburg	CSXT
Cardinal	Tri-weekly, Intercity New York City, NY – Chicago, IL	White Sulphur Springs, Alderson, Hinton, Prince, Thurmond, Montgomery, Charleston, Huntington	CSXT
MARC	Weekday, Commuter Martinsburg, WV – Washington, DC	Martinsburg, Duffields, Harpers Ferry	CSXT

Figure 2-2 West Virginia Passenger Service





Thurmond Train Station

Passenger Rail Stations

In addition to serving as gateways to trains for passengers, passenger rail stations are gateways for the cities served by these trains. Rail stations are centers for activity and foster economic development, commercial endeavors, tourism, cultural activities, civic pride and historic preservation. The amenities provided at passenger stations, such as parking, ticketing and first- and last-mile connections, can vary significantly.

Amtrak Stations

There are 10 active Amtrak stations in West Virginia. Two are in the Eastern Panhandle – Harpers Ferry and Martinsburg – and the rest are in the southern part of the state.

The Harpers Ferry and Martinsburg stations are served by the *Capitol Limited* and see daily service. The tri-weekly *Cardinal* serves stations at White Sulphur Springs, Alderson, Hinton, Prince, Thurmond, Montgomery, Charleston and Huntington. Each station is described in greater detail below.

The *Capitol Limited* stations, from east to west, are as follows:

The Harpers Ferry Station is one of two passenger rail facilities with WVSRA oversight. Built in 1894, the station is a contributing structure of the city's historic district. The facility was transferred to the National Park Service (NPS) in 2001. Today, station platforms are owned by CSXT and WVSRA pays for snow removal and utilities. The NPS maintains the station building. Parking is available in an adjacent parking lot owned and maintained by the NPS. The station is not staffed, and no tickets are sold at this location. The waiting room is opened by the NPS during morning commute hours.

The Martinsburg Station complex is owned and maintained by the City of Martinsburg. The platforms are owned by CSXT. The station is adjacent to a historic structure that was once a hotel and a rail station serving the Baltimore & Ohio Railroad. The new station was completed in 1997 and is designed to match the historic structure. The station has a Quik-Trak ticketing machine. The station is also the transit center and route hub for Pan Tran bus service. Parking is available in a city owned lot.

The *Cardinal* stations, from east to west, are as follows:

The White Sulphur Springs Station is across from the Greenbrier resort and is controlled by the resort. While unstaffed, a caretaker opens the station for departing and arriving passengers. Passengers use only the platform, as the resort has converted the station into a Christmas store and gift shop. A new wheelchair lift, informational kiosk, and tactile platform edge are some of the improvements to be funded by the Mobility First program. The platform is owned by CSXT, and public parking is available adjacent to the station.

The Alderson Station is a flag stop station and not staffed. The train will stop only if there is a passenger with a reservation to board or detrain at that station. The station building is a contributing property within the Alderson Historic District and is listed on the National Register of Historic Places. The station platform is owned by CSXT, and public parking is available adjacent to the station.

The Hinton Station, part of the Hinton Historic District, is unstaffed. The station is opened and maintained by a caretaker. It is currently undergoing a series of repairs and renovation by the city of Hinton to bring the station into compliance with Americans with Disabilities Act (ADA) requirements. All facilities are owned by CSXT, and parking is available adjacent to the station.

The Prince Station serves as a gateway to Beckley and the New River Gorge National River Park. The facility is close to Beckley and the Summit Bechtel Reserve, which is managed by the National Council of the Boy Scouts of America. The station is fully wheelchair accessible and received ADA accessibility improvements in 2015. Upgrades included improved path of travel from the public right-of-way to the train platform, restrooms, and signage. The station is no longer staffed by a ticket agent and does not offer checked baggage service. Caretakers open and close the station at train times.

The Thurmond Station is a flag stop station within the New River Gorge National River park. The National Park Service (NPS) owns the station and uses it as a visitor center during the summer and fall months. The station is not staffed, and the train will stop only if there is a passenger with a reservation to board or detrain at that station. The platform is owned by CSXT and parking is available adjacent to the station.

The Montgomery Station is not staffed but has a platform shelter for waiting passengers. The local transit bus line hub is located adjacent to the station. The station platform is located across the street from the Bridge Valley Community and Technical College.

The Charleston Station's platform is owned by CSXT, and parking is available adjacent to the station. Listed on the National Register of Historic Places, the Charleston Station is located across the Kanawha River from downtown Charleston. The station is wheelchair accessible but is scheduled to receive additional ADA compliant parking spaces, curb cuts and tactile edging as part of Amtrak's Mobility First Initiative. The platform is owned by CSXT. Some parking is available adjacent to the station. Three Kanawha Valley Regional Transportation Authority bus routes operate past the station. In July 2017, Amtrak launched a Thruway bus service linking the *Cardinal*-served Charleston Station with the West Virginia communities of Morgantown, Fairmont, Clarksburg/Bridgeport, Weston, Sutton/ Flatwoods and Clendenin. The station also serves as the nearest passenger train station for students at West Virginia State University and the University of Charleston. The station is no longer staffed by a ticket agent and does not offer checked baggage service. Caretakers open and close the station at train times.

MARC Stations

The Eastern Panhandle of West Virginia is served by three *MARC* commuter stations: Harpers Ferry, Duffields and Martinsburg. The Harpers Ferry and Martinsburg stations are also served by Amtrak and are described above. The Duffields Station was designed as a park-and-ride station and is equipped with 295 parking spaces. The platform and small shelter area are near WV-9.

Tourist Railroads

In addition to the state's intercity passenger and commuter rail operations, several tourist trains also operate over rail lines owned by freight railroads. Most of these tourist railroads cannot offer connections to other passenger services due to their geographic isolation and are only operated seasonally.

A Cass Scenic Railroad train to Bald Knob passes one of the tourist railroad's most scenic overlooks below Leatherbark Junction near Spruce, WV.

Cass Scenic Railroad

The Cass Scenic Railroad (CSRR) is based in the restored lumber town of Cass, in Pocahontas County. CSRR operates on the former West Virginia Pulp and Paper Company Railroad for 11 miles up Cheat Mountain to Bald Knob. The railroad uses the same steam locomotives that were used on the line for more than 50 years. The railroad is owned by the State of West Virginia and since 2015 has been operated by the Durbin & Greenbrier Valley Railroad (DGVR). The West Virginia Division of Natural Resources (WVDNR) previously operated the railroad.

Durbin & Greenbrier Valley Railroad

The Durbin & Greenbrier Valley Railroad (DGVR) operates freight and excursion trains on the West Virginia Central Railroad (WVCR) between Tygart Junction and Spruce.

DGVR's excursion train business travels through some of West Virginia's most scenic and remote locations. DGVR's excursion trains are based out of Elkins, Durbin and Cheat Bridge in rural West Virginia. DGVR's business has increased in recent years, with the railroad serving more than 85,000 customers in 2018. Recent equipment restorations and new marketing avenues have allowed the railroad to boost local tourism.

Potomac Eagle Scenic Railroad

The Potomac Eagle Scenic Railroad (PESR) operates tourist trains on the South Branch Valley Railroad (SBVR) between Romney and Sycamore Bridge north of Moorefield, with occasional longer trips to Petersburg.

Special longer trips are operated on Saturdays and Sundays in November to allow passengers additional time to view the fall colors. PESR also operates several event trains for the Loy Foundation (featuring an on-train murder mystery), Hardy Heritage Days, Romney Railroad Days, and a Ridgedale Home Tour Special. Christmas train trips have been offered in past years.

Autumn Colors Express

The Autumn Colors Express is a 300-mile round trip passenger excursion that operates between Huntington and Hinton in October. The excursion train is operated by the Rail Excursion Management Co. and uses CSXT-owned freight rail lines to travel through southern West Virginia's New River Gorge. The *Autumn Colors Express* uses Amtrak locomotives and privately-owned vintage passenger cars and served 2,500 passengers in 2019.

Prior to 2019, the West Virginia-based Collis P. Huntington Railroad Historical Society (CPHRRHS) managed the fall excursions for more than 50 years. Due to rising costs, the organization elected not to continue management of the train. Today's *Autumn Colors Express* trips are contingent upon Amtrak and CSXT approval.

Combined, intercity passenger rail services, commuter rail, and the state's four tourist rail attractions provide West Virginians and surrounding populations with access to rural areas and leisure destinations. The state's ever-growing tourist railroad attractions are significant contributors to regional economies as visitors spend money in lodging, restaurants, and other attractions. Small businesses and communities dotted throughout West Virginia's passenger rail network benefit from these services and attractions, underpinning the indispensable value of these services. Specific projects to support the growth of passenger rail in West Virginia will be discussed in latter chapters.

2018 Tourist Trains Ridership	
Cass Scenic Railroad	46,000
Durbin & Greenbrier Valley Railroad	38,000
Potomac Eagle Scenic Railroad	16,750
Autumn Colors Express (formerly New River Train)	4,800
Total	**105,550**

The tail end business car of the Collis P. Huntington Railroad Historical Society's New River Train (AKA Autumn Colors Express) passed underneath the New River Gorge bridge near Fayette Station, WV.

West Virginia's Freight Rail System

Freight is a key component of West Virginia's economy. In total, $164.2 million tons of freight originated in, terminated in or moved through West Virginia by rail in 2018, equivalent to over $2.6 million carloads.[12]

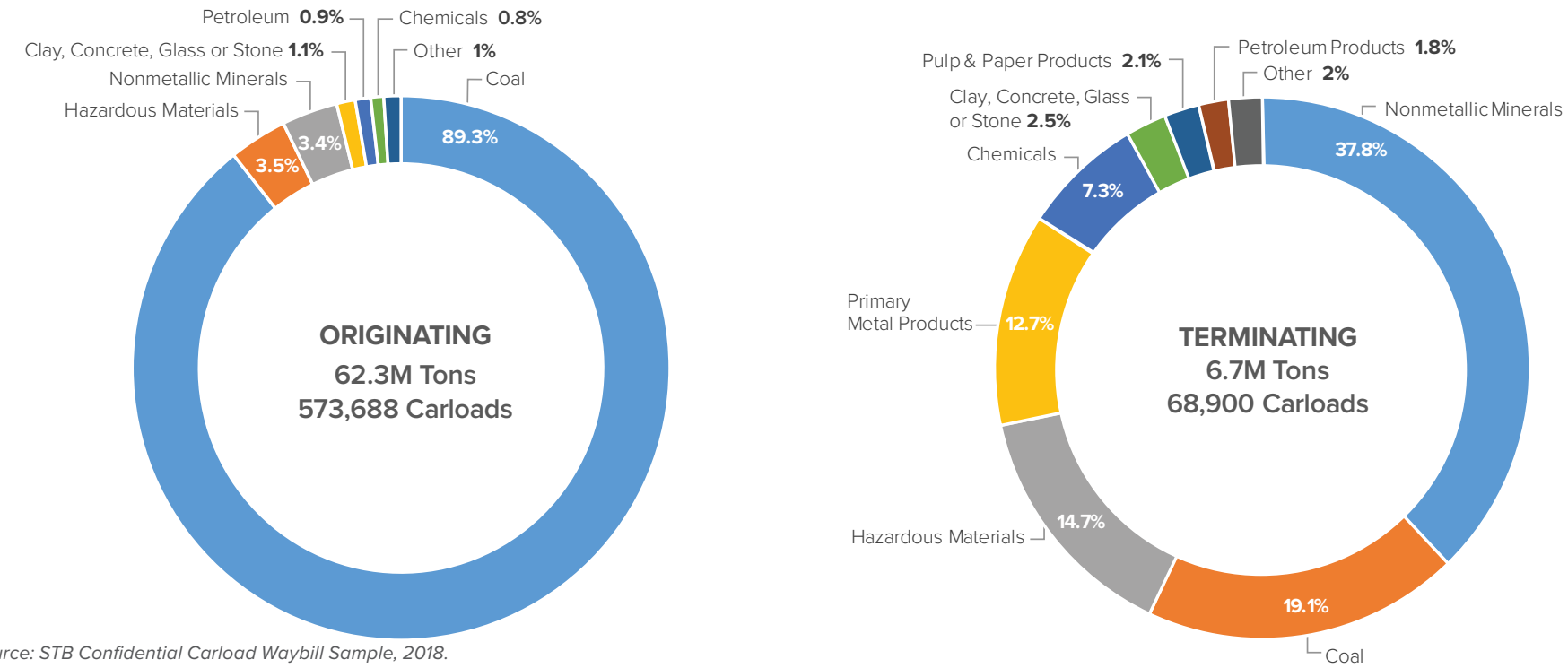
Coal continues to be produced and moved efficiently by rail from the state's coalfields to coastal export facilities and other destinations. Oil and gas investments in North Central West Virginia have enabled rail to play an integral role in transporting raw products into facilities and redistributing finished products using the rail network. However, some communities are transitioning from a natural-resource-based economy to tourism, and rail lines can be repurposed to support a growing tourism industry.

Through 2040, total rail freight flows in the state are forecasted to continue to fall slightly, primarily due to reduced domestic coal use. However, an increase in a number of rail-dependent commodities could reverse the declining trend in rail traffic and diversify the state's rail freight commodity base to maintain rail's competitive position in the marketplace. These commodities include intermodal traffic (container and trailer movements by rail), oil and gas production commodities to and from the Utica/Marcellus Shale region, export coal and chemicals.

West Virginia's public and private freight rail system supports the state's economy through Class I, II, and III railroads.

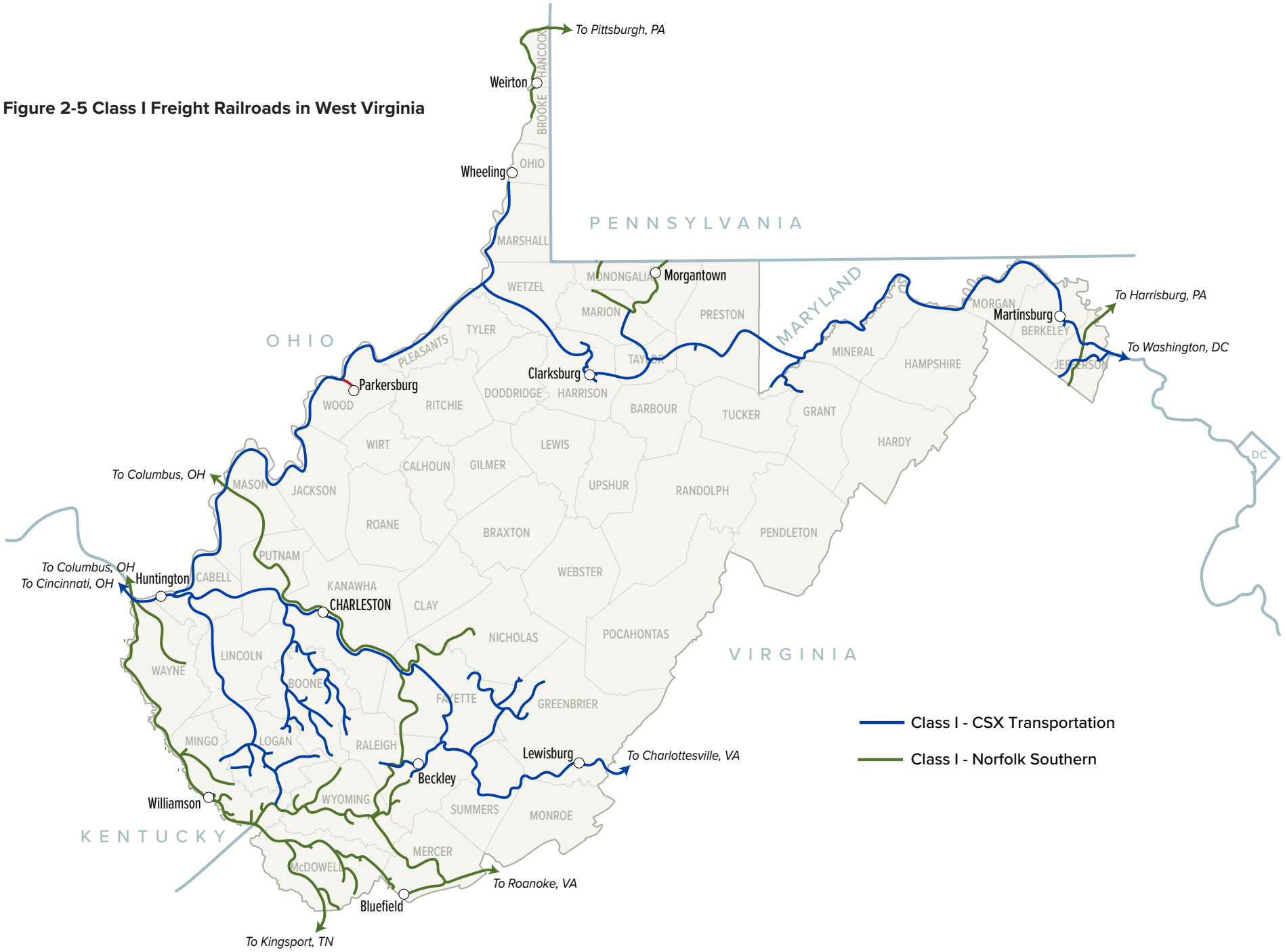
12 Surface Transportation Board. Waybill Data for West Virginia (2018)

Figure 2-3 Rail Traffic Originating & Terminating in West Virginia in 2018



Source: STB Confidential Carload Waybill Sample, 2018.

Figure 2-5 Class I Freight Railroads in West Virginia



Freight railroads are defined and classified by the federal Surface Transportation Board (STB):

Class I Railroads are defined as having more than $379 million of annual carrier operating revenue. They primarily operate long-haul service over high-density intercity traffic lanes. In West Virginia, CSX Transportation (CSXT) and Norfolk Southern Corp. (NS) are categorized as Class I railroads and own 1,056 and 586 route miles of track, respectively.

Class II, or Regional, Railroads operate over at least 350 miles of track and/or have revenue of between $40 million and the Class I threshold.

Class III, or Short Line, Railroads operate over fewer than 350 miles of track and have annual revenue of less than $40 million per year.

Terminal, or Switching, Railroads engage primarily in switching and/or terminal services for other railroads.

West Virginia's freight railroads are served by two Class I railroads (CSXT and NS) and 12 Class II/III railroads classified as Regionals and Short Lines. Combined, these 14 freight railroads serve West Virginia businesses and industries across the state's more than 2,310-mile freight rail network

	Number of Freight Railroads	Miles Operated (Including Trackage Rights)
Class I	2	1,642
Regional/Short Line	10	286
State-owned Short Line	2	184
Total	14	2,312

Note: CSXT and NS mileage from STB R-1 reports as of December 31, 2017

Class I Freight Railroads

Class I railroads (CSXT and NS) own and operate more than three-quarters, or 1,640 miles, of the state's 2,312-mile network. Class I railroads are predominantly the heavy-haulers of rail in West Virginia, moving unit trains of coal, grain and other commodities. Due to the multi-state networks of Class I railroads, these companies also transport freight that may have originated on a smaller Class II/III railroad via interchange locations these companies have with smaller railroad operations. Both Class I railroads serving West Virginia are described in Appendix 2 - Rail Profiles.

CSX Transportation

CSXT's 21,000-mile freight rail network covers 23 states east of the Mississippi River. Interchanging with western railroads in Chicago, St. Louis, Memphis and New Orleans, CSXT rail lines spread east across the Midwest, reaching key markets from the Great Lakes to the Deep South, Appalachia and Northeast.

Coastal port facilities in New Orleans and along the Atlantic Coast provide international access for various imported and exported goods. CSXT owns and operates 1,056 miles of track in West Virginia that supports its export coal business and other energy-related industries in the state.

Norfolk Southern

Norfolk Southern (NS) is a Class I railroad with freight rail lines in 22 states. Its 21,500-mile network interchanges with western railroads in Kansas City, St. Louis, Chicago, Memphis and New Orleans. NS rail lines serve most metropolitan areas east of the Mississippi River to the Great Lakes, Deep South, Appalachia and Northeast. Coastal port facilities in New Orleans and along the Atlantic Coast provide international access for imported and exported freight. NS owns 586 miles of track in West Virginia, and its operation is largely concentrated in the southern part of the state.

CSX Engine 134 plows through the snow

Class II Freight Railroads

Wheeling & Lake Erie Railway Company (WLE)

WLE was constructed in 1871 to move West Virginia coal to Pittsburgh, PA and Lake Erie port cities. The railroad is owned by the Wheeling Corporation and operates in Ohio, Pennsylvania, Maryland, and West Virginia and is one of the largest regional railroads in the country.

The railroad operates only 5.5 miles of rail line in northern West Virginia, connecting Ohio with its lines in Pennsylvania and Maryland. Within West Virginia, the WLE is a single track railroad with no sidings and no signal system. The rail line can accommodate 286,000-pound rail cars, and there are no clearance restrictions. Maximum operating speeds on the West Virginia portion of this line are 30 mph and operates about 20 trains per week.

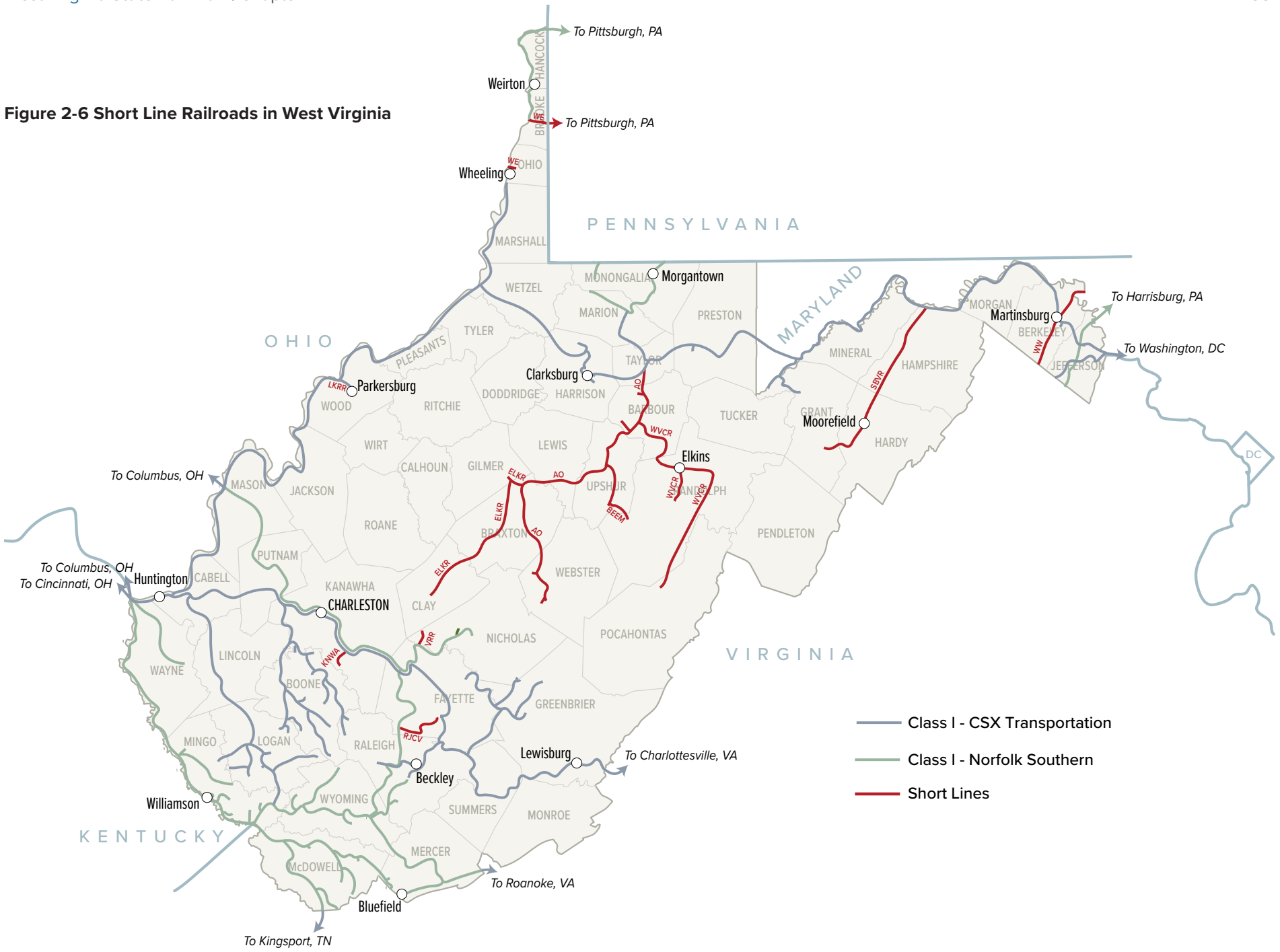
Class III Short Line Railroads

Appalachian & Ohio Railroad

The Appalachian and Ohio Railroad (A&O) operates a total of 158 miles of railroad, between Grafton and Cowen, in West Virginia over three subdivisions. The A&O main line is 119 miles and the A&O has trackage rights between Berkeley Run Junction and the CSXT Grafton Yard, where the railroad interchanges with CSXT. A&O also connects with three short line railroads: the West Virginia Central Railroad (WVCR), the Beech Mountain Railroad (BEEM) and the Elk River Railroad (ELKR).

All A&O lines are capable of handling 286,000-pound rail cars. A&O's traffic is largely coal destined to power plants in the Northeast and Mid-Atlantic region. In addition to coal trains, A&O operates three local train operations to handle various commodity shippers. Commodities handled include chemicals, lumber, non-metallic minerals, plastics, and scrap metal.

Figure 2-6 Short Line Railroads in West Virginia



Beech Mountain Railroad

The original BEEM line was constructed in 1892 to haul logs for processing then began hauling coal in 1953. After several stops and starts from coal mine closures the Carter Roag Coal Company rebuilt the line with heavier rail and resumed operations in 2005. The railroad is owned by Metinvest Group and United Coal.

This single track railroad extends eight miles along the Left Fork of the Buckhannon River between the mine at Star Bridge and the A&O interchange at Alexander; there is a coal load out at Star Bridge. The railroad is single track with no sidings, with a maximum authorized speed of 10 mph. There is no signal system and only one train operates at a time. The line is capable of handling 286,000-pound railcars, and there are no clearance restrictions. The railroad operates six to eight times a month interchanging coal cars with A&O then to CSXT terminating in Baltimore, MD for loading on ships for export.

Elk River Railroad

ELKR is located in Braxton and Clay counties between Gilmer (Gilmer County) and Hartland (Clay County). The former B&O line that connected Gilmer and Hartland was built in the late 1800s, as part of the old Coal and Coke Railroad linking Charleston and Grafton.

The current ELKR main line extends between Burnsville Junction, near Gilmer, and Dundon. However, only 31 miles between Burnsville Junction and Frametown are in service and utilized as an industrial track. Between Frametown and Dundon, 36.3 miles of track are out of service.

ELKR has an agreement to sell the rail corridors to the state for a new rails-to-trails corridor through the Surface Transportation Board (STB) rails-to-trails program. The Elk River Trail project is being developed in four phases and should be complete in Fall 2020.

Little Kanawha River Rail

LKRR began in 1896 as a short section of railroad in South Parkersburg. LKRR is currently owned and operated by, Marietta Industrial Enterprises, Inc. LKRR is a 3 mile industrial switching railroad in South Parkersburg. The railroad interchanges with CSXT at the Ohio River Junction and has a 3-track rail yard located between the East Street Bridge and Buckeye Street.

The railroad serves a business park with warehouse space, lay down area, and a river-rail transload facility. Commodities handled are aggregates, brick and cement, forest products (paper, lumber, and pulp), chemicals, coal, metallic ores and minerals, construction and demolition debris, municipal solid waste, food and feed products, steel, and scrap.

Little Kanawha River freight delivery

RJ Corman Railroad Company/West Virginia Line

RJCV consists of 16 miles of the former Chesapeake & Ohio in Fayette County between Pax and the CSXT interchange at Thurmond. RJCV is owned by the R. J. Corman Railroad Group, a railroad holding company based in Nicholasville, KY.

There are no signals on this line, except at the CSXT interchange in Thurmond. Maximum authorized speed on the entire line is 10 mph. High cube box cars and oversize loads are restricted on the line. RJCV operates an average of five trains a week. Commodities handled include coal, anhydrous ammonia, and ammonium nitrate.

South Branch Valley Railroad

The line was purchased by the State of West Virginia in 1978, after B&O filed to abandon due to low traffic volumes. West Virginia became the first state in the nation to own and operate a commercial freight railroad.

SBVR is comprised of 52.4 miles from the interchange with CSXT at Green Spring, in Hampshire County, south to the end of track at Petersburg, in Grant County. The railroad follows the South Branch of the Potomac River through Hampshire, Hardy, and Grant counties; serving the towns of Romney, Moorefield, and Petersburg.

Maximum authorized speed is 25 mph, and no signal system exists on the line. Movements outside of yard limits are by track warrant control. SBVR can accommodate cars up to a maximum gross weight of 286,000 pounds. There are no clearance restrictions. No major rail yards are located on the SBVR. Small switching facilities are found on various side tracks and are designated by yard limits. A shop facility is located off the main line in Moorefield. The main building and wash bay are used to maintain SBVR's fleet of nine locomotives. A wye track is located near the shop.

SBVR provides service to the Grant County Industrial Park in Petersburg, the Moorefield Industrial Park, and the Hampshire County Industrial Park at Romney. A private passenger rail operator runs the Potomac Eagle excursion train under contract with the SRA.

Vaughan Railroad Company

Consol Energy, Inc. purchased the 18-mile VRR in 2007 between Vaughan, in Nicholas County, and the CSXT/NS interchange at Rich Creek Junction. Although VRR is a Class III common carrier rail, it operates over the 18-mile line handled by NS and CSXT via trackage rights.

The end of track is a Consol Energy coal loader at Vaughan. The 2-track coal loading facility is capable of loading up to 130 rail cars and the line is capable of handling 286,000 pound rail cars. The VVR connects with CSXT and NS at Belva and has no signaling system, so only one train can operate on the line at a time.

West Virginia Central Railroad

WVCR has a total of 132.13 route miles and is comprised of the former B&O Belington Branch and the former Western Maryland Tygart, Laurel and Dailey Branches. The railroad was purchased by the State of West Virginia from CSXT in September 1997, and began operation in May 1998. WVCR interchanges with the A&O at Tygart Junction. DGVR operates both freight trains and passenger excursion trains on the WVCR line.

Maximum authorized speed is 25 mph on main tracks and 5 mph on all other tracks. On average, 10 trains are operated per week. Commodities handled include highway salt, finished lumber, scrap metals, and limestone. WVCR is capable of handling up to 315,000 pound rail cars.

The Belington Yard is located 17 miles west of Elkins. In Belington, WVCR built a 40-foot by 110-foot single stall engine facility on the site of the old B&O yard. The Belington Yard serves as the railroad's locomotive and passenger car maintenance facility.

Winchester & Western Railroad, Virginia Division

Winchester & Western (WW) Railroad was originally built in 1916 to haul timber by the B&O Railroad and the Winchester Lumber Company. In 1986, WW purchased the line, between Winchester, VA and Hagerstown, MD, from the Consolidated Rail Corporation (Conrail). In 2019, OmniTRAX completed the acquisition of the 101 year-old WW.

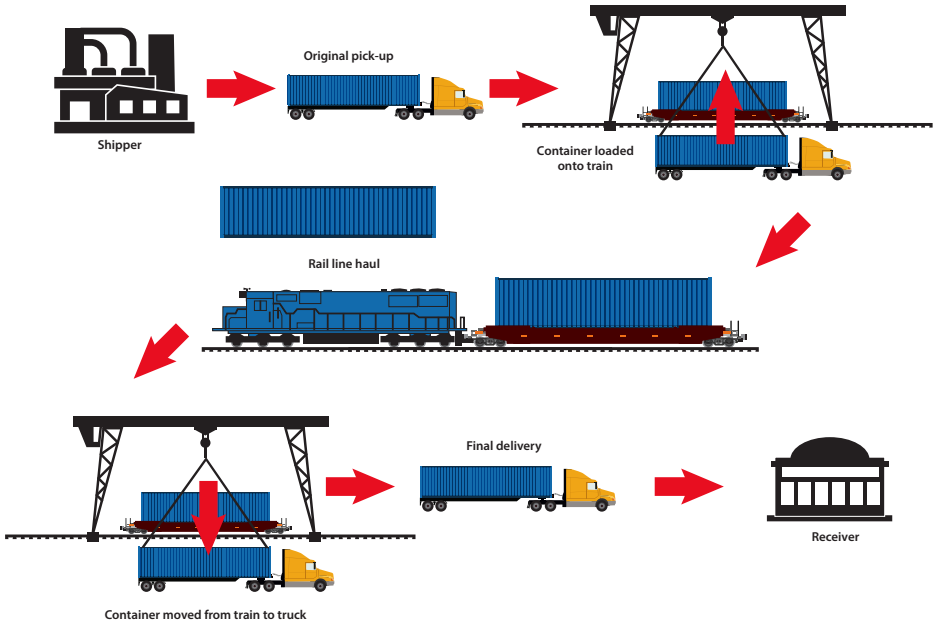
The portion within West Virginia is on the WW Virginia Division, which has 53 miles of track in the Shenandoah Valley and moves approximately 12,500 carloads per year. The Virginia Division has two lines: the Winchester Mainline, and the Sandman Branch. The latter covers the 18 miles of track between Winchester and Gore, VA, where the Unimin Corporation quarry is located.

WW interchanges with CSXT at Winchester, VA and Martinsburg, WV. The railroad also interchanges with NS in Hagerstown, MD. The railroad operates 28 miles in the State of West Virginia with the majority of its freight supplied by the quarry, located in Gore, VA.

WW's interchange at Martinsburg consists of a wye and a spur track that can hold up to 36 rail cars. The railroad operates at a maximum authorized speed of 10 mph. There is no signal system on the railroad. WW can handle 286,000-pound railcars. Commodities handled include sand, cement, lime, asphalt, paper, auto parts, and coal.

Freight Rail Terminals

Rail terminals are locations where rail freight can be transferred. Rail freight terminals can include classification yards, intermodal facilities and transload facilities. Rail classification yards are locations where freight cars are made into trains according to their destination. Freight intermodal terminals are facilities where large amounts of freight, generally containers or trailers, are transferred from one mode to another, such as between rail and either highway or water modes. Transload facilities are a form of intermodal transfer, which is generally reserved for local transfer of bulk commodities between rail and truck. Most of these rail operations are under the oversight of the facility/plant of which the switching service is performed or by a third-party rail contractor.



CSXT Facilities

CSXT has eight rail yards in West Virginia as shown in Figure 2-7. The yards vary in size and are used to switch local freight for area customers, transload bulk commodities and stage inbound and outbound coal trains. In addition to these yard facilities, CSXT continues operating its locomotive heavy haul repair shop in Huntington where its in-house workforce repairs damaged locomotives, performs routine inspections and conducts preventative maintenance on CSXT-owned locomotives.

CSXT also partners with transload businesses at two CSXT-served facilities in West Virginia. These transload sites allow commodities to be transported between trucks and rail equipment. TRANSFLO, a subsidiary of CSX Corporation, manages a 42-car transloading site in Fairmont, WV; Transload Solutions manages a 200-car transload site in Benwood, WV; and Twin Eagle

Sand Logistics manages a 130-car frac sand transloading facility in Bridgeport, WV. The facilities can transload dry chemicals, plastics and frac sand, among other dry bulk commodities.

NS Facilities

NS has five rail yards in West Virginia located in Kenova, Williamson, Laeger, Mullens and Bluefield. The yards are primarily used for staging inbound and outbound coal trains and switching local freight.

Kanawha River Railroad Facilities

Kanawha River Railroad (KNWA) operates a rail yard near Belle, WV, for the switching of local freight and staging of inbound and outbound coal trains. Watco Companies' Terminal & Port Services division also operates a transload facility near Nitro, WV, for the transport of fly ash products between rail and truck. KNWA operations were managed by NS prior to 2016.

Other Freight Facilities

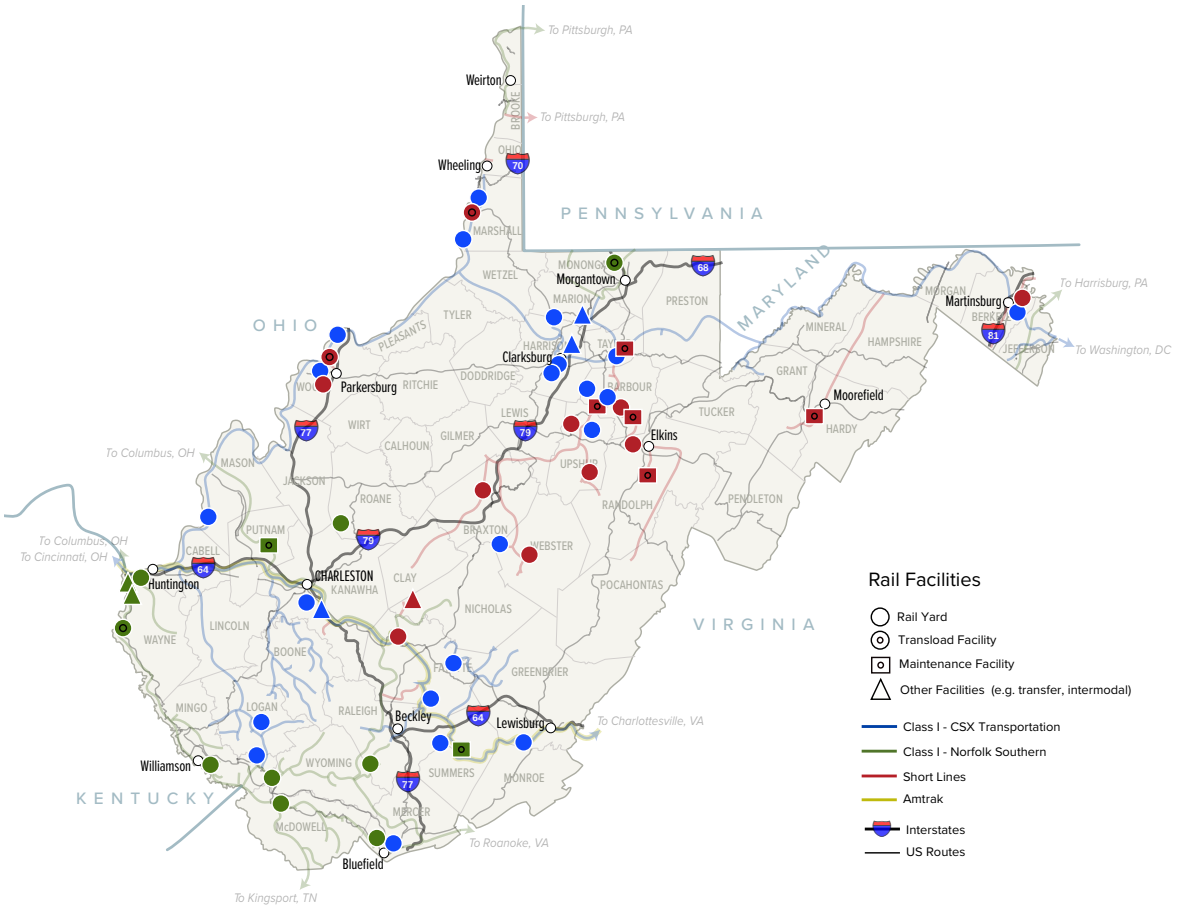
The Prichard Intermodal Facility is West Virginia's only intermodal facility. It was previously operated by the West Virginia Public Port Authority and served by NS. The 100-acre intermodal site is adjacent to NS's Kenova District mainline in Prichard. Opened in 2015, the facility is equipped with siding tracks and a container loading and unloading area. The modern site also includes administrative office space, ample parking and transloading facilities.

From 2015 to 2019, the site was used for the transfer of containerized products along NS's Heartland Corridor between Norfolk, VA and Chicago, IL. With the facility's proximity to U.S. 52 and Interstate 64, local industries used the facility to receive or distribute containerized goods via rail. In late 2019, due to low volume and insufficient profits, the State of West Virginia elected to auction the facility to private businesses. In early 2020, a short-term operator took control of the site to manage the few remaining container transfers and to explore future business opportunities for the site. As of mid-2020, the State of West Virginia is still in search of a permanent operator for the terminal. NS also operates a 30-car Thoroughbred Bulk Transfer terminal in Maidsville, WV, for the transfer of frac sand, chemicals, asphalt, food products, plastics and energy products.

Facilities, yards, transloads and maintenenance shops in West Virginia are shown in Figure 2-7 below.

The WVDOT, through WVSRA, works with trail advocacy groups and other entities on the public use of these former rail corridors. WVSRA is currently responsible for overseeing 16 rail-banked lines totaling more than 250 miles of public use trails.

Figure 2-7 Rail Facilities, Yards, Transloads and Maintenance Shop in West Virginia



Abandoned and Rail-Banked Lines

West Virginia's rail system has decreased from approximately 4,000 route miles in 1920 to about 2,300 miles today. Most of West Virginia's rail abandonments have been concentrated in rural areas on obscure rail lines serving a single customer or commodity. In the past decade, the Surface Transportation Board (STB) has received abandonment requests for approximately 70.23 miles of track.

Rail owners and operators must apply to the STB for permission to discontinue or abandon freight service on a line. The STB requires that a railroad publish a notice to abandon an active line once a week for at least three consecutive weeks and provide notice at its stations and to its rail customers. For a line on which no service has been provided over the past two years and where no customers object, prior notice is not required, and the carrier is exempt from many of the STB abandonment requirements.

The National Trails Act[13] allows for reserving railroad right-of-way through the temporary use of the railroad corridor as a trail. Trail use can be permitted when it is determined that the railroad right-of-way may be needed in the future for railroad use. Public agencies may also request through the STB that the rail corridor be made available for "public use" if it has been determined that the right-of-way is suitable for highway or mass transit usage, conservation, energy production or transmission, or recreation.

WVSRA is the owner of these trail systems but has established agreements with other agencies, such as the West Virginia Division of Natural Resources and other local and county entities, to maintain the trails. These entities are financially responsible for continual upkeep; however, WVSRA is responsible for large repairs caused by natural disasters.

Name	End Points	Mileage
Greenbrier River Rail Trail	North Caldwell - Cass	74.93
Greenbrier River Rail Trail	Cass - Durbin	17.11
North Bend Rail Trail	Wilsonburg - Walker	60.57
North Bend Rail Trail	Walker - Parkersburg	11.04
Harrison County Rail Trail	Clarksbrug - Spelter	6.93
Harrison County Rail Trail	West Clarksburg - Hackers Creek	14.13
Marion County Rail Trail	Shinnston - Fairmont	12.27
Tri-Rivers Trail	Richwood - Camden on Gauley	14.50
Caperton Trail	Reedsville - PA State Line	50.23
Panhandle Trail	Weirton - PA State Line	4.57
	Total Miles	**266.28**

13 16 U.S.C. 1247 (d).

West Virginia's Multimodal Transportation System

West Virginia has a robust multimodal transportation system that includes an extensive highway network, a public transportation network, bicycle and pedestrian infrastructure, ports, and airports, in addition to the rail network. The state's multimodal transportation network allows for the efficient movement of people and goods, helping residents access employment, services and recreation and helping businesses access markets. The 2020 State Rail Plan has been developed with consideration of the role of freight and passenger rail services within the broader multimodal network.

Highways

West Virginia's highway system encompasses 38,770 miles of public roads, including 34,691 miles of state-owned highways, 835 miles of federally-owned roads and 3,244 miles of municipally owned roads. Passenger and freight rail services, which operate near several of the state's highway systems, can alleviate car and truck congestion on state-maintained roads.

Interstate 64 parallels most of the CSXT-owned freight line between Huntington and near White Sulphur Springs, serving the urbanized areas of Huntington, Charleston and Beckley. Amtrak's *Cardinal* passenger train uses the CSXT-owned tracks and serves many of the communities located along or near Interstate 64, including the three cities listed above.

In southern West Virginia, U.S. 52 parallels much of the NS-owned freight line between Kenova and Bluefield. Both U.S. 52 and the NS mainline loosely follow one another through southwestern West Virginia. U.S. 52, a predominantly two-lane road, gains access to other interstate systems via Interstate 64 near Huntington and Interstate 77 near Bluefield. U.S. 52 serves as one of the only through-routes in southern West Virginia for local motorists and trucks.

West Virginia Route 2, a two-lane road paralleling much of the Ohio River, also tightly follows the CSXT-owned Ohio River Subdivision that starts near Huntington, runs north to Parkersburg and continues into the Northern Panhandle near Benwood. With businesses served by truck and rail as well as truck-rail transload sites dotting along this route, there are additional opportunities to alleviate roadway congestion with an increased emphasis on freight rail services.

Interstate 79 operates primarily north-south from near Charleston north to Clarksburg, Morgantown and into southern Pennsylvania. This part of the highway system does not follow a rail corridor, but various interstates and state routes interconnect with the highway. Interstate 79 also crosses over a CSXT-owned line near Clarksburg close to the former location of a transload site.

Interstate 77 is primarily north-south from near Bluefield to Parkersburg. Known as the West Virginia Turnpike, between Bluefield and Charleston, I-77 is one of the state's most highly traveled highway systems. It connects northern travelers to the lower Southeast. Due to I-77's 187.2-mile routing through West Virginia, the highway crosses over or parallels rail lines at various points, including the NS mainline at Bluefield, CSXT mainline north of Beckley near Charleston, the Kanawha River Railroad near Charleston, and the CSXT mainline near Parkersburg, WV. I-77 is frequented by many semi-trucks and travelers gaining access to the Southeast from the Midwest.

Aviation

There are seven airports in West Virginia with regularly scheduled commercial service. Yeager Airport in Charleston accounts for nearly 60% of the state's commercial passenger service. Yeager Airport reported 202,778 passengers in the 2017 calendar year. Currently, there is no direct link connecting West Virginia's airports with passenger rail services or rail transit options.

Yeager Airport is located about five miles from Charleston's *Cardinal*-served Amtrak station. In Huntington, the Tri-State Airport is located about 11 miles from the *Cardinal*-served Amtrak station. The Raleigh Memorial Airport in Beckley and the Greenbrier Valley Airport in Lewisburg are also near additional *Cardinal* station stops at Prince and White Sulphur Springs.[14]

Intermodal

Several river ports and terminals are dotted along the Kanawha and Ohio Rivers in West Virginia, serving coal and other energy-related businesses via river barge. Most of these facilities are truck-to-river terminals where coal or other products are transferred between trucks and river barge. Those products are then shipped along the Kanawha and Ohio Rivers by barge to their ultimate destination. Those destinations include coal-fired utility plants or other businesses located along the rivers. Some of the commodities served by these port facilities include aggregates, chemicals, coal, and oil and natural gas products.

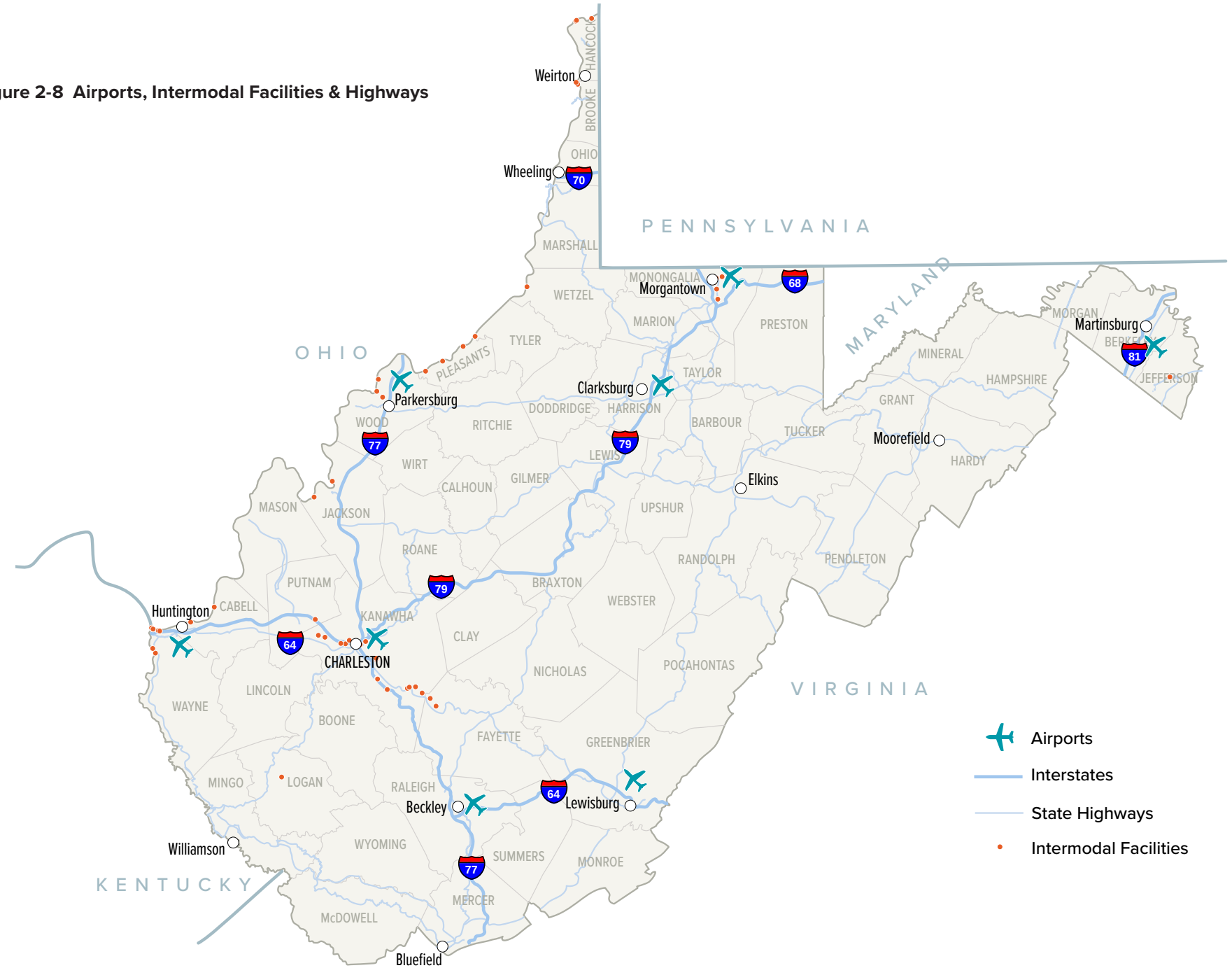
Some of these intermodal facilities also incorporate rail into their operations. In far western West Virginia along I-64 at Ceredo, SunCoke Energy operates the Kanawha River Terminals. This rail facility receives CSXT and NS coal trains for transloading to river barge. The coal transported at this facility is used for domestic steel production and other purposes.

The Heartland Intermodal Gateway in Prichard is West Virginia's only containerized intermodal facility. The NS-served facility is part of the railroad's Heartland Corridor and was, until late 2019, utilized for the loading and unloading of containers bound for Midwest or Southeastern consumption markets. Due to low volumes and high cost, the site is currently idled and the State of West Virginia, who oversaw the funding and design of the terminal, is seeking a permanent operator of the 100-acre site.

Highways, airports and intermodal systems are shown in Figure 2-8.

14 FAA Air Carrier Activity Information System (ACAIS) Calendar Year 2017 Enplanements.

Figure 2-8 Airports, Intermodal Facilities & Highways



Rail Safety in West Virginia

Highway-rail grade crossing incidents, train accidents, trespassing issues and the release of hazardous materials are all components of a broader analysis of rail safety issues in West Virginia. Analyzing these rail safety issues and trends will guide recommendations for improved safety initiatives that will ultimately better the lives of West Virginians and the state's rail industry.

Highway-Rail At-Grade Crossing Safety in West Virginia

There are a total of 3,001 at-grade rail crossings in West Virginia. Of these, 1,240 are public crossings and 1,761 are private crossings. More than three quarters of West Virginia's public grade crossings are on Class I rail lines owned by CSXT and NS. The remaining crossings are on short line and regional railroads. There are 58 public grade crossings on rail corridors either owned or overseen by WVSRA, including 24 public crossings on the state-owned SBVR and 33 public crossings on the WVCR and CSRR.

Public grade crossings have various levels of protection and warning devices such as crossing signals, gates and audible bells. These figures show that 56% of at-grade crossings in the state have active warning devices, such as gates, flashing lights or special warning arrangements (i.e. flagmen), while 44% have passive or no warning system. The percentage of at-grade crossings with active warning devices has increased from 49% to 56% since the 2013 State Rail Plan.

Since 2013, there have been 115 highway-rail at-grade crossing incidents reported in West Virginia, resulting in three deaths and 60 injuries. Of those 115 events, 82 have occurred at public at-grade crossings, or more than 71% of total events during the period. On average, five people are injured at West Virginia's highway-rail at-grade crossings annually.

While highway at-grade crossing deaths are trending downward, the total number of at-grade crossing events remains consistent, underlining the need for continued safety improvements statewide. Nine highway-rail at-grade crossing injuries were reported to the FRA in 2019, the second highest number since 2013, totaling 30. Continued safety improvements and educational outreach can aid in reducing total events statewide. Additional analysis of highway-railroad crossing accidents are detailed in Appendix 7.

Positive Train Control

Positive train control (PTC) refers to technologies designed to automatically stop or slow a train before certain accidents occur. PTC systems are designed to determine the location and speed of trains, warn train operators of potential problems and act if operators do not respond to a warning.

The Rail Safety Improvement Act of 2008 required railroads to place PTC systems in service by December 31, 2015 on Class I railroad routes with over five million gross ton per mile, with commuter or intercity passenger operations or any amount of toxic/poison-by-inhalation hazardous materials. Legislation extended this deadline to December 31, 2020. PTC requirements currently exclude short line railroads that have no passenger service. As of June 2020, both Class I operators in West Virginia, CSXT and NS have completed PTC on all locomotives and track within their systems.

The freight rail system provides significant support to West Virginia's economy. Freight rail connects West Virginia's major industries to global markets and provides cost effective transportation for domestic consumer goods and bulk raw materials. This chapter will identify changes in key industrial freight volumes and ridership and key trends associated with rail service in general. The outlook for key commodities that move by rail will also be identified for the top five industrial commodities. Finally, a review of the state's economic and demographic outlook will demonstrate the relationship to overall rail trends and forecasts and identify opportunities for future investment. Supply chains are becoming increasingly complex. This chapter will also discuss West Virginia's broader transportation network and how different modes of transportation contribute to multimodal transportation to support the state's economy.

3. Trends Influencing Rail in West Virginia

The United States economy recorded a period of steady economic growth of approximately 2.2% year over year, after the 2009 recession, however future growth may be impacted by changes in trade policy and a global pandemic which resulted in significant structural changes to the economy in 2020. Growth in intermodal shipments has outpaced the U.S. Gross Domestic Product (GDP) but due to a change in U.S. energy policy, coal shipments, the largest rail supported commodity, has dropped precipitously, resulting in a significant decrease in revenue ton miles in the state.

Consumer spending is the single largest component of GDP. This activity has been supressed since pre-recession levels due to a reduction in household debt levels, tight bank lending standards, and weak house price appreciation. As COVID-19 “Shelter in Place” restrictions took hold in 2020, e-commerce replaced much of the activity in store front operations, and an overall reduction in consumer spending as work from home and remote home offices replaced business protocols. With less workplace commuting and business travel, the demand for new automobiles declined as well as state gasoline tax revenues. State budgets across the country are being impacted by reductions in revenues attributed to passenger fares, toll revenue, diesel and gasoline tax collections, licensing and registration vehicle fees, as well as passenger air travel. Consumers have pulled back on spending, thus affecting state revenues through state and local sales taxes.

Investment in industrial facilities and equipment has remained sluggish since the decline in 2016 when energy companies dampened spending due to low oil and natural gas prices. United States' net exports (exports minus imports) have contributed to economic volatility as trade agreements have changed market trading partner relationships and commodity flows. Unemployment, which peaked during the 2009 recession at approximately 10%, shrunk to approximately 4% in 2019, and has spiked again to 10.2% in July 2020 due to the COVID pandemic which has impacted travel, retail and service industries.

The COVID-19 pandemic is expected to continue to impact the economy until a reliable COVID-19 vaccine can be distributed. Return to unrestricted activities is not likely until late 2021 or early 2022 and meanwhile, a global economic slowdown and increased federal debt will threaten economic expansion. Transportation supply chains have been threatened due to plant and production slowdowns/shutdowns, and ocean and railroad carload transportation has been stifled as freight volumes have declined. Trucking and recent intermodal demand has increased to support new e-commerce consumer demands.

West Virginia’s economy is highly reliant on resource extraction for its livelihood. However, changing international markets, evolving national environmental regulations and policies, and increasing conversion of coal power plants has challenged the West Virginia economy. Tax revenues from natural resource extraction and export have traditionally been an important revenue source for the state. Economic diversification is occurring and industries such as oil and gas, construction and contract labor, health care, and information technology have seen growth. Nonetheless, the coal industry, and associated employment remain an important part of the state’s economy.

West Virginia Industries by Sector

West Virginia's rail system is influenced by seven key sectors: energy, manufacturing, chemicals and polymers, automotive, metals, wood products, and tourism development. The following sections identify trends in these industries, with an emphasis on energy due to its critical role in the state's economy and reliance on rail. Improving multimodal connections, and public rail access via transload operations and development of spur tracks to access industries may help improve freight volumes and network balance.

Energy

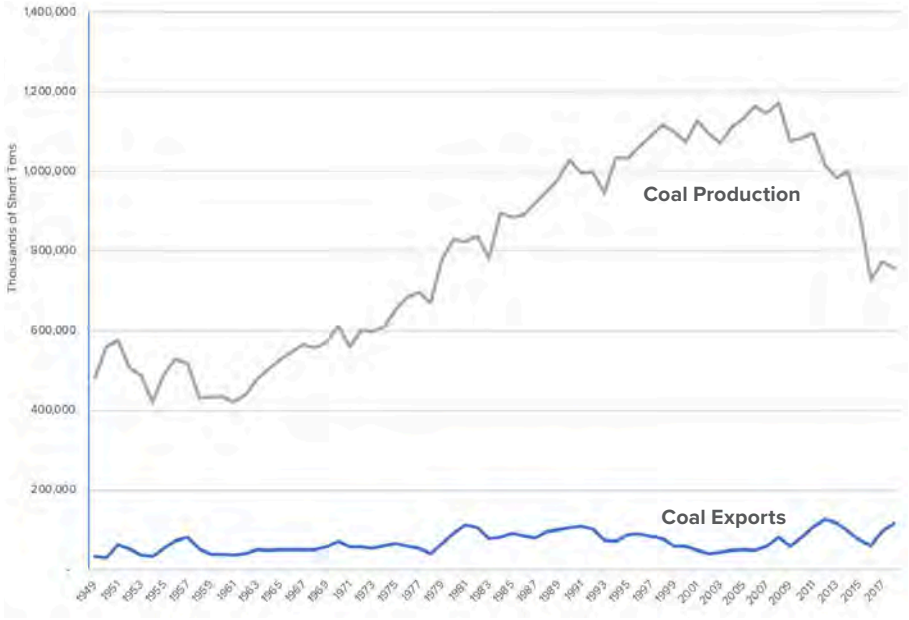
West Virginia continues to be a national leader in energy-related business. The state ranked fifth among the United States in total energy production in 2018, accounting for 5% of the nation's total. In 2019, West Virginia was the second largest producer of coal in the nation after Wyoming, producing more than 93 million tons, or approximately 13% of U.S. total coal production. More than one-third of the state's coal was exported overseas. In 2019, West Virginia was also the sixth largest natural gas-producing state in the nation with an output of 2.2 trillion cubic feet of natural gas.[15]

Recent declines in West Virginia's coal mining industry have been countered by an upswing in oil and gas-related jobs, construction and contract labor, as well as expanded opportunities in healthcare, information technology and government. These market shifts are contributing to a workforce with broadening skillsets, and growth within these industries will continue to lessen the state's reliance on coal as global energy markets fluctuate.

Coal

In recent years, U.S. coal production has declined to levels not seen for over 40 years in West Virginia, and further declines are expected. Export coal markets, however, have remained relatively stable which has recently helped to sustain West Virginia's coal production, particularly in the northern part of the state. Coal trends for the country are shown in Figure 3-1.

Figure 3-1 U.S. Coal Production & Export Trends from 1949 – 2018



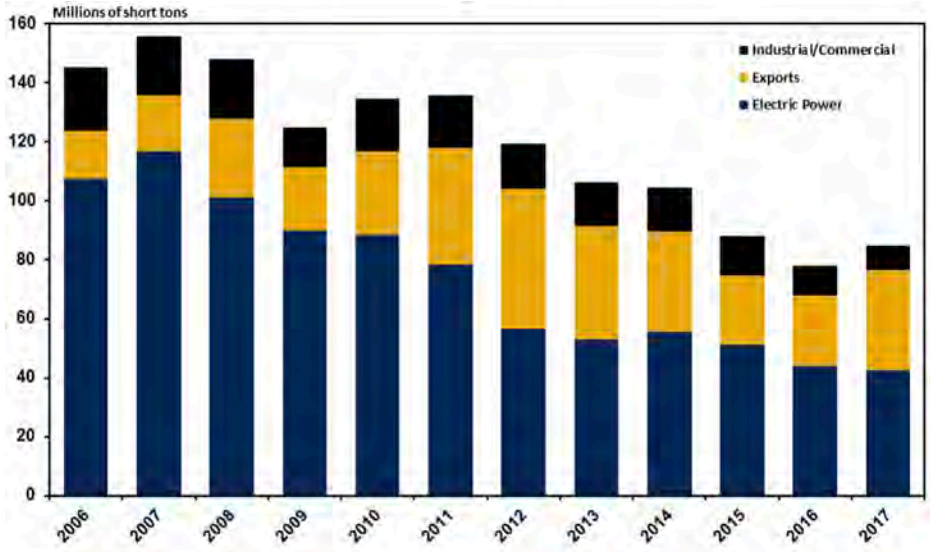
Source: U.S. Energy Information Agency.

15 U.S. Energy Information Administration, West Virginia State Profile and Energy Estimates: https://www.eia.gov/state/?sid=WV.

Nationally, the demand for domestic thermal coal (coal used for electricity generation) is declining, as coal-fired power plants convert to natural gas or other energy types. It is anticipated that competition from other sources of electrical power, such as wind and solar, may continue to reduce demand for thermal coal. For the mining industry, this is placing more emphasis on exports of metallurgical coal. While demand for thermal coal has weakened, exports of metallurgical coal have experienced recent surges. However, world demand for metallurgical coal fluctuates with global economic and policy trends, including trade policy. Additionally, new technologies in steelmaking bring future demand for coking coal into question.

The implications of the above trends for West Virginia are shown in Figure 3-2 which indicates that the levelling off of utility coal sales and a fluctuating export demand that over the long run appears more or less level.

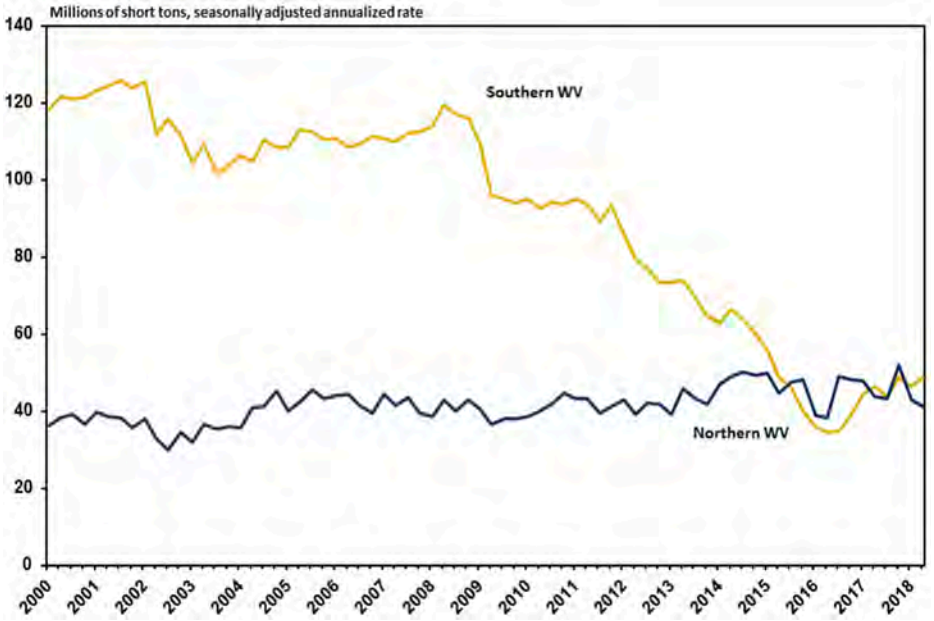
Figure 3-2 Distribution of West Virginia Coal Shipments by End Use Market



Source: Coal Production in West Virginia 2018-2040, West Virginia University, Bureau of Business and Economic Research and U.S. Energy Information Administration.

The impact of the switch from coal-fired power to other sources is not felt equally for mines in northern and southern West Virginia. Northern West Virginia has a more stable market for its production that is tied to power generation, however production is highly concentrated, and a single mine closure could impact rail adversely. These trends are highlighted in Figure 3-3.

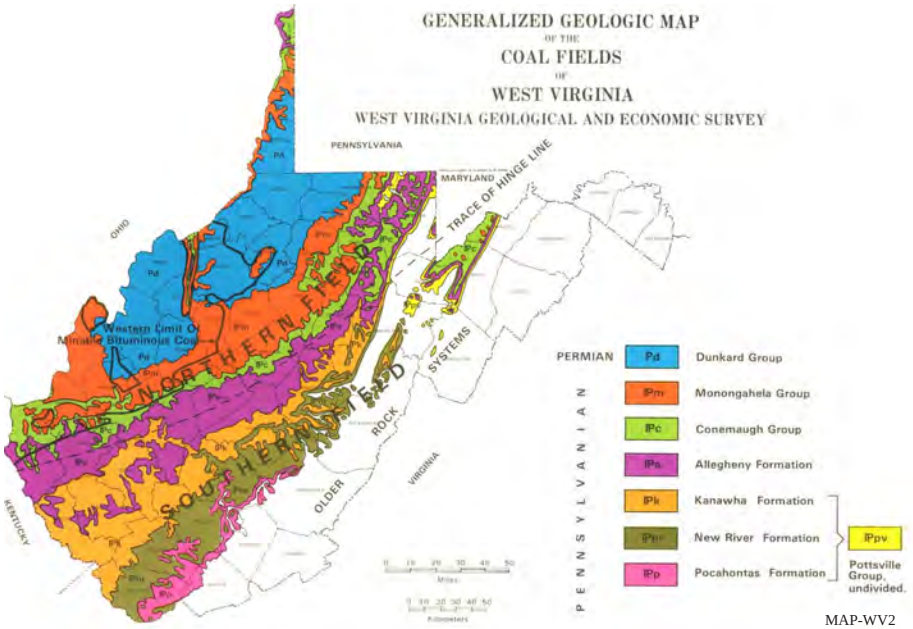
Figure 3-3 Historical Coal Production by Region in West Virginia



Source: U.S. Energy information Administration.

West Virginia coal production is often divided into northern and southern districts. The northern district closely conforms to the area served by former Baltimore and Ohio Railroad (B&O), now CSXT, lines and the former Monongahela Railroad (RR) accessible to both the Norfolk Southern and CSXT railroads with the Monongahela RR being the larger rail tonnage factor. Southern West Virginia fields encompass important mining counties starting in Fayette and Greenbrier counties in the north central part of the state and from there southwesterly to the Virginia state line and the Ohio River. These fields are traversed by the former Chesapeake & Ohio Railroad (C&O), now CSXT, line from Covington, VA through the New River Gorge area to Charleston, WV and onward to the Ohio River and the Norfolk Southern lines following the West Virginia-Virginia state line in the south. From these lines coal branches into the northeast-southwest trending coal fields. There is no significant coal production in the counties proximate to the greater Baltimore and District of Columbia (DC) Metro areas.

Figure 3-4 Generalized Geologic Map of West Virginia Coal Fields

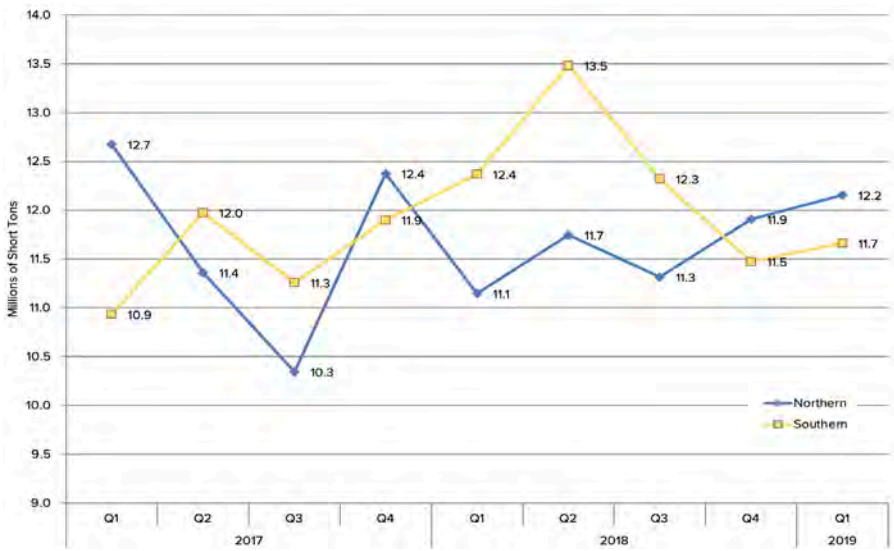


Source : WV Geological and Economic Survey.

Southern West Virginia coal production has followed a pronounced downward trend since 2000, with some agitation in recent years. In general, this decline can be traced to the economic recession beginning in 2008-2009 and subsequently to the conversion of electric generating plants from coal to natural gas responding to regulatory pressures and the growing abundance of natural gas due to increases in fracking and the installation of pipeline capacity to carry the gas to market. The latter effect became particularly notable after 2015.

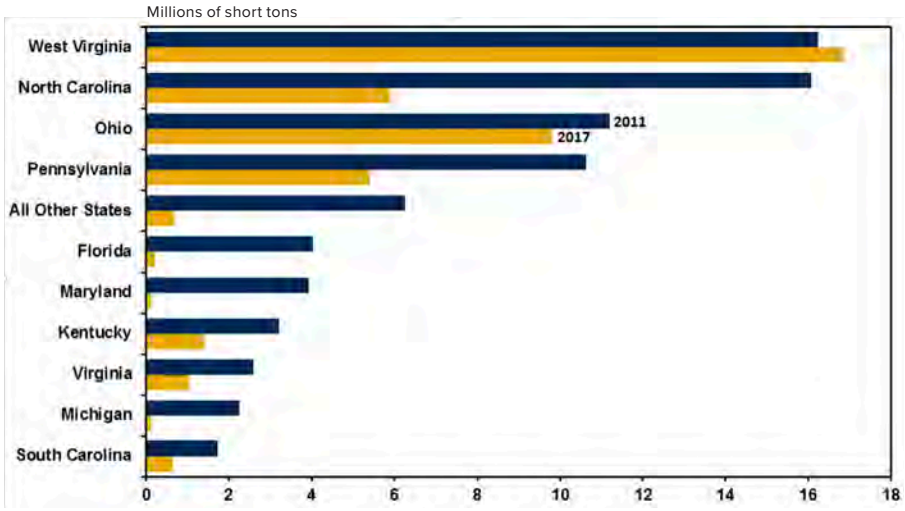
Export demand has accounted for nearly all of the improvement in production over the past two years or so due to significant increases in coal shipments to India, Brazil, Ukraine, and a few other countries. By contrast, domestic demand has remained negative, but more so for mines in northern West Virginia, as the U.S. electric power sector transitions away from coal-fired generation over to natural gas and other sources of electricity. Increased export activity has recently helped northern West Virginia production, which experienced a 9.0% increase from the first quarter of 2018 to the first quarter of 2019, as seen Figure 3-5.

Figure 3-5 Quarterly Coal Production in West Virginia: 2017 through Q1 2019



Another tendency of relevance to railroads is the substitution of natural gas for coal in the states which formerly constituted a large share of West Virginia production. As shown in Figure 3-6, West Virginia steam coal increasingly stays in West Virginia, with delivery to West Virginia electrical utilities. The massive decline in movements out of West Virginia reduces railroad's revenue per carload available to support their infrastructure, because the coal is moving less distance or by other means, such as water or truck.

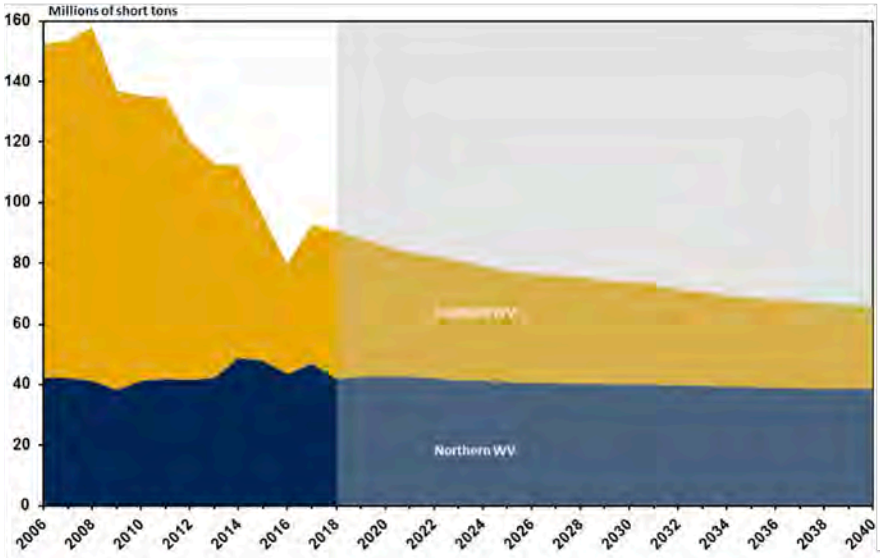
Figure 3-6 Destination States for WV Coal Shipments to Electric Utilities, 2011 vs. 2017



Source: U.S. Energy Information Administration.

Industry experts suggest West Virginia is unlikely to experience a severe downturn like the one experienced during the early part of this decade. The West Virginia University Bureau of Business and Economic Research forecasts a more gradual decline in southern West Virginia coal production and stable output from northern West Virginia, as shown in Figure 3-7. The Bureau cautions, however, that coal production in the former B&O territory is very much a mine-by-mine proposition and is served by the Appalachian and Ohio Railroad (AO), a part of CSXT affiliate P&L Holdings. This area should be considered a fragile area for rail infrastructure maintenance but one which still has significant coal potential. As an example, Arch Coal is developing Leer South to be a new three million annual tons high volatile met coal mine in Barbour County, which is served by the AO.

Figure 3-7 Coal Production Forecast by Region



Note: Forecast period designated by shaded area.
Sources: U.S. Energy Information Administration, WVU BBER Coal Production Forecast.

Budgetary Implications

Because coal plays such an important role in the state's economy, fluctuations in the market have significant impacts on state revenues. For example, U.S. regulations, utility coal-fired plant conversions, and international markets led to West Virginia producing only 79.7 million tons of coal in 2016, compared to 95.6 million tons in 2015 and more than 92.7 million tons in 2017.

This nearly 16% decrease in coal production in 2016, almost all of it in the southern district coal fields, led to a decrease in coal severance tax collections. Coal severance tax collections are 5% of the sale price of mined coal, of which the state retains 93% and the remaining 7% is apportioned among the state's 55 counties. Severance tax collections also include a tax on the sale of natural gas, coalbed methane, and timber products. The 2016 decreases in coal sales (distribution) and natural gas levies contributed to funding shortfalls at a state government level.

Table 3-1 West Virginia Severance Tax Data[16]

Year	Total Severance Tax	Coal	Natural Gas
FY 2018	$409,696,119	$249,848,148	$121,188,028
FY 2017	$393,550,940	$239,790,143	$118,453,284
FY 2016	$417,126,539	$265,338,309	$124,338,309
FY 2015	$612,221,486	$375,558,411	$194,200,833
FY 2014	$645,275,039	$407,147,587	$203,693,419

In addition to adversely effecting West Virginia's economy, the decrease in coal production in 2016 provoked some of the railroads to rationalize assets and restructure operations in West Virginia. Class I railroads CSXT and NS both consolidated regional management responsibilities by dividing operations and local or regional sales positions among neighboring territories, resulting in less in-state workforce. CSXT reduced personnel at the former Huntington Division office in Huntington, WV and NS made a similar operating move that partially combined the Pocahontas Division operations to the Bluefield, WV office.

Mechanical and support staff positions were also abolished resulting in employee furloughs across West Virginia. Railroads now operate fewer, but longer trains. While coal production has increased since the 2016, railroads have not reversed any of the business decisions implemented during the downturn.

The current federal administration is supportive of growth in the coal industry and has reduced environmental regulations in the industry. While the long-term implications of these regulations remain uncertain, West Virginia's coal production has significantly recovered from the 2016 coal slump and remains steady. This normalization, combined with an increase in oil and gas pipeline production and support jobs, has contributed to a West Virginia state revenue surplus of more than $240 million as of January 2019.

Natural Gas

These vast natural gas reserves discovered in the Marcellus, Rogersville and Utica shale formations beneath West Virginia are helping transition the state's energy sector and broadening its economy, providing new opportunity for freight railroads and transportation companies. Rail lines in north central West Virginia have already benefitted from increased shipments of gas industry related supplies. Increased frequencies of unit frack-sand trains and inbound and outbound carloads of raw materials has led to an increase in freight traffic on rail lines primarily operated by CSXT and NS.

Instances where rail may not directly serve a business or area, privately-owned

16 West Virginia Department of Revenue, State Tax Department, Research Division.

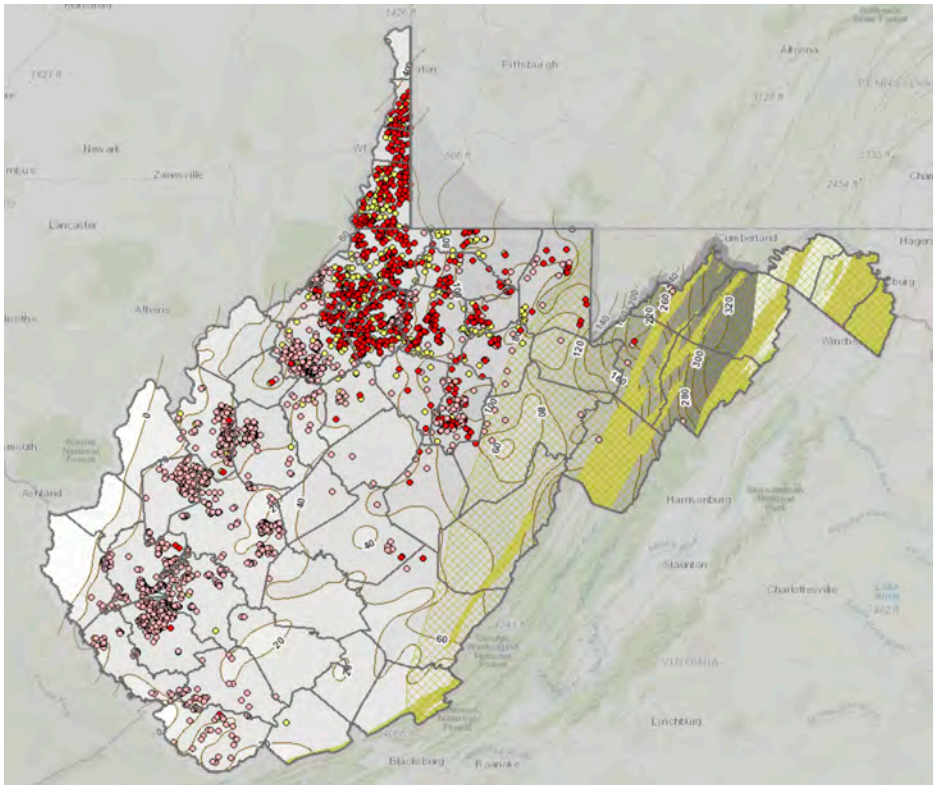
transload facilities have proven to be a favorable alternative in shipping product between rail and truck using existing transportation networks. Energy's role in West Virginia and the influx of different types of commodities reinforce West Virginia's commitment to the energy sector and underscores the state's need for continued investment in infrastructure that transports energy and related products.

Well Drilling Supplies

Each gas well drilled requires 20 to 30 carloads of fracking sand according to Jim Schaaf, Group Vice President of NS. Although sand is the primary commodity NS is transporting to drill sites, the Class I is also hauling water, pipe, drill rig parts, crane mats, chemicals, cement and rocks.[17] Similarly, CSXT has inaugurated unit train deliveries of fracking sand to Clarksburg and Benwood (Wheeling) West Virginia.[18]

Marcellus drilling activity is primarily concentrated in western West Virginia on an axis stretching from Fairmont – Morgantown to Logan, West Virginia, as shown in Figure 3-8.[19] The most intensive Marcellus activity has been in the area of northwestern West Virginia (and Pennsylvania and Ohio.)

Figure 3-8 Marcellus Drilling Activity



Source: West Virginia Geological and Economic Survey.[20]

17 Progressive Railroading, Marcellus Gas Exploration, November 2011.

18 https://www.kallanishenergy.com/2015/06/16/unimin-energy-begins-frac-sand-unit-train-service-to-marcellus-shale-play/.

19 http://atlas.wvgs.wvnet.edu/arcgis/apps/webappviewer/index.html?id=5c1c64c37e23429e91737dac99a93302/.

20 http://atlas.wvgs.wvnet.edu/arcgis/apps/webappviewer/index.html?id=5c1c64c37e23429e91737dac99a93302/.

Natural Gas Fractions

Besides fracking sand and well drilling supplies, sustainable rail traffic can be expected to be derived from downstream products. As a rough rule of thumb, the gas produced by the prolific fields to the east of the Ohio River in West Virginia is "wet" gas meaning that it contains more than 10% liquids in the form of ethane and butane natural gas liquids. These products must be separated before the dry gas can be injected into pipelines carrying gas for heating and electrical generation. However, these liquids can be sold or processed into fine chemicals by further "cracking" the ethane molecules to make plastic resins such as low- and high-density polyethylene, and other products.

Rail freight enters the picture in two places in the production cycle. First, at the initial separation stage, where the cryogenically separated natural gas liquids (NGLs) are transported by liquids pipeline, if available, or by rail tank car and truck if no pipeline is available. Secondly, and potentially very important to state railroads, the resin products of cracking the ethane are optimally transported in rail cars in large quantity to larger consumption areas of the Northeast and Midwest United States.

There are several such second stage "fractionation" units in West Virginia situated along the banks of the Ohio River that provide feedstocks to other producers in tank cars.[21] In addition to ethane based plastic resins, NGLs also can be used to produce ethanol. Most recently, U.S. Methanol announced it would build a methanol production site in Kanawha County, to start production in early 2021, that would produce approximately 200,000 metric tons of methanol annually with a potential expansion to 350,000 metric tons annually.[22] The company's first United States facility is being built in West Virginia and plans to supply customers with methanol using West Virginia's rail, barge, and truck systems.

Sustainable and growing transportation of NGLs and downstream NGL fractions as feedstocks should be additive to demand for rail transportation from established West Virginia chemical products, as explained in the following section. Should West Virginia attract an ethane cracker similar to the Shell facility in Monaca, PA, the possibility for transporting dramatically more carloads of plastic resins to consuming areas of the Northeast and Midwest United States is secured.[23]

Manufacturing

Manufacturing is a significant contributor to West Virginia's economy. Manufacturers in West Virginia account for nearly 10% of the total output in the state, employing more than 47,000 workers in 2018.[24] In 2018, the state's total output from manufacturing was $7.94 billion and average compensation exceeded $70,000.[25] Manufacturing throughout the state is diverse and includes a variety of businesses specializing in different materials. Some of the businesses that have direct links to freight and passenger rail systems are explained further and top industries in the state are seen in Figure 3-9.

21 For example, Blur Racer Midstream at Natrium and Williams Companies at Round Bottom.

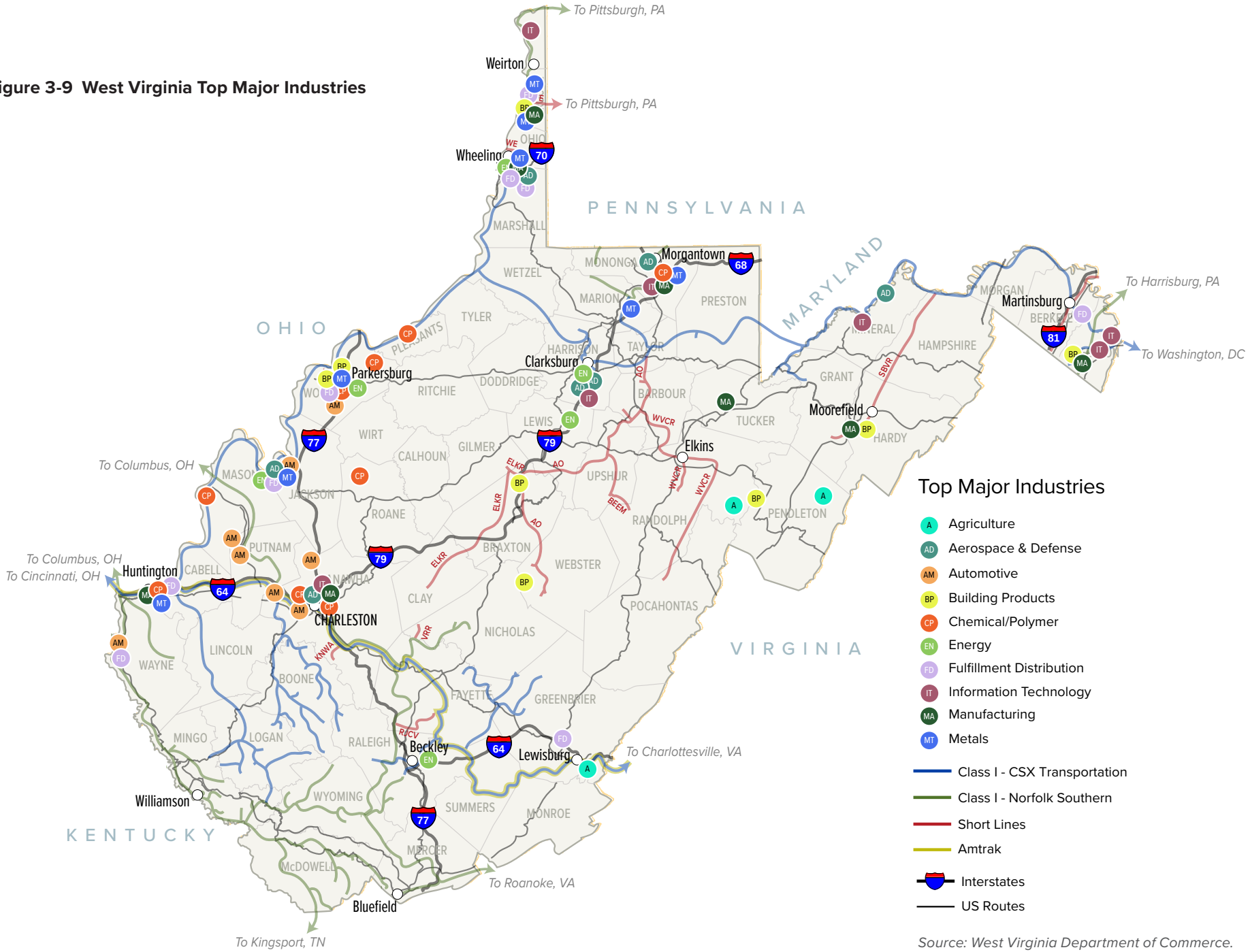
22 US Methanol Liberty One Groundbreaking: http://charlestonareaalliance.org/news/details/congratulations-to-us-methanol-on-liberty-one-groundbreaking.

23 Such a facility was planned by BrasKem and Odebrecht of Brazil but has been delayed by Brazil's declining fortunes.

24 Annual Report on the Civilian Labor Force, Employment and Unemployment, http://lmi.workforcewv.org/table2annual.html.

25 https://www.nam.org/state-manufacturing-data/2019-west-virginia-manufacturing-facts/.

Figure 3-9 West Virginia Top Major Industries



Source: West Virginia Department of Commerce.

Chemicals and Polymers

West Virginia's chemical and polymer industry continues to expand due to the state's proximity to regional markets and the accessibility to raw materials like ethane, propane and methane. The salt wells that originally attracted the industry still exist and the state's waterways provide water for mixing, cooling and other needs. The state's chemical and polymer industry includes nearly 140 companies and 10,000 workers. Chemical and polymer manufacturing accounts for $2.9 billion of the State's $7.94 billion manufacturing output and nearly three quarters of manufactured exports.[26]

Household names: Dow, DuPont, and Bayer are just a few examples of the leading chemical and polymer companies with vast investments in West Virginia. These companies and others are closely linked with nearby freight rail systems that allow for the efficient movement of raw and finished products.

Automotive

Automotive manufacturers and support businesses are closely linked to West Virginia because of its multimodal transportation network, access to suppliers of raw materials, and nearby access to key markets. Companies such as Toyota Motor Manufacturing, Gestamp, Hercules International, and Hino Trucks are a few examples of automotive businesses with investments in the state. These companies also support distribution and logistics companies that directly link with West Virginia's rail system.

Toyota Manufacturing is one example of a company in West Virginia that does not utilize direct rail service but is able to gain access to rail using intermodal facilities. Prior to the decommissioning of the Heartland Intermodal Gateway (HIG) facility in Prichard, WV, Toyota utilized the HIG. Service was provided by Norfolk Southern three times per week to the Port of Virginia in Norfolk, VA. The rail-to-truck facility used containers to ship inbound products to Toyota's manufacturing site in nearby Buffalo, WV. Intermodal facilities, such as the HIG, can be leveraged to promote additional investments in automotive-related businesses going forward.

Metals

Primary and fabricated metals manufacturing is another facet of West Virginia's unique manufacturing sector. Constellium Rolled Products (aluminum), Novelis, NS Wheeling Nisshin, ArcelorMittal USA, Northwest Pipe, Steel of West Virginia and Swanson Industries are a few examples of the more than 1,300 metalworking and machinery manufacturing companies located in West Virginia. Railroads serving steelmaking and metals facilities in western and northern West Virginia help support these businesses.

Wood Products

With 11.9 million forested acres, West Virginia is the third most forested state in the nation. The ample wood products make West Virginia a leading producer of hardwoods. West Virginia's wood industry contributes more than $3.2 billion to the state's economy each year, employing approximately 30,000 workers.[27] Wood products manufacturing includes logging operations, sawmills, dry kilns, rustic rail fence producers, veneer plants, building materials production, and furniture manufacturers. It is one of the few industries with businesses in all 55 counties. Businesses within this industry use the state's rail and roadway systems for transporting raw materials and finished products.

26 Ibid 11.

27 West Virginia Department of Commerce, Division of Forestry, https://wvforestry.com/logging/.

Tourism Development

Tourism continues to take a greater role in West Virginia's economy as increasing populations in surrounding metropolitan areas seek unique travel destinations. In 2018, West Virginia travel spending totaled $4.6 billion, or the equivalent to approximately $11.8 million dollars per day.[28] This number is a more than 3% annual or compound annual growth rate (CAGR) increase from 2000 when travel spending was approximately $2.4 billion. This growing industry is responsible for more than 45,400 jobs and is a vital source of state and local government revenue, generating more than $534 million in economic impact in 2018.[29]

Outdoor and recreational tourism not only leads people to visit the Mountain State but to also live and work. West Virginia University recently received a generous donation from Brad and Alys Smith to fund the Outdoor Economic Collaborative (Collaborative). The Collaborative seeks to promote relocation to West Virginia by supporting remote workers driven to a higher quality of life and an outdoor lifestyle. Outdoor tourism will remain a growth opportunity for the state in both the near and long term.

Passenger rail systems provide transportation options to core tourist attractions and the industry's rail tourism business drives more than 100,000 people to rural West Virginia each year. Amtrak's tri-weekly *Cardinal* operates through southern West Virginia's New River Gorge National River. The area is known for rafting and other outdoor recreation venues from spring to late fall. In the eastern panhandle, Amtrak's daily *Capitol Limited* and MARC commuter trains provide access to the Harpers Ferry National Historic Park and the Shenandoah Valley.

In addition to intercity passenger rail services as a vehicle for tourism development, West Virginia's own rail tourism industry continues to serve increasing audiences each year. In 2017, tourist rail operations on the Cass Scenic and Durbin & Greenbrier Valley railroads generated an estimated $24.2 million in total economic impact, based on lodging, food, travel, and attraction costs.[30] These two railroads were responsible for approximately 85,000 of the 105,000 estimated customers who visited West Virginia's tourist railroads in 2018.

There are three primary counties of which tourist trains operate. They include the Cass Scenic Railroad in Pocahontas County, the Durbin & Greenbrier Valley Railroad in Randolph County, and the Potomac Eagle Scenic Railroad in Hampshire County. Tourism spending for all attractions in these three counties totaled more than $170 million in 2017, reinforcing the significance of maintaining these attractions and the tourism industry collectively.

The Autumn Colors Express, formerly the Collis P. Huntington New River Train, transported over 2,500 guests in over three days in October 2019 to Hinton, WV from Huntington and Charleston, WV for the annual fall leaf foliage viewing in connection with the Hinton Railroad Days. The 2020 season was cancelled due to COVID-19 but will resume in October 2021. The event draws visitors to Hinton for several days of food, music and entertainment.

28 West Virginia Travel Impacts 2000-2018, Dean Runyan Associates for West Virginia Tourism Office, https://www.travelstats.com/dashboard?ucode=5400.

29 Ibid 14.

30 State of West Virginia Excursion Railroad Economic Impact Analysis, 2017.

Emerging Industries

Emerging technologies will shape the future of the state's economy in ways that are yet unknown. West Virginia is in a unique location to leverage emerging trends in transportation and technology. In October 2020, Virgin Hyperloop announced that it will locate a new Hyperloop Certification Center on 800 acres of land in Grant and Tucker Counties.[31] Construction on the facility is slated to begin in 2021 and is estimated to have an annual economic impact of $48 million.

Information technology and the availability and collection of large amounts of data is more prevalent in the current digital economy. West Virginia is actively expanding the state's broadband network to attract businesses and residents who need a robust communications system.[32] This expansion should have positive effects on industrial and technology developments in the state.

Demographic Changes

According to the West Virginia Center on Budget and Policy, projections estimate the population will continue to decline over the next two decades, falling to 1.6 million people by 2040. Although the state is projected to decrease in population, several counties are expected to add additional residents or remain constant in the future.

Among the population, it is estimated that less than 20% have received a bachelor's degree or higher, and approximately 86% of persons 25 years of age or older have attained a high school diploma. In 2018, West Virginia's median household income was $44,921 per household, according to the U.S. Census Bureau – $15,372 lower than the median national household income.[33] The per capita income for West Virginia in 2018 was $26,179 and although the State's per capita personal income level ranks 49th in the nation, income in West Virginia increased 5.5% in 2018. Outpacing growth in all other states and surpassing the national figure by nearly two percentage points.

There were 692,000 people employed in West Virginia in 2018, about 38% of the 2018 total population. Of these some 50,000 are employed in the coal industry at wage levels that are considerably higher than the median income.[34] Employment projections, completed by the John Chambers College of Business and Economics at West Virginia University, estimate the state can anticipate average annual employment increases of 0.2% through 2024, compared to 0.6% for the United States. Much of the expected job growth in West Virginia will occur in the energy extraction industry and will be focused in the northern half of the state. These projections indicate a continued demand for passenger and freight movements.

West Virginia's shifting population has the potential to exacerbate adverse economic conditions, however, continuing to attract new businesses, furthering education, and infrastructure investment will position West Virginia to attract business, remain competitive, and reverse the trend on population decrease.

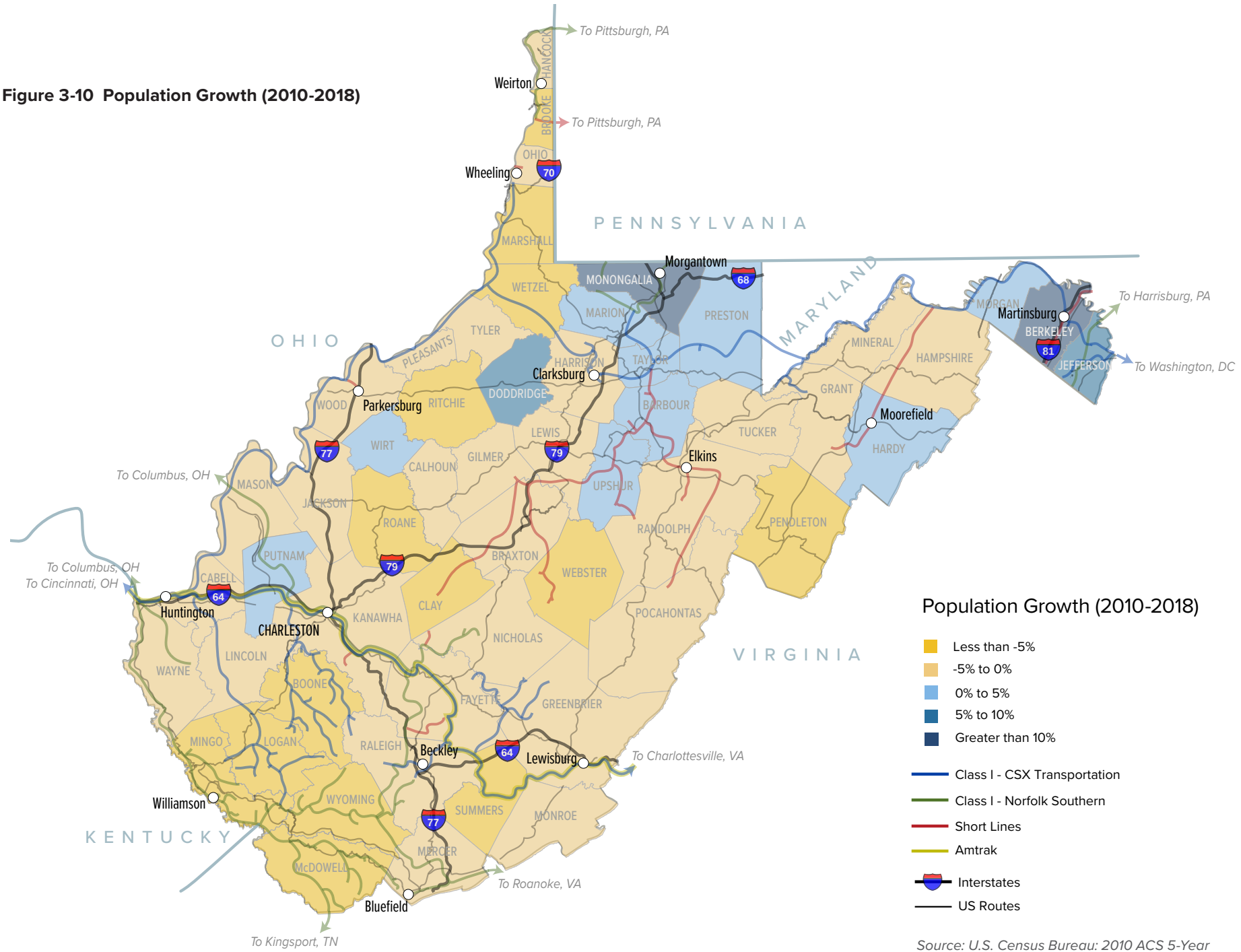
31 https://governor.wv.gov/News/press-releases/2020/Pages/Gov.-Justice-announces-Virgin-Hyperloop-to-build-Hyperloop-Certification-Center-in-West-Virginia.aspx.

32 https://www.govtech.com/network/West-Virginia-Governor-Announces-Broadband-Expansion.html.

33 U.S. Census Bureau West Virginia QuickFacts: https://www.census.gov/quickfacts/fact/table/wv/PST045217.

34 West Virginia Office of Miners' Health, Safety and Training, 2017 Annual Report, page 63, including independent contractors.

Figure 3-10 Population Growth (2010-2018)



Source: U.S. Census Bureau: 2010 ACS 5-Year Estimates and 2018 ACS 5-Year Estimates.

Improving rail networks that share both freight and passenger rail traffic benefits West Virginia communities by supporting a multimodal network and improving connectivity.

Rail-related investments can equip West Virginia with the necessary tools to attract and retain businesses in different sectors. These investments can also stimulate the economy by providing more employment opportunities for West Virginians.

As roadways continue aging in West Virginia, a shared use of the state's existing transportation systems, most notably the state's public and private railroads, can be used as a marketable resource in attracting economic development to the state, while also lessening the burden on public roadway systems. Infrastructure maintenance, particularly with roadways, remains an issue at all levels of government. Illustrating the benefits of rail in a shared use of the transportation system not only benefits area businesses looking to ship products by rail, but it also benefits taxpayers by reducing wear and tear on public roadways.

Highway and Airport Congestion Trends

Highways

West Virginia's roadway systems help connect rural communities with urbanized areas within the state, as well as metropolitan areas in the surrounding region. There are more than 38,800 miles of public roads serving West Virginia's 55 counties and approximately 3,100 communities. This includes the 34,600 miles of state-owned highways, 919 miles of federally owned roads, 930 miles of state-owned interstate highway and more than 3,500 miles of municipally owned roads.

Roadways are classified as one of the following National Highway Functional Classifications (NHFC):

- Urban/Rural Local Road
- Rural Minor Collector
- Rural Major Collector/Urban Collector
- Minor Arterial
- Principal Arterial
- Freeway/Interstate

Freeway/Interstate is the highest level of service and reach down to local roads, which provide access directly to home and businesses.

Traffic counts can be taken to estimate the number of vehicles that travel daily on the roadways (annual average daily traffic (AADT)) or estimate traffic based on the distance traveled over a geographic area (vehicle miles traveled (VMT)). Table 3-2 shows the roadway mileage within the state and the VMT based on the highway functional class. The data indicate that the highway network in West Virginia currently handles 19.7 billion VMT each year and that interstates in West Virginia carry over 31% of all highway traffic.

Table 3-2 Highway Mileage by Functional Classification

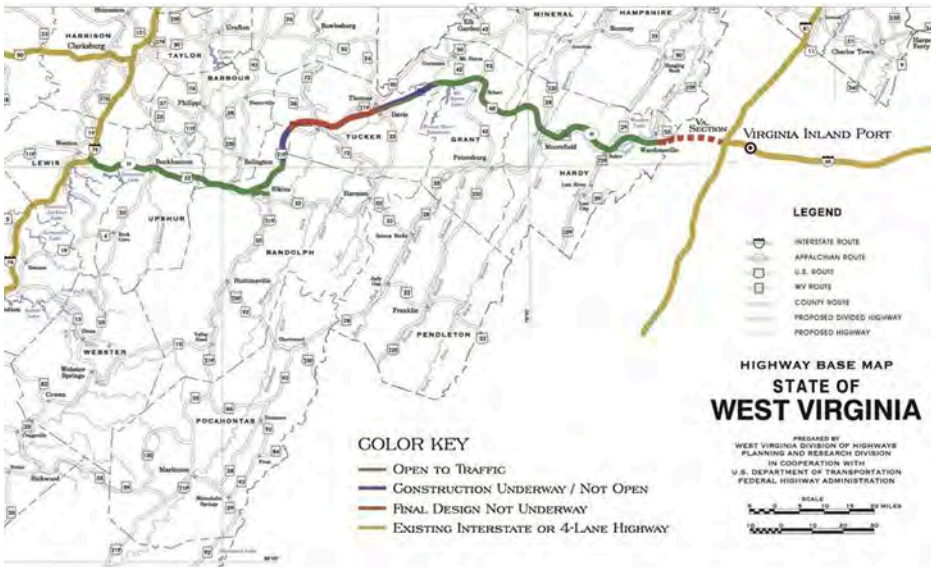
Functional Classification	Miles	% Total Miles	Annual VMT (Millions)	% of Total VMT
Urban/Rural Local Road	26,161	67.3%	1,980	10.4%
Rural/Urban Minor Collector	2,216	5.7%	392	2.1%
Rural Major Collector/ Urban Collector	6,425	16.5%	3,181	16.7%
Minor Arterial	2,067	5.3%	3,234	17.0%
Principal Arterial	1,415	3.6%	4,236	22.2%
Freeway/Interstate	555	1.4%	5,960	31.2%
Other Freeways/ Expressways	14	0.0%	90	0.5%
Total	**38,853**	**100.0%**	**19,072**	**100.0%**

Source: Highway Statistics 2017, Federal Highway Administration, https://www.fhwa.dot.gov/policyinformation/statistics/2017/.

With the majority of the highway mileage serving rural areas in West Virginia, access to rail networks, where available, will help reduce the heavy truck damage to rural roads and bridges. Rural roads often account for more serious accidents and fatalities due to limited road shoulders, limited visibility intersections and unsafe passing movements to overtake slow moving traffic.

The decades-long Corridor H project connecting I-79 in West Virginia with I-66 in Virginia is nearing completion. The project, shown in Figure 3-11, will enhance mobility for passengers and goods. Improved connectivity with population centers in the east will enhance the value of manufacturing, goods distribution, intermodal operations and the rail network in West Virginia. Likewise, it will improve truck access to West Virginia from east, supporting intermodal activity with railroad operations and terminals east of the Mountain State.

Figure 3-11 Corridor H Route



Source: WVDOT, http://www.wvcorridorh.com/route/route.html

It is important for West Virginia to protect the existing transportation network and be prepared to accommodate potential economic development opportunities. Rail improvements within the state should coordinate with planned improvements to the highway network to maximize the investment in both systems and fully utilize any enhanced service gains.

Primary Airports

Four of the state's seven primary airports are near cities or stations served by intercity passenger rail services, but there is no connection between the two. The primary airports include Yeager Airport (Charleston); Tri-State Airport (Huntington); North Central West Virginia Airport (Clarksburg); Morgantown Municipal Airport (Morgantown); Raleigh County Memorial Airport (Beckley); Greenbrier Valley Airport (Lewisburg); and Mid-Ohio Valley Regional Airport (Parkersburg).

Yeager Airport in Charleston, WV accounted for nearly 61% of the state's commercial passenger service in 2019, reporting nearly 224,929 enplanements of the more than 371,400 boardings at all of West Virginia's seven primary airports during the calendar year.[35] Freight tonnage by air is limited and has been on the decline from the period of 2017 to 2019 from 4,479 to 4,148 tons.

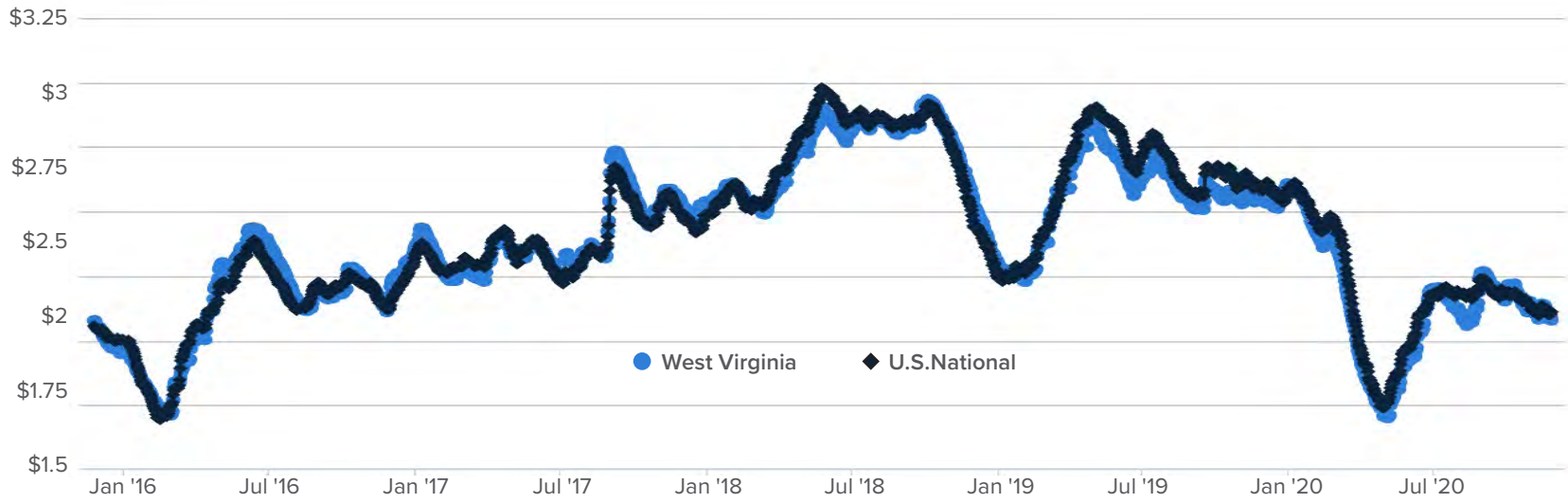
Airports in Charleston and Huntington, WV are within five miles of Amtrak *Cardinal*-served train stations, but there is no link connecting air with rail. Additionally, most of West Virginia's primary airports are concentrated around urbanized areas, while rail typically serves smaller communities without convenient or direct access to one of the state's seven primary airports. It remains important for the state to continue to improve modal coordination and connectivity both for passenger and freight networks.

35 Bureau of Transportation Statistics; State Transportation Statistics.

Fuel Cost Trends

Trends in fuel costs (crude oil and regular gasoline) over the last five years are shown in Figure 3-12. Costs for fuel have fluctuated from a low in February 2016 of $1.70 to a high of $2.95 (U.S. National) in May 2018. Currently prices have leveled off for 2019 ending the year at $2.57 due to inventory increases. Average retail gas price trends, which are shown in Figure 3-12 for both West Virginia and the U.S., track each other closely over the period.

Figure 3-12 5-Year Fuel Price Trends



Source: http://fuelinsights.gasbuddy.com/Charts.

Rail Trends

West Virginia's rail network was built to accommodate frequent and heavy movements of coal. Therefore, its mainline network was constructed with an above average amount of double track infrastructure and heavy weight rail. Recent improvements to several Class I main lines traversing the state to accommodate intermodal movements have also contributed to improving the velocity of the main line network. The recent decline in coal traffic has freed up a substantial amount of capacity to the point where concerns are mounting about the ability to maintain these rail corridors and the ability to find new rail freight to replace the coal ton miles.

With coal trending downward, will railroads be able to replace coal and continue to grow? Coal historically has been the number one freight rail commodity, which is highly profitable because third parties often own the railcars and the freight moves in unit train service which is highly efficient. Coupled with an aging box car fleet, which is the work horse vehicle for short lines, it remains to be seen what commodity or commodities will replace this revenue gap in the future.

Precision Scheduled Railroading (PSR) is a popular management technique whereby extra assets (locomotives and rail cars) are eliminated from the network. Switching and classification yards are reduced or eliminated to reduce labor intensive switching activities. Trains are streamlined and every effort is made to optimize the train movement between pick-up and delivery points. With less "work" on the railroad, asset velocity is increased, fewer workers are required and the railroad operating ratio, a measure of profitability, is improved. Like lean supply chains, this is effectively the leaning of the railroad network. West Virginia in recent years has experienced a reduction of local railroad workforce from both the Class I railroads in the state. Tangentially, relationships between shippers and railroads who have been transforming their service with PSR have engaged in an increasing role for the Surface Transportation Board.

Positive Train Control has been mandated by the FRA for Class I railroads on all lines which handle certain TIH (toxic, inhalation and hazardous materials) commodities. This unfunded mandate for which railroads rushed to standardize, is now in place across the majority of the system. Short lines and passenger rail operations have participated in several grant programs to become compliant. This technology not only promises to improve safety by reducing train crashes and derailments it also has the capability to reduce manual crew-based switching and rail productivity.

Short lines are absorbing a lot of the switching work that PSR has pushed to connecting partners. As coal declines, and other freight volumes are insufficient to justify low density lines, Class I railroads are selling off non-essential assets. Short lines have purchased these underperforming rail lines offering higher levels of customer service and lower operating costs. Short lines are also growing due to state preservation and business development programs for which short lines are eligible.

Trade and tariff issues have impacted the global container network. Ocean carriers have seen a sharp decline in volume and have reacted by reducing vessel departures. Due to tariffs, inbound volume has fallen off, but export volumes have hit precipitously low levels forcing many agricultural exporters and others to find new global trading partners.

Passenger Rail Service/Class I railroad performance measures have become a focus of the FRA with the passage of PRIIA in 2008 and enhanced though the FAST Act (2015). Each Class I carrier has unique, and some shared performance measures when it comes to shared use agreements for freight rail access. The FRA is working with the freight carriers and Amtrak to improve service and performance reporting.

Most recently, e-commerce has exponentially increased as a result of COVID-19 and the decline of volumes of retail brick and mortar stores challenges the high capacity model of railroad service. Inventories are moving closer to the customer in order to reduce delivery time. Small parcel shipping has accelerated the flow of merchandise due to the popularity of online shopping. While intermodal may see some growth benefits, it will struggle to complete with truckload transit times required for inventory fulfillment.

Freight Rail Trends

An analysis of the U.S. Surface Transportation Board Confidential Carload Waybill Sample, over 164 million tons in 2.6 million carloads were moved by rail in West Virginia in 2018. Through movements accounted for over 55% of tonnage in the state, while nearly 74% of the carloads were through movements. This shows how West Virginia plays a pivotal role as a connection between East Coast ports and Mid-west population centers. Table 3-3 details the freight rail movements in West Virginia for 2018. Originated freight volume in West Virginia is eight times greater than inbound railroad deliveries. This disparity of traffic can create an imbalance of railroad equipment and can increase shipper costs due to repositioning of empty equipment. Rail carload traffic terminated in West Virginia in 2018 amounts to 12% of the originated freight which comes from West Virginia. Coal only represents 19% of the total inbound tonnage showing more diversification. Coal transportation requires a heavy weight, high quality and well-maintained rail network. This type of infrastructure is attractive to chemical shippers and producers of heavy bulk commodities.

Table 3-3 West Virginia Freight Rail Movements 2018

	Rail Tonnage	% Tons	Carloads	% Carloads
Through	91,167,689	55.5%	1,932,080	73.9%
Originating	62,306,432	37.9%	573,688	22.0%
Terminating	6,667,312	4.1%	68,900	2.6%
Local	4,095,946	2.5%	38,137	1.5%
Total	**164,237,379**	**100%**	**2,612,805**	**100%**

Source: STB Confidential Carload Waybill Sample, 2018.

Freight rail transportation in West Virginia is dominated by outbound movements of coal, to the extent that most other commodities are virtually incidental. In 2018 coal comprised 89.3% of originating railroad volume by tonnage and 86.4% of carloads in the Mountain State. Figure 3-13 illustrates coal's dominance in 2018, originating rail volumes, expressed in tons. With the exception of chemicals and hazardous materials movements along the Ohio River, and stone and minerals shipments originating in the Eastern Panhandle, the rail freight story—certainly for originations, which dominate—is coal. Terminating tonnage in West Virginia was less than 11% of the state's coal-centric originating tonnage in 2018. Terminating traffic is depicted on Figure 3-14. Through traffic data show more variety in the types of commodity shipments, as seen in Figure 3-15.

Figure 3-13 Originating Rail Traffic by Commodity 2018

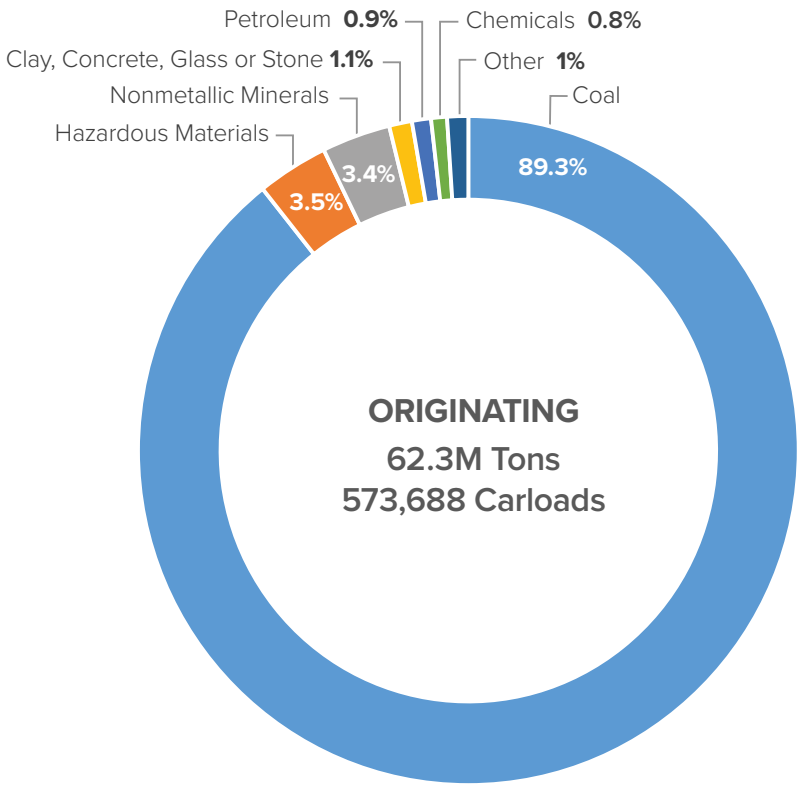


Figure 3-14 Terminating Rail Traffic by Commodity 2018

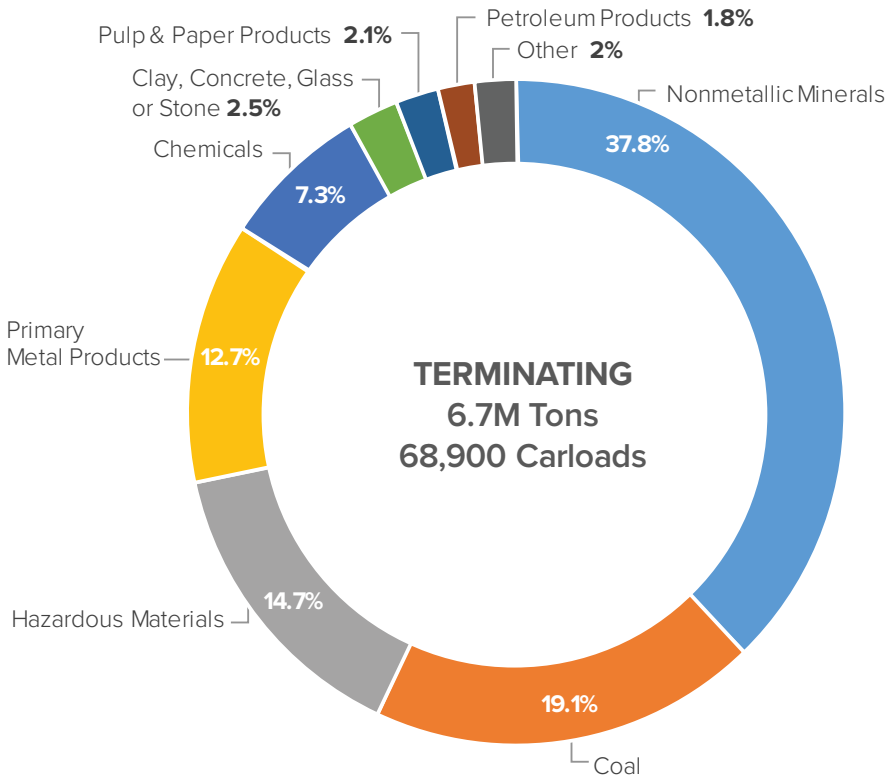
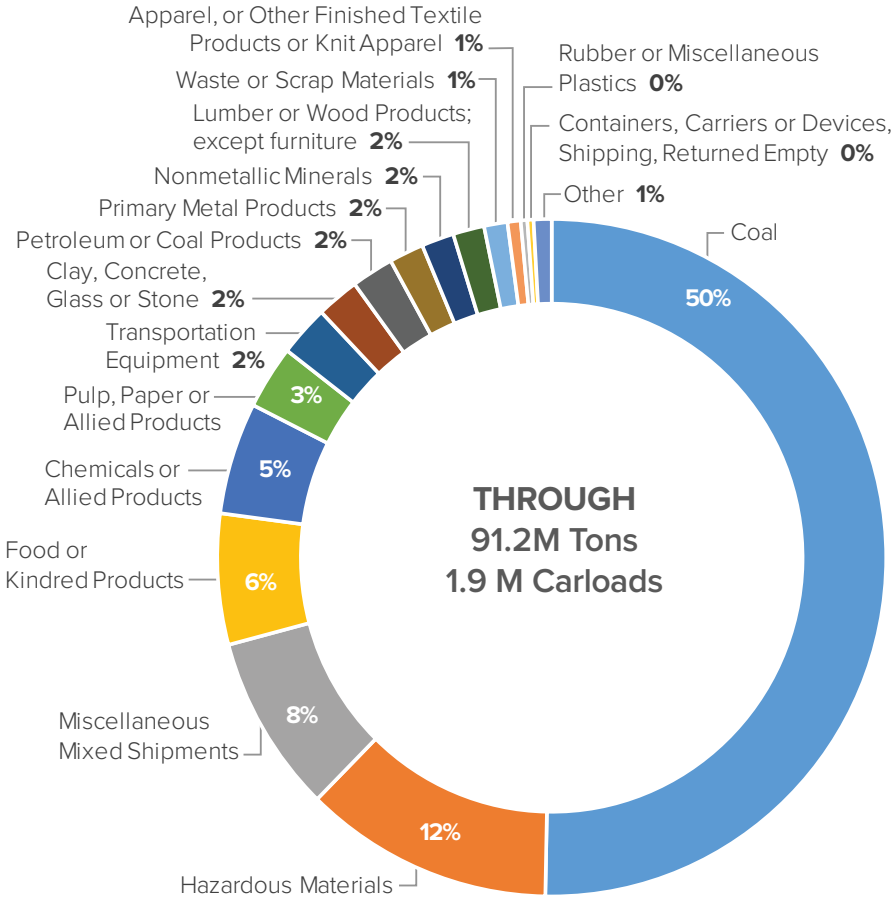


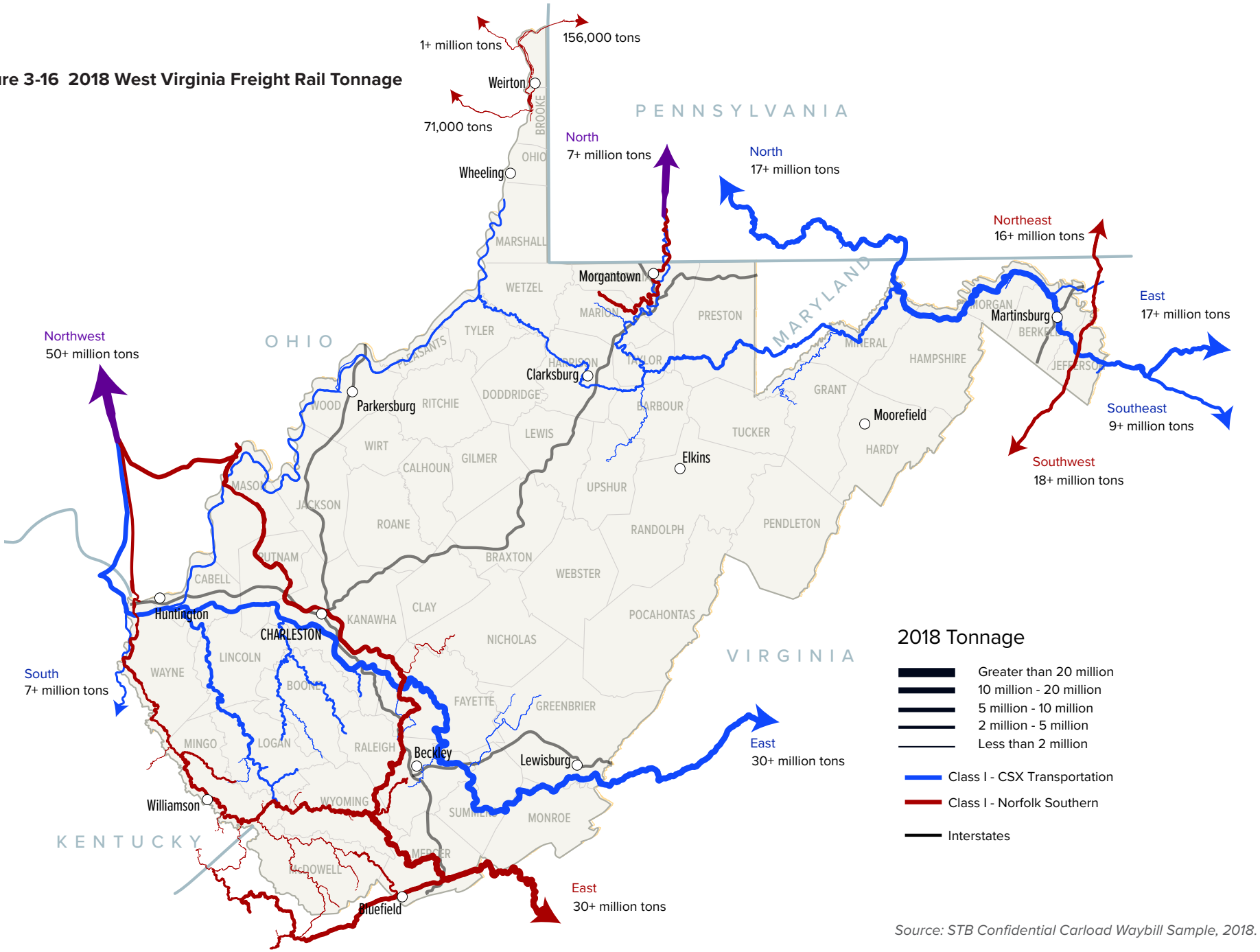
Figure 3-15 Through Rail Traffic by Commodity 2018



Source: Figures 3-13, 3-14 and 3-15, STB Confidential Carload Waybill Sample, 2018.

Rail tonnage is concentrated along three East-West mainlines, two in the southern coal region of the state and the other in the northern part of the state along the borders between West Virginia, Maryland, and Pennsylvania. The state's branch lines and short line railroads feed into these Class I mainlines to transport goods, to, from and through the Mountain State. Figure 3-16 depicts the rail tonnage in West Virginia.

Figure 3-16 2018 West Virginia Freight Rail Tonnage



Source: STB Confidential Carload Waybill Sample, 2018.

West Virginia Rail Traffic, 2001-2018

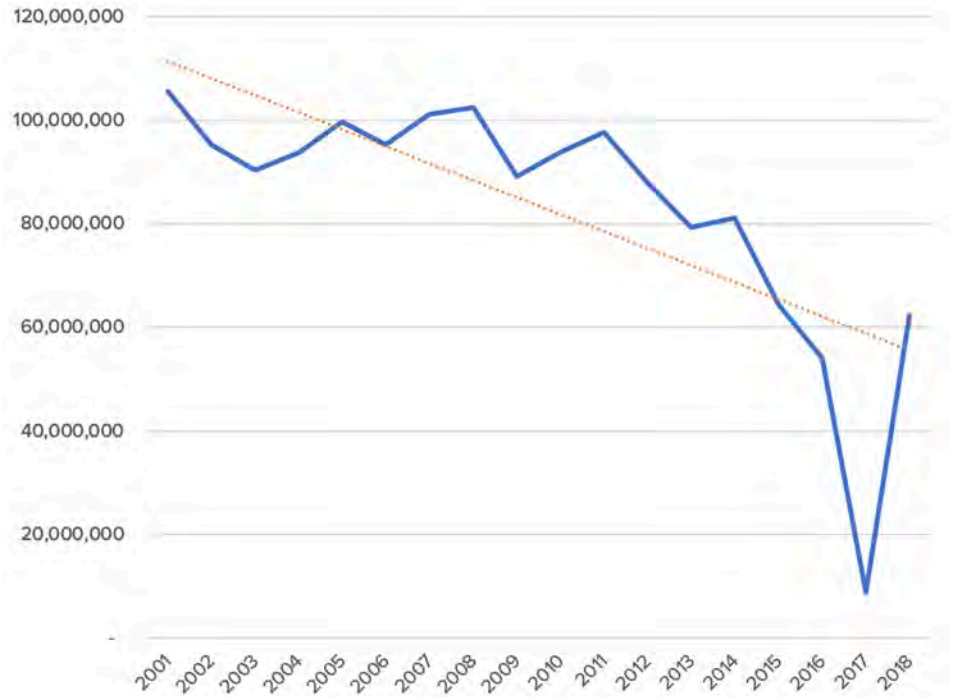
Total West Virginia freight tonnage has fluctuated from 2001-2018 with coal retaining the largest share by commodity. Originating and terminating rail transportation in West Virginia has generally declined since 2001 however, the economic recovery since 2008 has resulted in additional traffic over the network in all commodities except coal.

While coal mining and subsequent transportation has declined, growth in other commodity movements has offset some of the reduced activity in coal mining. Thermal coal for electricity and heat generation is a rail dominated commodity and basic counts of tons of railroad traffic will generally over-weight this commodity, as utility companies procure specialized fleets of higher-capacity cars to maximize throughput. Coal's rail "capacity factor" per specialized rail hopper or gondola car is at least five to six trucks, if it were to be hauled over the highway. Other commodities, such as chemicals or paper, have a capacity factor of two to four trucks per rail car.

Originating Traffic

Originating tons declined over the period (2001-2018) from 106 million tons to 62 million tons, as shown in Figure 3-17. Of this, coal tonnage declined more than the total, from 101 million tons in 2001 to 57 million tons in 2016. Other commodities represent a vastly smaller percentage of rail activity, however, originations of other commodities increased from 5 million tons to 7 million tons. The top three non-coal commodities originating in West Virginia were non-metallic minerals, chemicals, and hazardous materials, each of which showed increases over the period from 2001-2018.

Figure 3-17 Historical Originating Tonnage



Source: STB Confidential Carload Waybill Sample, 2018.

Terminating Traffic

Terminating tons in West Virginia declined from 11.4 million to 6.6 million tons over the period from 2001-2016, as shown in Figure 3-18. Commodities contributing include coal, non-metallic minerals, hazardous materials, chemicals, and metal products. Inbound commodities of sand, aggregate, chemicals and construction related materials declined as the economy fell into recession in 2009. An uptick in inbound commodities reflects the manufacturing trends in West Virginia.

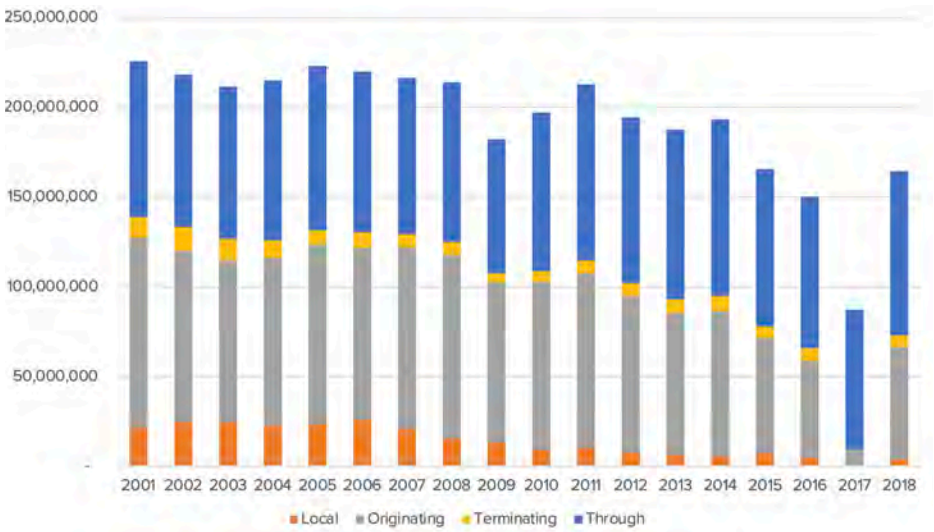
Figure 3-18 Historical Terminating Tonnage

Source: STB Confidential Carload Waybill Sample, 2018.

Through Traffic

Rail traffic traveling through West Virginia, but not originating or terminating, was steadier than originating or terminating traffic, primarily because of the impact of intermodal shipment increases through the state. Both Class I railroads, Norfolk Southern and CSXT, completed projects to clear their respective main lines for double stack intermodal service, which contributed to much higher per-train shipment densities. As intermodal shipments are much lighter than typical rail-bound bulk commodities, tonnage totals do not show the growth of intermodal as does the carload totals. Total through tonnage increased slightly from 87 million tons to 91 million tons; and total carloads increased from 1.34 million to 1.93 million over the period, 2001-2018.

Figure 3-19 Historical Freight Rail Tonnage



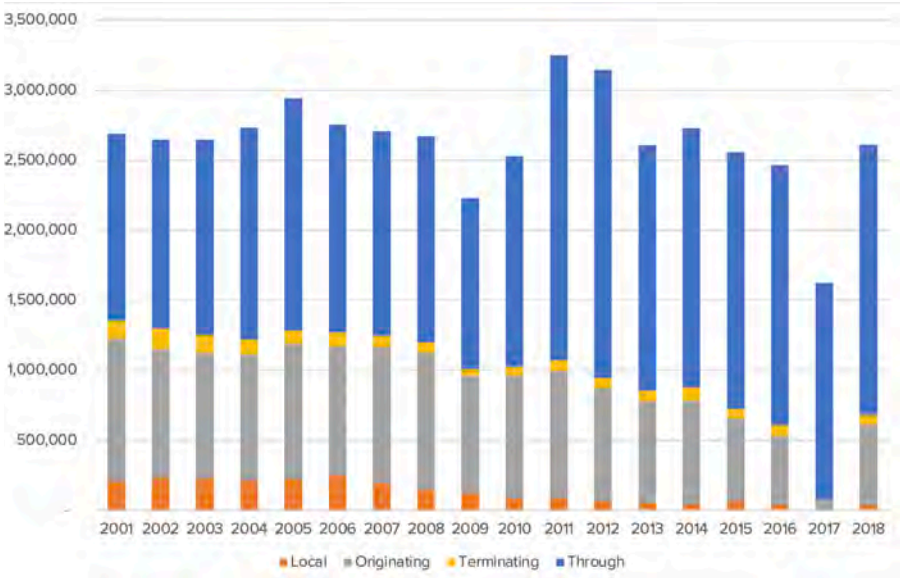
Source: STB Confidential Carload Waybill Sample, 2018.

Figures 3-19 and 3-20 show the railroad tonnage and carload traffic respectively in West Virginia. The figures do not include international or domestic intermodal containers, which have historically outpaced the U.S. GDP due to imports of consumer goods and agriculture exports. West Virginia is located between the Atlantic Ocean and the industrial Midwest. The two Class I railroads have made significant investment in intermodal corridors which traverse the state yet there are no intermodal terminals in the State to accommodate the origination or termination of containers. Neighboring states with intermodal facilities provide rail access points for West Virginia.

Future increases in traffic

Future traffic in construction, manufacturing and export coal may experience increases over the state rail plan current period through 2045. Forecasts from the Energy Information Administration indicate thermal coal will continue to decline as a source of electricity generation. The top five states receiving West Virginia coal (Virginia, North Carolina, Ohio, Maryland, Pennsylvania) are primarily supporting export activities, not electricity generation. Note several of the top five states are home to key East Coast ports.

Figure 3-20 Historical Freight Rail Carloads



Source: STB Confidential Carload Waybill Sample, 2018.

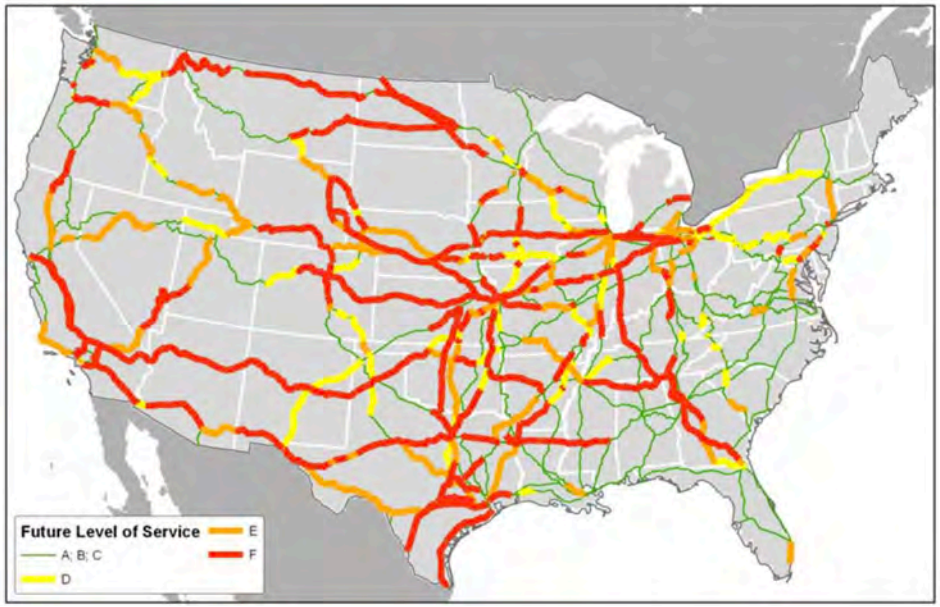
Freight Demand and Growth

Through 2040, rail freight flows are forecast to continue to fall within West Virginia, again primarily due to reduced domestic coal usage. However, an increase in a number of rail-dependent commodities could stabilize the declining trend in rail traffic and diversify West Virginia's rail freight commodity base to maintain rail's competitive position and protect essential freight corridors. Growth commodities include intermodal traffic (container and trailer movements by rail), oil and gas production commodities to and from the Utica/Marcellus shale region, export coal, and chemicals. The coal industry in the state has seen some growth with coal export shipments. Chemical exports represented approximately $1.5 billion in 2016 and continues to grow.[36] Investment in railroad access can help sustain economic growth in West Virginia by helping these industries with more competitive transportation costs and by providing a greater economic reach to access new and growing markets.

By 2045, domestic freight flows within the State are expected to grow to almost 95 million tons, an increase of almost 23M tons from current flows. Over the same time horizon, total (domestic and international) exports from the State are expected to grow to 180M tons while total imports to the State are expected to grow to 120M tons.[37]

The 2007 National Rail Freight Infrastructure Capacity and Investment Study, sponsored by the AAR, found no primary freight corridors within West Virginia which would likely operate at or above capacity by 2035.[38] In Figure 3-21 below, the future volume-to-capacity ratios are expressed as Level of Service (LOS) grades for each main line rail corridor. Rail corridors operating at LOS A, B, and C (below practical capacity) are shown in green. Corridors operating at LOS D (near practical capacity) are in yellow, and corridors operating at LOS E (at practical capacity) are in orange and those corridors operating at LOS F (above capacity) are in red.

Figure 3-21 Future Corridor Volumes (2035) Compared to Current Capacity



Source: Association of American Railroads, National Rail Freight Infrastructure Capacity and Investment Study, September 2007

36 West Virginia Economic Outlook 2018-2022. Bureau of Business and Economic Research, 2017.

37 West Virginia State Freight Plan, 2018.

38 Association of American Railroads, National Rail Freight Infrastructure Capacity and Investment Study, September 2007.

Passenger Rail Demand and Growth

As earlier noted, West Virginia travelers are heavily dependent on highway travel, due to the state's limited rail and air passenger services. The projections provided below underscore the need for service expansion of intercity and commuter rail services to increase rail's share of passenger travel. The forecasts of existing Amtrak and MARC services, and potential new services, are based on available public data and conservative analysis methodologies to arrive at the future ridership estimates.

Amtrak

Two Amtrak routes operate in West Virginia, the *Capitol Limited* and the *Cardinal.* Table 3-4 represents Amtrak route ridership from the Amtrak Five Year Service Line Plan and Five Year Strategic Line Plan. These plans were completed prior to the COVID-19 pandemic.

There are 10 Amtrak intercity rail stations in West Virginia. The *Cardinal* stops at eight of them, and the *Capitol Limited* stops at the remaining two stations. Table 3-5 shows 2019 boardings and alightings at the stations and projected station ridership growth for 2025 and 2030. Ridership and growth projections are based on route-level projections developed by Amtrak. Route-level projected growth rates were applied to 2019 station ridership numbers to estimate the 2025 station-level ridership projections. These projections were developed prior to the COVID-19 pandemic. Ridership changes as a result of the pandemic were not considered based on recovery uncertainties. Rail ridership could increase or decrease, as widespread travel is likely to go down temporarily, but train travel could capture air travelers. The forecasts assume the same service levels as found in 2019.

Ridership along the *Cardinal* route shows slow growth based on the service remaining at three days per week. Populations in West Virginia are predicted to decrease over the same time period; however, ridership increases may come from tourism or a modal shift from air to rail. The *Capitol Limited* ridership is expected to increase more due to population increases in Martinsburg and Harpers Ferry – which are near the growing Washington, D.C., metroplex.

Table 3-4 Amtrak Route Ridership

Ridership (Thousands)	2018	2019	2020	2021	2022	2023	2024	2025
Cardinal	96.7	83.7	107.3	107.1	108.1	109.2	110.5	111.3
Capitol Limited	219.0	215.0	206.9	108.5	210.5	212.6	214.9	216.4

Source: Amtrak Five Year Service Line Plans, Base (FY 2020) + Five Year Strategic Plan (FY 2021–2025). Amtrak General and Legislative Annual Report and Fiscal Year 2020 Grant Request.

Table 3-5 Amtrak Station Ridership

Station	Route	2019	2025	2030
Alderson	*Cardinal*	578	599	617
Charleston	*Cardinal*	8,280	8,584	8,837
Hinton	*Cardinal*	2,456	2,546	2,621
Huntington	*Cardinal*	4,870	5,049	5,198
Montgomery	*Cardinal*	275	285	294
Prince	*Cardinal*	2,717	2,817	2,900
Thurmond	*Cardinal*	364	377	388
White Sulphur Springs	*Cardinal*	5,191	5,382	5,540
WV Cardinal Subtotal		26,750	27,732	28,550
Harpers Ferry	*Capitol Limited*	7,920	8,277	8,574
Martinsburg	*Capitol Limited*	10,917	11,409	11,819
WV Capitol Limited Subtotal		18,837	19,686	20,393
Total WV Intercity Ridership		45,587	49,416	52,607

Source: 2019 figures Amtrak Performance Reports; 2025, 2030 Mott MacDonald projections.

Amtrak ridership is heavily impacted by frequency and reliability of service. The on-time performance of the long-distance passenger rail services has declined in large part due to network issues outside of West Virginia. In order to grow ridership, network performance needs to improve.

MARC

Currently MARC operates 18 total trains during the weekday along the Brunswick line, with two morning trains and two afternoon trains to West Virginia Stations at Martinsburg, Duffields, and Harpers Ferry. These trains travel to various employment centers in Montgomery County, Maryland, as well as to Union Station in Washington, D.C. This is a reduction from three morning and afternoon routes since the 2013 rail plan. An additional early-afternoon train departs Fridays from Washington, D.C. and terminates in Martinsburg, WV. No service is operated on principal federal holidays. Service is typically limited to one trip per day each direction on Martin Luther King Day, Columbus Day, Veterans Day, and the day after Thanksgiving.

CSXT owns the railroad along the MARC Brunswick Line. This influences the Maryland Transit Authority's ability to respond to the specific needs and requests of MARC passengers. These needs include service, frequency, and station locations. At this time, it is unlikely that MARC will be able to operate future midday, reverse commute or weekend service along the Brunswick line, unless freight decreases along the line and the two states, Maryland and West Virginia, negotiate with CSXT for increased service.

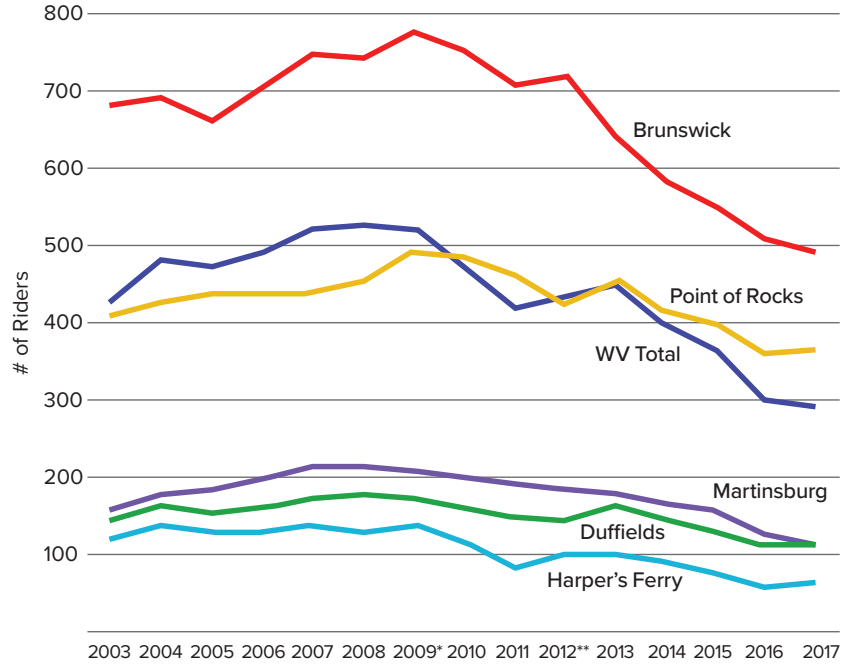
MARC provides nearly 40,000 daily trips across the entire system of three route lines. The Brunswick line carries 22% of all MARC passengers and has the second largest share of annual passengers throughout the MARC system, behind the Penn line. The Brunswick line has grown at an average of 1% per year in average weekday boardings from 2003-2017.[39]

The current (2019) two MARC round trips generate 450 boardings daily at the Martinsburg, Duffields, and Harpers Ferry Stations. Thus, each MARC train averages approximately 72 West Virginia-based riders daily. As to be expected, this is down from the 489 boardings and alightings daily (80 West Virginia riders) in 2012 when there were three weekday round trips. Declines were stimulated by fare increases for West Virginia passengers, as well as the economic recession. Continuing declines are at least partially attributable to increased telecommuting and, perhaps recently, lower fuel prices.

39 MARC, Cornerstone Plan, 2018.

Figure 3-22 shows 2003-2017 daily ridership trends for the three West Virginia MARC stations and two nearby Maryland Stations, Brunswick and Point of Rocks. In all cases, traffic is down since the 2008 peak, a result of a 2008 fare increase, as noted adjacent to the graph, and the Great Recession, which has had more enduring effects on West Virginia. These trends run counter to general population trends in Eastern Panhandle counties. U.S. Census data suggest a 12.5% population increase in Berkeley County between 2010 and 2018 and a 3.3% increase for Jefferson County.

Figure 3-22 MARC Historical Daily Ridership



Source: MARC, Monthly Ridership.

For the purpose of forecasting ridership, modest annual increases reflective of recent historical ridership figures were applied to calculate ridership in 2025 and 2030 in Table 3-6. Route-level projected growth rates were applied to 2019 station ridership numbers to estimate the 2025 and 2030 station-level ridership projections. These projections were developed prior to the COVID-19 pandemic. Ridership changes as a result of the pandemic were not considered based on recovery uncertainties. The forecasts assume the same service levels as found in 2019.

Table 3-6 MARC Commuter Rail Ridership Forecast for West Virginia

Station	2017	2019	2025	2030
Martinsburg	179	183	186	188
Duffields	152	155	158	160
Harpers Ferry	110	112	114	116
Total	**441**	**450**	**458**	**464**

Note: Figures for 2017 and 2019 were a 12-month rolling averages for the calendar year as reported by MARC.

Future ridership has the potential to grow significantly as shown in Tables 3-6 and 3-7. Suburban cities in Montgomery County, Maryland, with proximity to MARC's Brunswick Line together attract more than five times as many workers from the two Eastern Panhandle Counties in West Virginia as does Washington, D.C. Reported jobs in 2017 in Montgomery County and the District of Columbia for the two Eastern Panhandle counties are depicted in Figure 3-23, the proximity to the Eastern Panhandle is a major driver of where residents of Berkeley and Jefferson Counties work. 2017 data reveal that only 0.8% of primary jobs for Berkeley County residents and 0.7 % for Jefferson County residents are in Washington, DC. Only 389 Berkeley County residents have primary jobs in the District of Columbia, and 161 residents of Jefferson County have jobs in the capital. In contrast, 10.9% of Berkeley County and 22.9% of Jefferson County residents work in Washington's Northern Virginia suburbs.[40]

40 Data source: U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics. Reported data for Berkeley and Jefferson Counties indicate 44.0% and 31.5%, respectively, of jobs for residents of these two counties are in "all other locations," distinct from the hundreds that were identified. This analysis assumes these other locations reflect records where the destination location for workers could not be identified. Identified totals and percentages have been scaled up to reflect missing records, with the assumption they are distributed in the same percentages as those that have been reported.

Table 3-7 West Virginia 2017 Commuter Travel Patterns

Berkeley County, WV to:	2017 Count	Scale Factor	2017 Estimate
Washington DC	218	1.79	389
Rockville	265	1.79	473
Gaithersburg	203	1.79	363
Germantown	130	1.79	232
N. Bethesda	88	1.79	157
Bethesda	67	1.79	120
Potomac	60	1.79	107
Urbana	55	1.79	98
Clarksburg	47	1.79	84
Maryland Total	**915**		**1,634**

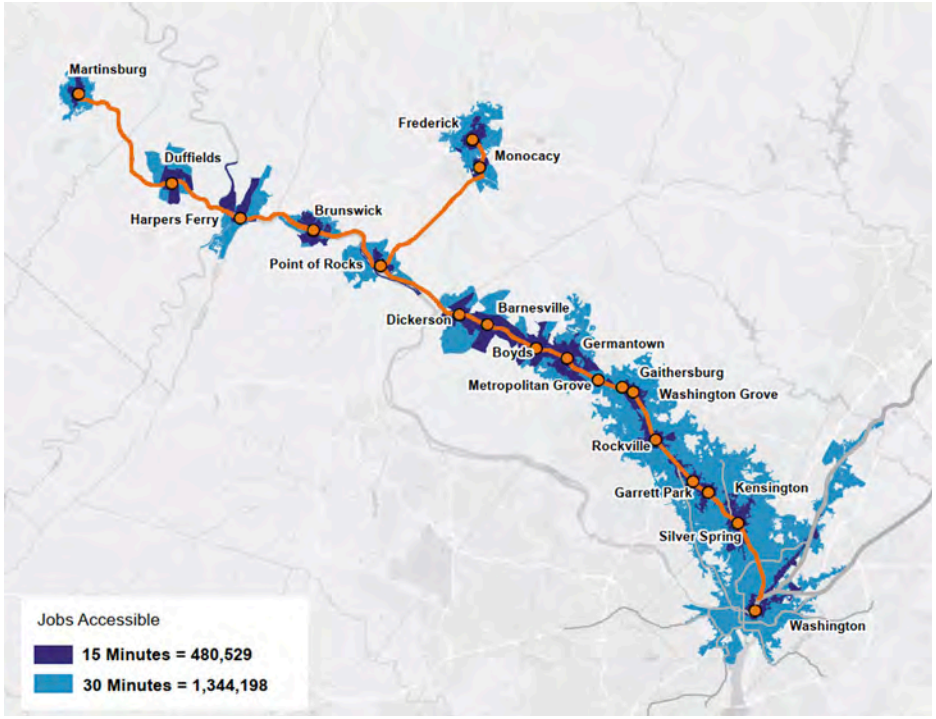
Jefferson County, WV to:	2017 Count	Scale Factor	2017 Estimate
Washington DC	110	1.46	161
Rockville	258	1.46	377
Gaithersburg	199	1.46	291
Germantown	145	1.46	212
N. Bethesda	47	1.46	69
Bethesda	46	1.46	67
Potomac	46	1.46	67
Urbana	26	1.46	38
Clarksburg	22	1.46	32
Maryland Total	**789**		**1,153**

Source: 2017 Count, MARC; 2017 Estimate, Mott MacDonald.

Travel time to Germantown, MD is 45 minutes on MARC from Harpers Ferry. The same MARC train commute to Washington, D.C. requires another hour of travel. Jobs in the Germantown area are forecasted to increase 45.7% between 2015 and 2045, and are some of the fastest job growth predicted for Montgomery County, Maryland.

Over 1.3 million jobs are located within a 30-minute walk or transit trip of Brunswick Line MARC stations, including over 480,000 jobs within 15 minutes of the stations. Figure 3-23 illustrates the areas in proximity to MARC Train stations increase as the Line approaches Washington D.C. and areas with additional transit service.

Figure 3-23 Jobs Accessible by Brunswick Line MARC Stations



Source: MARC, MARC Cornerstone Plan, 2018.

While MARC ridership has decreased, higher fares from West Virginia stations are not to blame. Table 3-8 compares cost per mile for MARC trips to and from various stations. The cost per mile – based on regular one-way fares – from the three Eastern Panhandle stations to either Washington, DC, or Rockville, MD, is 37.9% and 64.4% cheaper, respectively than from Brunswick Line stations in Maryland. At 19.6 and 22.2 cents per mile, non-discounted fares[41] are only 33.9% and 38.3% respectively, of the 58-cents-per-mile General Services Administration personal auto travel mileage allowance rate for 2019, for example.

Table 3-8 Average per Mile Cost of MARC Services

Departure Stations	One-Way Fare to Washington DC	Miles to Washington DC	Cost to Washington DC per Mile	One-Way Fare to Rockville	Miles to Rockville	Cost to Rockville per Mile
Martinsburg	$13.00	73.3	$0.18	$11.00	57.3	$0.19
Duffields	$12.00	61.9	$0.19	$10.00	45.9	$0.22
Harpers Ferry	$12.00	55.1	$0.22	$10.00	39.1	$0.26
Brunswick	$9.00	49	$0.18	$7.00	33	$0.21
Point of Rocks	$8.00	42.1	$0.19	$6.00	26.1	$0.23
Dickerson	$7.00	34.8	$0.20	$5.00	18.8	$0.27
Barnesville	$7.00	32.6	$0.21	$5.00	16.6	$0.30
Boyds	$7.00	28.4	$0.25	$5.00	12.4	$0.40
Germantown	$6.00	25.9	$0.23	$5.00	9.9	$0.51
Metropolitan Grove	$6.00	23.1	$0.26	$5.00	7.1	$0.70
Gaithersburg	$6.00	21.1	$0.28	$5.00	5.1	$0.98
Washington Grove	$6.00	20.1	$0.30	$5.00	4.1	$1.22
Rockville	$6.00	16	$0.38			
Garrett Park	$5.00	11.9	$0.42	$5.00	4.1	$1.22
Kensington	$5.00	10.4	$0.48	$5.00	5.6	$0.89
Silver Spring	$5.00	6.9	$0.72	$5.00	9.1	$0.55
Average for WV Stations			$0.20			$0.22
Average for MD Stations			$0.32			$0.62
Difference			$0.12			$0.40
% Difference			37.9%			64.4%

Source: Fare data, MARC; Analysis, Mott MacDonald.

41 MARC offers multiple ride, weekly and monthly packages which reduce fares for regular commuters.

As noted previously, scheduled transit times from West Virginia MARC stations to Washington's Union Station range from one hour and 39 minutes to two hours and ten minutes, hardly practicable for a daily commute. MARC's 2018 "Cornerstone Plan" calls for an eventual $700 million investment in additional mainline track in Montgomery County, Maryland, which will enable express service, cut commuting time from the Eastern Panhandle, and increase frequency.

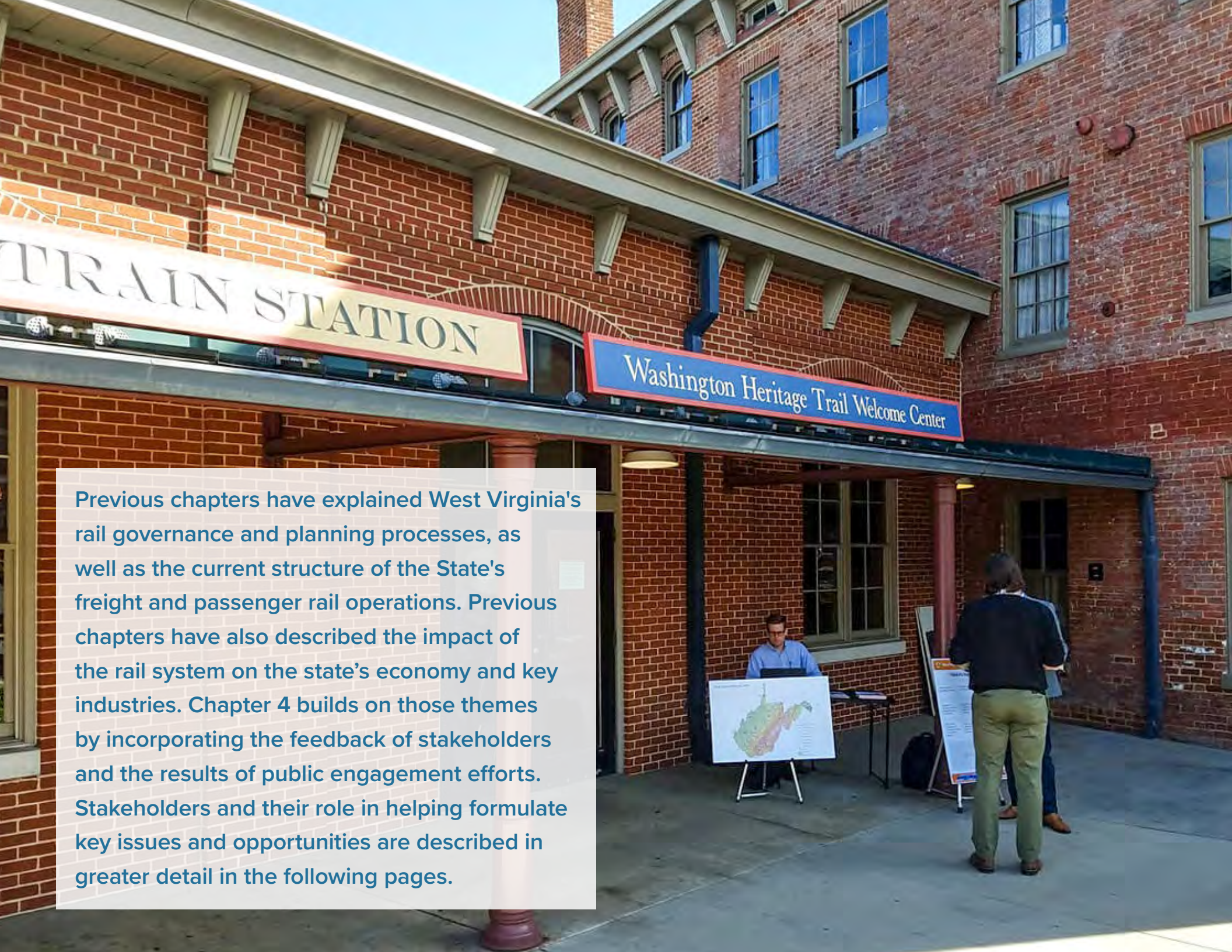
In five years Washington Metropolitan Area Transit Authority's Silver Line will extend to Ashburn, Virginia, an hour or less from Martinsburg, and closer to the other Eastern Panhandle stations. Looking ahead, expenditures on bus connections to WMATA in Ashburn may be more efficient than continued operation of up to eight trains a day to Washington, D.C.'s Union Station and could become a useful component of the Eastern Panhandle's transportation system. Additional connections to Northern Virginia employment centers could be a possibility as MDOT MTA and Virginia Railway Express (VRE) are exploring the potential for run-through service to Northern Virginia. This would provide MARC riders direct access to employment centers in Northern Virginia. This long term plan would require partnerships between Amtrak, MARC, VRE and CSXT, not to mention nearly $3 billion in capital improvements in Maryland, Washington D.C. and Virginia.

However, there is value to retaining MARC service in West Virginia. The relatively favorable cost of living – particularly housing – and high quality of life in the Eastern Panhandle are stimulating new development. Ranson, about 5 miles from the Duffields Station, for example, saw its population increase by 16.7% between 2010 and 2018, according to U.S. Census data. According to Zillow, the median house price in Ranson is $148,700, while the median price house in Leesburg, VA (a mere 24 miles away) is $536,100, almost 3.6 times as much. This economic reality will likely spur further growth in parts of the Eastern Panhandle closest to employment centers in Metropolitan Washington. Meanwhile, highway congestion in Northern Virginia and Maryland's Montgomery County is unlikely to improve over the long run. Continued availability of MARC commuter service from Jefferson and Berkeley Counties to Washington, D.C., and its Maryland suburbs will enhance the quality of life for this corner of the Mountain State.

Conclusion

West Virginia faces two significant challenges with their rail infrastructure. First, the decline of coal continues to be a factor, yet there are still other freight shippers using rail lines that may at some point in the future be sold, spun off or preserved for future use. West Virginia should either identify business incentives to encourage road to rail conversion or be prepared to handle freight left on undesirable low density rail lines due to the changes in commodity mix. However, there is a viable market for export coal. West Virginia should work with CSXT and NS to identify coastal port export handling protocols which can handle export coal trans-shipment in an environmentally friendly method.

Second, intermodal is the fastest growing line of business for Class I railroads. West Virginia should work with Class I railroads to focus on freight logistics and marketing opportunities and encourage cooperative ventures with coastal ports to provide inland logistics support and increase trade options for West Virginia industries.



Previous chapters have explained West Virginia's rail governance and planning processes, as well as the current structure of the State's freight and passenger rail operations. Previous chapters have also described the impact of the rail system on the state's economy and key industries. Chapter 4 builds on those themes by incorporating the feedback of stakeholders and the results of public engagement efforts. Stakeholders and their role in helping formulate key issues and opportunities are described in greater detail in the following pages.

4. State Rail Coordination and Review

Public and Stakeholder Participation Approach

The knowledge and experience of West Virginians and stakeholders have shaped the development of this future-focused State Rail Plan. To ensure all potential stakeholders and the public had the opportunity to provide input, a Stakeholder & Public Engagement Plan was developed to outline public outreach tools, including meetings, surveys and interviews of various stakeholders involved in or affected by the State's rail system. First, WVSRA reached out to WVDOT staff, transportation experts, rail users and industry to form a steering committee and an advisory committee. Then, WVSRA conducted two rounds of public outreach to share information about West Virginia's rail system and solicit citizens' opinions on the future of the system. Additionally, WVSRA conducted targeted outreach with the rail industry, users and special interest/advocacy groups to gain further insight on the rail system and needs.

The strategy was expected to include two stages with a combination of in-person and online outreach and engagement. The first round took place in Fall 2019, and the second round took place in Spring 2020. The COVID-19 pandemic limited effective in-person outreach during the timeframe for the planned second round of public engagement. Recognizing the importance of public participation to the State Rail Plan, the project team revised the outreach strategy and adopted a virtual outreach method for the second round. This approach follows health officials' recommendations and the Governor's Safer at Home order. In collaboration with WVDOT, WVSRA launched the 2020 West Virginia State Rail Plan Update project website[42] and online outreach channel. Virtual outreach assisted in the completion of the State Rail Plan and promoted safe and effective public participation.

Public Engagement Method

Development of previous rail plans included traditional open houses that yielded limited involvement from stakeholders and the public. The 2020 Rail Plan public engagement team met West Virginians where they live, work and visit to share information and solicit feedback.

The team adopted a robust method of public outreach and information gathering. The engagement plan considered both West Virginia residents and out-of-state visitors as target groups. Compelling graphics, easy-to-understand materials and clear content encouraged people to participate in the online survey and maximized engagement time.

The engagement team distributed a public survey at popular eateries, public facilities and other West Virginia attractions during the first round of the public engagement process. The survey was accompanied by information on rail's impact to West Virginia's economy and workforce. The team also provided information on the 2013 State Rail Plan and the purpose of updating the plan to provide the public with additional context.

The public could participate in the first round of the survey in-person at a booth using a laptop, a tablet or a printed copy of the survey. Participants could also use a QR code on printed materials to access an electronic version of the survey. The survey remained available via a dedicated website link.

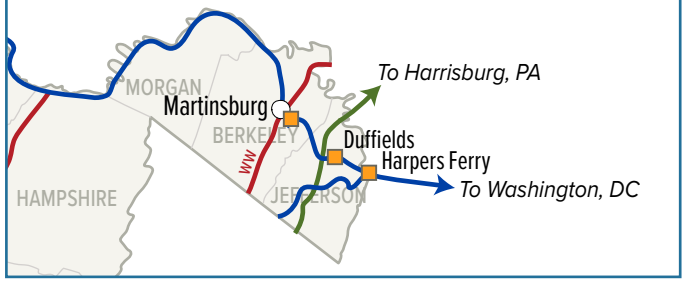
Using electronic devices, particularly tablets, allowed for a more informal environment that encouraged dialogue, fact sharing, information gathering and, ultimately, survey completion. Of the more than 160 people that participated in the first round of statewide engagement, more than 80% completed the survey in-person via tablet or laptop.

42 https://transportation.wv.gov/rail/2020WVSRP/Pages/default.aspx.

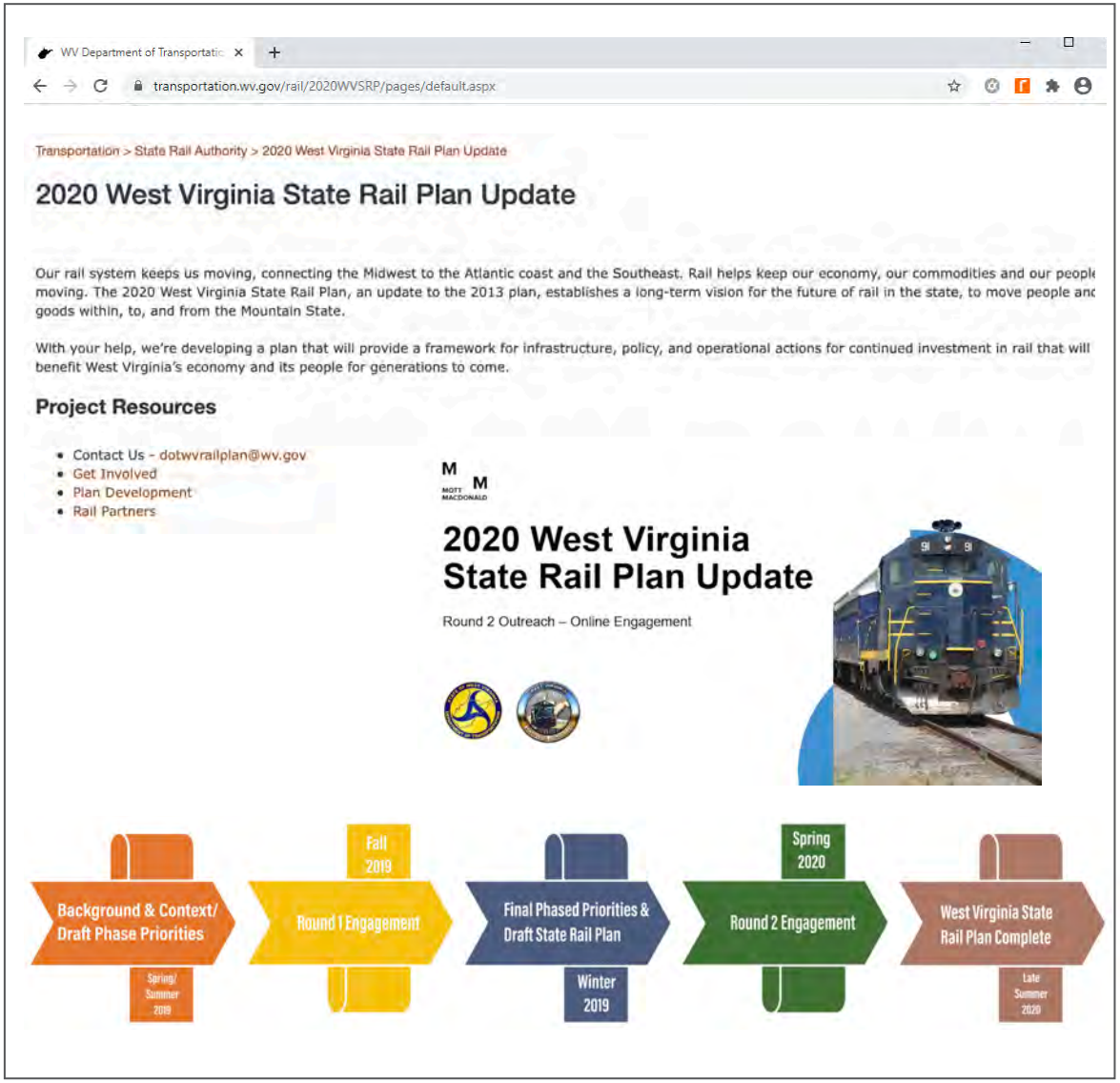
Due to the COVID-19 pandemic, the second round of engagement was conducted virtually. The public received project information and updates through the project website, which was hosted under the WVSRA site. The website included a video introducing WVSRA and the development of the 2020 State Rail Plan. The website explained the context of 2020 West Virginia State Rail Plan and included information on how to get involved and how to contact the project team.

The engagement team encouraged members of the public to participate in the second round of the survey by posting links on the project website and sending follow-up emails to participants from the first round of engagement. Participants could also request a hard copy survey and mail in responses. In addition, outreach on both traditional and social media encouraged members of the public to participate in the survey.

In Round 2, 81% of the survey responses were from Martinsburg, Harpers Ferry and Charles Town, where there is a specific focus on improving passenger rail services.



The project team continued to engage stakeholders and industry experts throughout the state to shape the 2020 Rail Plan priorities across passenger, tourist and freight rail focus areas.



Public Engagement Structure

Public engagement was structured to better gauge the public's understanding of rail and the types of rail services that are important to West Virginia residents and travelers actively visiting West Virginia. Two rounds of public engagement were conducted.

Round 1 Engagement. Round 1 solicited feedback from participants through in-person conversations and surveys. The in-person community engagement was well received by attendees and garnered media attention in several locations. Rather than traditional public meetings, community members were approached during routine outings and daily venues; the engagement team collected informative feedback from the community by presenting the information on visual boards, through comments and the online survey.

To ensure maximum coverage for engagement and provide access for the public across West Virginia, a combination of in-person outreach and online survey outreach was used to share information and solicit feedback during the first round of the outreach process. The in-person community engagement events were advertised through press releases, social media and local news channels. Public engagement sessions with survey distribution took place at seven strategic areas at multiple locations across West Virginia to ensure survey results encompassed all corners of West Virginia. Urbanized areas, rural communities, industrial and tourist locales were all represented in Round 1 to provide varying perspectives and the most data.

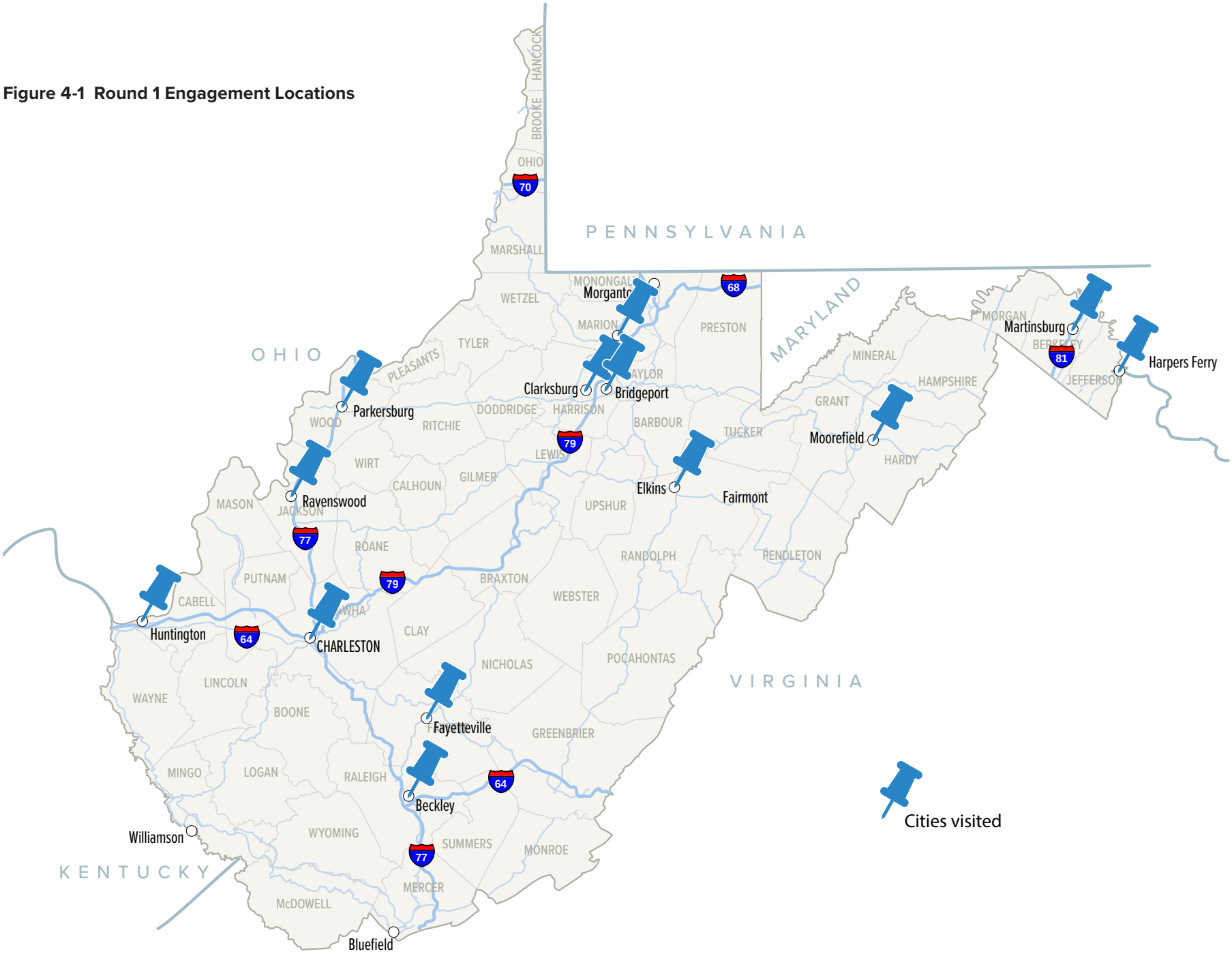
Collectively, these seven areas represented the most populated regions of West Virginia where the team could maximize engagement potential. In addition to visiting these core areas, feedback was also gathered from smaller communities outside of these seven core regions to ensure that rural communities were also afforded the opportunity to provide feedback in the public engagement process. Unincorporated communities with fewer than 4,000 residents were included in this process, just as larger cities with 48,000 or more residents were represented.

The online survey could be accessed through a dedicated hyperlink and QR code, which participants could easily access using the camera on their mobile device to scan and participate. The survey was publicly accessible from September to November 2019 for a total of 69 days.

There were a total of 10 survey questions, including seven multiple choice options, two ranking questions where respondents were asked to rank answers by the level of importance to them, and one question asking, but not requiring, respondents to provide their name and email for future Rail Plan updates. On average, it took survey participants around eight minutes to complete the survey and initial introduction to survey completion took approximately 12 minutes. The same survey was distributed at all locations throughout West Virginia to allow for consistent analyzing of survey responses.

Complete results from the survey are available in Appendix 1.

Figure 4-1 Round 1 Engagement Locations



Round 2 Engagement. In response to COVID-19 stay at home and social distancing orders and to facilitate the Round 2 engagement, a project website was developed and housed through the WVDOT. This website was the centerpiece of the Round 2 outreach of 2020 West Virginia State Rail Plan update which allowed for a complete virtual and online experience.

The dedicated project website was housed on a subpage at https://transportation.wv.gov/ and directly accessible through https://transportation.wv.gov/rail/2020WVSRP/Pages/default.aspx beginning in early June 2020 and remains active. The website was named: 2020 West Virginia State Rail Plan Update, for easy understanding and access through search engines.

The website has five main sections to streamline its function; those sections are:

- Home Page
- Contact Page
- Get Involved Page
- Plan Development Page
- Rail Partner Page

The website provides general information regarding the plan, includes an informative video and presentation, survey results and maps. Upon the completion of the engagement efforts it will be home to the state rail plan and supporting documents.

The Round 2 outreach survey could be accessed through the project website, a dedicated hyperlink, or QR code, which participants can easily access using the camera on their mobile device to scan and participate. The survey was publicly accessible for 14 days.

There were a total of 16 survey questions, including thirteen multiple choice options, of which, two questions asking, but not requiring, respondents to provide further detailed comments; two ranking questions and one question asking, but not requiring, respondents to provide further general detailed comments on the State Rail Plan. On average, it took survey participants around eight minutes to complete the survey and initial introduction to survey completion took approximately 20 minutes.

The Round 2 survey collected more than 145 detailed comments from participants.

The comments helped inform the key issues and vetted the plan priorities. Complete results from the survey are available in Appendix 1.

Committee Participation Approach

Throughout the planning process, the engagement team formed a steering committee and an advisory committee to facilitate the stakeholder participation process.

Engagement methods included in-person meetings, video conferences, online surveys and email communication. Specific methods were deployed based on the timing and objective of the committee engagement.

Steering Committee Engagement

State-government level members directly involved in statewide transportation planning comprised the Steering Committee. Members included state leadership from WVSRA, WVDOT, WVDOH, the Governor's Office and other sub-agencies of WVDOT. Convened in June 2019, the committee met in-person on July 30, 2019, and via video conference on April 4, 2020 with additional discussions taking place over email. The group helped to frame the Rail Plan's vision, goals and objectives and provided input on work plans, deliverables and recommendations. The Steering Committee played an active role in drafting and reviewing the 2020 State Rail Plan. During the document review process, the Steering Committee ensured the Plan was consistent with other West Virginia plans, policies and initiatives and met FRA requirements.

Advisory Committee Engagement

Representatives of industries and organizations linked to West Virginia's

Steering Committee Members:

Cindy Butler, Executive Director
West Virginia State Rail Authority, WVDOT

Byrd White, Secretary of Transportation
Commissioner of Highways (or representative)
Division of Highways, WVDOT

Jimmy Wriston, Deputy Secretary of Transportation,
Deputy Commissioner of Highways
Division of Highways, WVDOT

Ira Baldwin, Deputy Director
Transportation Division
West Virginia Public Service Commission

David Cramer, Director
Commissioner's Office of Economic Development,
WVDOT

Jordan Damron, Communications,
Governor's Office

Randy Damron, Information Corps
West Virginia Division of Highways, WVDOT

Jessie Fernandez-Gatti, Community Planner,
Federal Railroad Administration

Alanna Keller, Engineering Advisor,
WVDOT

Chris Kinsey, Statewide Planning Section Head,
Planning Division
Division of Highways, WVDOT

Ryland Musick, Deputy State Highway Engineer
Chief Engineer of Programs
Division of Highways, WVDOT

Elwood Penn, Division Director, Planning
West Virginia Department of Highways

John Perry, Manager, Railroad Safety Section
West Virginia Public Service Commission

Nathan Takitch, Project Manager,
West Virginia Department of Commerce

Ann Urling, Deputy Chief of Staff,
Governor's Office

rail system comprised the Advisory Committee. Members included representatives of Class I railroads, Class II/III railroads, intercity and commuter rail service providers, trade organizations, commodity groups, tourist railroads and other organizations either directly or indirectly involved in West Virginia's rail system. This committee discussed the Plan over phone calls, email and meetings.

WVSRA convened the Advisory Committee in June 2019 to provide input and expertise in the development of the 2020 State Rail Plan, helping to identify passenger and freight rail needs, short- and long-term goals and specific improvement projects. The Advisory Committee provided valuable insight on rail needs and priorities, from promoting rail safety to increasing rail capacity and operational efficiency. Input from the Advisory Committee aided in the development of potential projects for consideration in the second round of the outreach process.

The Advisory Committee Members

Sean D. Hill, Director
West Virginia Aeronautics Commission

William "Bill" Robinson, Executive Director
Division of Public Transit
West Virginia Department of Transportation

Robert C. Watson, Regional Planning Engineer
Planning Division
West Virginia Division of Highways

Perry J. Keller, Research Section Head
Planning Division
West Virginia Division of Highways

Steve Sherrard, Board Member
West Virginia State Rail Authority

Chelsea Ruby, Tourism Commissioner
West Virginia Department of Commerce

James Owrey, Manager
Business Development
West Virginia Development Office
West Virginia Department of Commerce

Jason Bostic, Vice President
West Virginia Coal Association

Rebecca McPhail, President
West Virginia Manufacturers Association

Jason Bishop, WV Government Relations
CSX Transportation

Randy Marcus, VA/WV Resident VP
CSX Transportation

Jason Wazelle, Government Relations Manager
Norfolk Southern

Laura Hoag, Strategic Planning Director
Norfolk Southern

John Smith, President
Durbin & Greenbrier Valley Railroad

Robert Franzen, President
Potomac Eagle Scenic Railroad

Matt Reese
Appalachian and Ohio Railroad

Chase Gunnoe
Watco Companies, LLC

Matt Mullenax, Executive Director
Hagerstown/Eastern Panhandle
Metropolitan Planning Organization

Bill Austin, Executive Director
Morgantown Monongalia Metropolitan
Planning Organization
West Virginia Association of MPOs

John Reicks
Friends of the Cardinal

Stakeholder Engagement

Stakeholders for the 2020 West Virginia State Rail Plan represented three sectors: passenger rail, freight rail and tourist rail. They participated and provided feedback via questionnaire and email or phone interviews. Recommendations set forth in the 2020 State Rail Plan incorporated extensive feedback from these stakeholders.

22
Stakeholder Organizations Completed the Targeted Survey

Of those respondents, nine were from the private sector, six were from private sector business, another six were from public planning or economic development agencies and one was from a community organization. More than 80% of the respondents agreed with the 2020 Rail Plan's goals and expressed interest in expanding or preserving passenger and freight rail service in West Virginia.

A majority of the stakeholders surveyed think projects in West Virginia should be funded by federal and state grants and loans, and they would like to see support for short line infrastructure improvement, transload facilities and industrial access.

The stakeholder participants expressed the importance of enhancing rail development and supporting the economy. Meanwhile, the survey results also showed there is an opportunity to improve environmental sustainability by contributing to modal diversion.

More than half of the respondents said that they would use passenger rail to avoid driving and flying and that they would like to see frequent and on-time service.

Stakeholder Interview Questions

Passenger Rail

1. How does the freight rail network support economic growth in West Virginia?
2. What makes people in West Virginia decide to take a passenger train instead of driving or choosing some other mode? What conditions would be necessary to convert more trips to passenger rail trips?
3. What are the most important reasons to have passenger rail service?
4. What are the most important aspects of passenger rail service to you?
5. Is there enough awareness of existing passenger rail services in West Virginia? If not, how should these services be promoted?
6. Where should West Virginia be focusing future passenger service improvements?

Freight Rail

1. If you utilize rail for shipping goods, why is it the preferred mode?
2. What improvements would help improve the reliability of the freight transportation network in West Virginia?
3. How competitive is the rail network compared to other modes in West Virginia?
4. Assuming adequate Federal, State, or public private partnership funding is available, what freight and rail projects should the West Virginia State Rail Authority prioritize to have the biggest impact on the State's economic competitiveness?
5. Are there specific projects that would help improve the competitiveness of the rail network in West Virginia?
6. Are there federal and state transportation regulations that are a hindrance or obstacle to economic competitiveness in the State?
7. Do you have any additional comments?

Tourist Rail

1. What makes people in West Virginia decide to take a tourist train?
2. What are the most important reasons to support tourist rail service? What do your customers say?
3. Is there enough awareness of existing tourist rail services in West Virginia? If not, how should these services be promoted?
4. How could tourist rail stations/sites connect with other transit connections for travel needs?
5. Do you have any issues/concerns with operations and maintenance of tourist rail service as it's currently provided?
6. Are there specific service or infrastructure improvements that the West Virginia State Rail Authority should pursue?
7. Are there any state regulations or policies impacting tourist rail service? If so, what changes would you suggest?
8. Do you have any additional comments?

Environmental Justice

Environmental justice is the fair treatment and meaningful involvement of all people, regardless of race, ethnicity, income, national origin or income during the transportation and environmental planning process. Enhanced engagement and meaningful feedback increase opportunities for minority and low-income communities to influence the transportation planning and decision-making processes. This engagement helps to prevent the adverse effects of transportation projects that can disproportionately impact minority and low-income communities.

Presidential Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations," directs each federal agency to "make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies and activities on minority and low-income populations." The order reinforces Title VI of the Civil Rights Act of 1964, which prohibits discrimination on the basis of race, color or national origin and provides protection to low-income groups.

Other federal orders and guidelines issued by USDOT summarize and clarify the executive order and describe processes for incorporating environmental justice principles into the USDOT programs, policies and activities. USDOT Order 5610.2(a) requires USDOT to incorporate environmental justice considerations into all of the department's programs, policies and activities and, by extension, to state rail plans.

The outreach events and surveys involved in updating the West Virginia State Rail Plan were accessible to the public both in person and online. The engagement plan used traditional engagement methods – in-person events during the first round of engagement, traditional media outreach and printed surveys and materials. The engagement also included virtual outreach methods and digital materials during the second round of engagement.

To ensure that responses reflected the diversity of West Virginia, the engagement plan included targeted outreach to environmental justice organizations through direct emails and a targeted survey. The survey was

sent to the following community groups: NAACP of West Virginia, West Virginia Catholic Charities, West Virginia Chinese Organization, Native American Indian Federation of Huntington, West Virginia Division of Rehabilitation Services, Northern West Virginia Center for Independent Living, Partnership of African American Churches, West Virginia State Rehabilitation Council, Coal Field Community Action Partnership, West Virginia Community Action Partnership, Ohio Valley Environmental Coalition, Coal River Mountain Watch, Sierra Club and West Virginia Highlands Conservancy.

More than 70% of the respondents were not aware of environmental justice issues related to rail facilities in the state. Even among the 30% aware of issues, nearly half were not aware of any issue at the time and would like to learn more. One respondent voiced concern about the heavy focus on transfer coal but not on passenger rail.

The community organizations surveyed expressed that economic impact to communities, quality of life and environmental benefits are the top concerns. The survey results indicate the respondents' desire to use federal grants and loans to improve passenger rail in West Virginia, including adding more stations and expanding the service network. Results also indicate that increasing public transit and multimodal connections at rail stations are priorities for the community organizations.

Most of the respondents indicated they learned about West Virginia's passenger rail service from friends and neighbors and through the information available on the service's website. This result shows there is an opportunity to improve marketing of passenger rail in the state, working with media and community organizations to promote passenger rail service.

Neighboring States

West Virginia's rail system keeps the country moving by connecting the Midwest to the East Coast and the Southeast. WVDOT and WVSRA routinely interact with neighboring states through national and regional transportation organizations, such as the American Association of State Highway and Transportation Officials (AASHTO), AASHTO's Council on Rail and the I-81 Corridor Coalition. The engagement team contacted rail leaders in neighboring states via phone and email to discuss rail-related initiatives and cohesive policy development, update them about the 2020 State Rail Plan and solicit comments.

Coordinating Rail Planning

While rail planning is under the jurisdiction of WVSRA, coordinated transportation and land use planning may benefit West Virginia's economy. According to federal law, states are required to coordinate with Metropolitan Planning Organizations (MPOs) to prioritize transportation investments at the regional level. The engagement team reached out to MPOs statewide during both rounds of outreach via email to update them about the 2020 State Rail Plan and solicit comments.

Vision, Goals & Objectives

The 2020 State Rail Plan reprioritizes some of the planning goals and objectives identified in the 2013 State Rail Plan that have either gone unaddressed or remain as top priorities for WVSRA and its stakeholders. Current rail operations, the economy and stakeholder feedback helped to formulate these updated goals and objectives. Previously unaddressed goals have either been consolidated with a narrower focus moving forward or restructured entirely based on a change in needs.

Draft 2020 Plan Vision Goals and Objectives

Vision: A safe, efficient, modern passenger and freight railroad network that supports a thriving state economy by promoting an integrated intermodal transportation system. – Unchanged from 2013

2020 Goal #1: Promote rail safety.

Objectives

1. Promote safety at rail commuter stations (lighting, signage, etc.)
2. Promote rail safety education programs
3. Analyze public grade crossings, identify high-risk crossings, and prioritize safety improvements
4. Streamline process for Section 130 funded crossing safety projects utilizing a collaborative structure
5. Identify additional opportunities for funding partnerships for implementation of crossing sign improvements
6. Collaborate with Operation Lifesaver to develop and implement rail safety education programs to support state initiatives including outreach through DMV and schools
7. Review existing crossing inventory data and develop improvement program based on obligated funds
8. Increase safety and efficiency by reducing at-grade crossings

2020 Goal #2: Maintain a dedicated funding source to preserve, protect, evaluate and improve as needed by West Virginia's rail infrastructure.

Objectives

1. Reexamine intermodal rail enhancement fund
2. Maximize funding opportunities (federal & state)
3. Identify and leverage Federal loan and competitive grant programs, including RRIF, CRISI, BUILD, INFRA, etc., for state rail projects and operations
4. Coordinate with the USDOT national freight network as defined in the FAST Act (Fixing America's Surface Transportation Act)
5. Improve return on investment through improved modal coordination

2020 Goal #3: Support statewide business development and environmental stewardship initiatives by leveraging rail infrastructure and the movement of goods by rail.

Objectives

1. Support movement of goods by rail and through enhancing existing freight rail customers and new freight rail business opportunities
2. Assist shortline railroads to be FRA compliant
3. Analyze mainline capacity needs (identify percentage of capacity being utilized)
4. Preserve rail right-of-ways

2020 West Virginia State Rail Plan Update

5. Support the development of rail spurs and industrial development (work with state and local economic development authorities to identify key parcels and industrial parks/parcels)
6. Support development of inland ports and enhancing rail connectivity
7. Work in conjunction with other agencies on economic development initiatives
8. Improve coordination within WVDOT to deliver all rail-related projects
9. Integrate and promote rail mode into Statewide multimodal network
10. Support statewide economic development projects and promote the movement of freight goods by rail
11. Increase yard storage space

2020 Goal # 4: Preserve, protect, evaluate and improve, as needed, intercity passenger rail service.

Objectives

1. Explore improved frequency of the Amtrak *Cardinal* train
2. Improve multimodal connectivity by evaluating multimodal connections to existing intercity rail service
3. Improve station accessibility needs
4. Coordinate with other states
5. Enhance passenger train on time performance, service reliability, including additional track capacity needs
6. Reduce passenger/freight train conflicts and passenger on time performance by improving capacity and support additional passenger rail frequencies

2020 Goal # 5: Support rail-related tourism as part of an economic development program.

Objectives

1. Work with private industry to enhance economic opportunities
2. Identify rail tourism and infrastructure needs
3. Support rail-related tourism as part of WV economic programs, including exploring the opportunity for themed excursion trains, private and corporate sponsorships

2020 Goal # 6: Preserve and support commuter rail service.

Objectives

1. Evaluate the need for existing/additional commuter rail service
2. Work with MARC to support West Virginia initiatives
3. Analyze commuter rail station accessibility needs

Key Issues & Opportunities

Rail branding and advocacy should be strengthened.

The majority of survey respondents had little to no knowledge of the 2013 West Virginia State Rail Plan. More than 140 respondents were not familiar with the 2013 West Virginia State Rail Plan, while around 12%, or 20 people, had heard of the previous rail plan through past engagement.

This situation represents a great opportunity for West Virginia to promote its rail service and image. Strategies such as public education, increased proactive communication and information sharing, advocacy for rail related activities and enhanced marketing strategies have the potential to attract more people to rail.

Rail services in West Virginia need improvement.

More than half of survey respondents would like to see West Virginia improve its passenger and commuter rail opportunities. An additional 37 people would like to see additional tourist rail services. Combined, more than 75% of participants would like to see improvements to passenger, commuter, and tourist rail.

Rail tourism is important to economic development.

Survey respondents identified that rail tourism enhancements are a key priority for rail to continue to bolster West Virginia's economy.

Rail is not the primary choice of transportation in West Virginia.

Over half of survey respondents said neither they nor their workplace use rail services in West Virginia, while 35% reported using those services, including 19% that use passenger rail, 13% that use tourist rail and 3% that use freight rail.

Strengthening passenger rail is a priority for West Virginians.

The majority of survey respondents identified passenger rail improvements as key priorities for the 2020 Rail Plan.

The top areas of improvement identified for passenger rail service were service enhancements such as increased frequency and length of service within a day or week.

Survey respondents said that more connections at stations, additional routes and increased frequency on existing routes are the top 3 priorities for improving passenger rail service in West Virginia.

They also stated that frequency, reliability, cost, and travel time savings are among the most important features of passenger rail service, so improvements to enhance these features can be prioritized within the 2020 Rail Plan.

A great number of participants agreed that investments in passenger rail station amenities like climate protection, restrooms, water fountains and Wi-Fi are worthwhile. Survey results indicated that improved connections to transit at passenger rail stations were another desired feature for passenger rail stations.

This chapter examines critical needs, key service gaps, and opportunities associated with all of West Virginia's passenger rail operations. Intercity passenger rail, commuter rail, and tourist rail needs and opportunities are discussed and insights are offered into the effects regional and national policies have on passenger rail. The State of West Virginia's authority, governance, and policy will also be discussed as it relates to each of these systems.

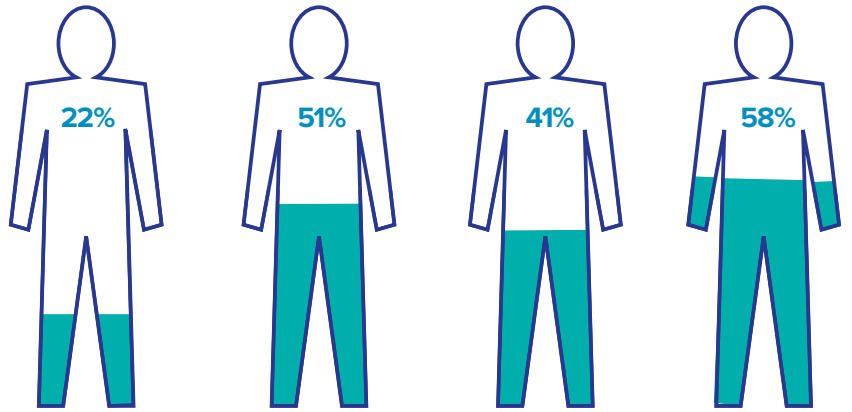
5. Proposed Passenger Rail Improvements and Investments

As West Virginia experiences a continuing transformation in its economic and demographic structure, it is imperative to reinforce the importance of the state's existing intercity and commuter passenger rail options, along with the need for further development to sustain and improve the passenger rail network. While West Virginia's population may be shifting, the number of people accessing or visiting the state continues to increase due to tourism investments and the proximity to major urban centers.

Intercity passenger rail service is important for mobility in specific rural areas, especially in providing independent long-distance travel opportunities for aging West Virginians. Passenger rail continues to be the only public transportation alternative to automobiles in several of West Virginia's rural communities. However, intercity passenger rail service is limited in West Virginia to Amtrak's two long-distance service routes, the *Capitol Limited* and the *Cardinal*, which traverse the north and south regions of the state and connect to the Northeast and Midwest regions of the United States.

Passenger rail service in the U.S. has an interesting history and a future that will be determined by the will to provide public investment in capital and operations. Except for a few specific international services that may provide a nominal profit, no public passenger rail service provides a complete return on capital investment and operating cost, thus requiring ongoing financial support.

Figure 5-1 Farebox Recovery Ratio for U.S. Passenger Service



43 2018 National Transit Summaries and Trends, Office of Budget and Policy, Federal Transit Administration, December 2019, https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/ntd/data-product/134401/2018-ntst_1.pdf.

44 Ibid.

45 Amtrak Performance Report FY 2019, April 2020; https://www.amtrak.com/content/dam/projects/dotcom/english/public/documents/corporate/monthlyperformancereports/2019/Amtrak-Monthly-Performance-Report-FY2019-Final.pdf.

46 Ibid.

This rail plan would be remiss to not recognize the importance of the tourist railroads that operate in West Virginia. With the state's continued emphasis on tourism-based economic development initiatives as ridership levels increase for leisure travelers. These services strengthen West Virginia's economic brand and equip the state with the tools needed to be regionally competitive.

West Virginia's efforts in supporting passenger rail is led by the State Rail Authority and the Division of Tourism/Tourism Commission, which are administered by the Department of Transportation and Department of Commerce, respectively. The roles and legislative authority are more specifically noted in Table 5-1 below.

Table 5-1 Legislative Authority Roles

Agency	Role in Passenger Service	Authority
West Virginia State Rail Authority	• Consult Division of Travel and Tourism on *Cardinal* intercity passenger rail service.	§5B-2-9d
	• Coordinate all activities with the Maryland Transit Administration to assure the continued operation of the Maryland Area Regional Commuter into the Eastern Panhandle of the state. • Agreements with Maryland Transit Administration for all aspects of MARC service operating in WV.	§29-18-6c
	• West Virginia Commuter Rail Access Fund – Director shall administer the fund to pay track access fees pursuant to the agreement required by section six of this article.	§29-18-24
	• Acquire rail corridors and properties, enter into agreements, acquire property, promote rail services. (Some of which are leased for tourist train passenger operations.)	§29-18-6a-f
Division of Tourism/Tourism Commission	• Public policy to facilitate, advance and improve theavailability of interstate passenger rail service to the state. • Conduct studies enter into contracts with Amtrak, WV political subdivisions, and other states served by *Cardinal* service. • Enter into agreements and cooperate with other states regarding service. • Marketing of interstate passenger rail travel and improve the quality and frequency of such service, including a daily frequency of Amtrak's *Cardinal* from Huntington eastward to White Sulphur Springs. • Consult with WVDOT and WVSRA. • Establishment of the Cardinal Passenger Train Enhancement Fund	§5B-2-9a-e

As passenger rail improvements and investments are proposed throughout this Rail Plan update, it's important to recognize the State's capability to implement the recommended projects. The Division of Tourism and WVSRA are financially limited in their abilities to fund significant projects. Many passenger rail improvements and investments previously recommended in the 2013 West Virginia State Rail Plan remain unfunded accordingly.

The Division of Tourism and WVSRA funding is directed toward areas under their authority, as granted by the West Virginia General Assembly. For example, WVSRA's funds are used to operate, maintain, and invest in the freight and tourist railroads under its jurisdiction, while the Division of Tourism enters into agreements with Amtrak and related stakeholders to improve service. There is no long-term funding to address large and complex projects, therefore reiterating the importance of exploring collaborative partnerships and new funding mechanisms in addressing all the proposed needs and opportunities.

Changes to funding and operations at the federal level will influence the way West Virginia facilitates passenger rail improvements. The passenger Rail Investment and Improvement Act (PRIIA) has pushed the operation and maintenance of state-sponsored intercity passenger rail routes to the forefront. Additionally, Section 209 of PRIIA, mostly limits additional service improvements to regional state-supported intercity service.

PRIIA fundamentally changes the role of states and the methodology for funding Amtrak routes. Section 209 requires Amtrak and states to cooperate in the development and funding of intercity passenger rail service on Amtrak routes, specifically requiring states to fund the operation of routes less than 750 miles.

While West Virginia does not have any routes that qualify, neighboring states of Virginia, Maryland, and Pennsylvania directly support the operations of passenger rail in their states. While there are no additional passenger routes planned or budgeted for in West Virginia, it is recommended that the state explore regional partnerships with other states that have common interests in state supported passenger rail service.

Since the 2013 State Rail Plan, the State has collaborated with Amtrak to complete improvements to improve Americans with Disabilities Act (ADA) accessibility at stations. However, restoring daily Cardinal service is an unmet objective. This effort remains a larger multi-state regional effort to influence Amtrak operations.

Awareness and promotional successes for tourist and special scenic trains have shown rewards through an increase in ridership. The Division of Tourism has promoted the state's tourist trains through the tourism website and informational materials. The WVSRA continues to support private tourist trains through maintaining state-owned tracks in a state of good repair, and by completing specific improvement projects, including line restoration. Changes in the sponsorship and operations of the CPH New River fall excursion train led to the dismantling of the non-profit, but made way for a private, for-profit entity to continue this popular long held service with Amtrak operating the service.

Through the WVSRA, the State provides financial support for MARC commuter train service from Washington, DC to Martinsburg, WV. In order to connect communities and improve transportation options, local transit agencies have improved connections for commuters who utilize MARC service and established guaranteed return transit service from Brunswick, MD to Martinsburg, WV.

In 2019, the service was in jeopardy due to a lack of funding. Funds from multiple sources, including the state contingency fund and local funding, were secured to meet the necessary operational needs. In order to avoid this situation in the future, a consistent and viable funding source will need to be identified for operating the MARC service in West Virginia.

Guided by recommendations from stakeholder engagement processes, the previous State Rail Plan identified several infrastructure needs that would improve intercity passenger rail service on shared-used corridors.

The proposed projects included:

Huntington Station/South Yard Passenger Siding

Construct a new siding at the existing CSXT South Yard near the Huntington passenger station to improve passenger safety and boarding process.

Charleston Multimodal Passenger Terminal Relocation

Conducting engineering studies and the potential construction of a new state-of-the-art intermodal facility in Charleston to address the current station's problems, including its isolated location, access, and lack of station spur.

Construction of a new Hurricane Passenger Station

Feasibility study of constructing an additional staffed Amtrak station near the city of Hurricane between Charleston and Huntington.

Hawk's Nest Bridge Replacement and Realignment

Construction of a new bridge and major re-alignment of the CSXT tracks over the New River at Hawk's Nest to replace a more than 100-year-old bridge and improve freight and passenger services.

None of the above long-term projects recommended in the previous State Rail Plan have progressed and no funding has been earmarked for the advancement of these proposed projects. While these proposals were long-term projects with a 5 to 20-year implementation schedule, there has been little to no noticeable progress.

Intercity Passenger Rail Service Needs and Opportunities

The Amtrak Cardinal provides tri-weekly service to eight West Virginia stations on Wednesday, Friday, and Sunday on its Chicago-New York route through southern West Virginia. The Amtrak Capitol Limited provides daily service to two West Virginia stations in the Eastern Panhandle on its Chicago-Washington, DC route.

Both Amtrak's tri-weekly *Cardinal* and daily *Capitol Limited* trains are classified as long-distance trains within Amtrak's National Network. There are 15 long-distance Amtrak trains serving the United States today. Long-distance trains are funded using dollars appropriated by Congress to Amtrak. The continuation of long-distance trains, like the *Cardinal* and *Capitol Limited*, are dependent on the commitment of federal funds each year. This places long-distance passenger service at a greater risk of discontinuation as uncertainty and proposed budget cuts endanger long-distance trains in West Virginia and across the country.

> Amtrak believes that state-supported corridors are the future of passenger rail service in the U.S.
>
> – Amtrak Five Year Service Line Plans, FY 2019-2024

Amtrak has consistently reduced service to underperforming routes, with the majority of those being long-distance routes. The reduction of the *Cardinal* and *Capitol Limited* from daily service to tri-weekly is only one example. Service reductions have also been seen on the *Southwest Chief, California Zephyr, City of New Orleans, Crescent, Empire Builder Texas Eagle, Missouri River Runner, Lakeshore Limited, Palmetto,* and *Empire Builder.* Most reductions were due to the COVID-19 pandemic, yet it remains to be seen if the services will return to pre-pandemic levels.

Section 209 of the Passenger Rail Investment and Improvement Act, signed into law in October 2008, mandates that all short and medium distance Amtrak routes that operate off the Northeast Corridor (NEC)- the major rail line between Boston and Washington- are priced in a consistent manner. PRIIA Section 209 further requires impacted states to pay an equipment capital charge for use of Amtrak owned locomotives and railcars.

The WVSRA's stated goal for intercity passenger rail service is to preserve, protect, evaluate, and improve intercity passenger rail services in the state. Current funding levels do not allow West Virginia to financially subsidize these services. Since Amtrak's intercity services operate on privately-owned freight corridors, neither the state, nor Amtrak are responsible for operational, maintenance, or other capital expenditures on the lines in which intercity passenger trains operate in West Virginia. Station accessibility and maintenance is a shared responsibility since many station facilities are privately owned. Amtrak has improved access to some facilities through its Accessible Stations Development Program (ASDP). This program mandates 511 of the 516 stations Amtrak serves across the country be made handicap accessible. Amtrak has completed these accessibility improvements at Cardinal stations in Huntington and Prince. Additional accessibility needs are identified as individual projects in latter sections of this chapter. While the FRA requires rail plans to identify passenger and freight projects separately, West Virginia passenger services operate on shared-use corridors, alongside freight and as a result, improvements to the freight network will also have benefits to passenger service. Recommendations within this chapter center on critical passenger rail issues and reexamines key passenger rail initiatives previously recommended in the State Rail Plan.

Performance Evaluation

Amtrak Route Metrics

In better understanding the performance of West Virginia's two intercity passenger trains, information has been outlined below on how Amtrak calculates its intercity passenger rail performance, as required by PRIIA. The metrics address financial, operational, and customer service performance. More information on each performance metric is described in Table 5-2.

Table 5-2 Amtrak Intercity Paassenger Rail Performance Measures

Metric/Standard Category	Metric/Standard/Subcategory	Standard Applies by:	Statutory Requirement?
Financial	Percent of Short-Term Avoidable Operating Cost Covered by Passenger-Related Revenue (exclude capital charges), both with and without State Subsidy included in revenue.	Route	Yes – Not available from Amtrak
	Percent of Fully Allocated Operating Cost Covered by Passenger-Related Revenue (exclude capital charges), both with and without State subsidy included in revenue.	Route	Yes – Not available from Amtrak
	Long-Term Avoidable Operating Loss per PM (exclude capital charges), both with and without State Subsidy included in revenue.	Route	No
	Adjusted (Loss) per Passenger-Mile, both with and without State Subsidy included in revenue.	System	No
	Passenger-Miles per Train-Mile (PMTM)	Route	Yes

Continued

Metric/Standard Category	Metric/Standard/Subcategory	Standard Applies by:	Statutory Requirement?
On-Time Performance (OTP)	Change in Effective Speed - which is defined as a train's mileage, divided by the sum of (a) the scheduled end-to-end running time plus (b) the average endpoint terminal lateness.	Route	Yes
	Endpoint OTP - A train is considered "late" if it arrives at its endpoint terminal more than 10 minutes after its scheduled arrival time for trips up to 250 miles; 15 minutes for trips 251-350 miles; 20 minutes for trips 351-450 miles; 25 minutes for trips 451-550 miles; and 30 minutes for trips of 551 or more miles. These tolerances are based on former ICC rules. The exception is that all Acela trips, regardless of run length.	Route	Yes
	All-Stations OTP - which is defined as the percentage of train times (departure time from origin station and arrival time at all other stations) at all of a train's stations that take place within 15 minutes (10 minutes for Acela) of the time in the public schedule.	Route	Yes
Train Delays	Amtrak-Responsible Delays per 10,000 Train-Miles (Delays must be not more than 325 minutes per 10,000 Train-Miles.)	Route	
	Host-Responsible Delays per 10,000 Train-Miles (Delays must be not more than 900 minutes per 10,000 Train-Miles.)	Route and Host	
Other Service Quality	Percent of Passengers "Very Satisfied" with Overall service	Route	
	Percent of Passengers "Very Satisfied" with Amtrak Personnel	Route	
	Percent of Passengers "Very Satisfied" with On-Board Comfort	Route	
	Percent of Passengers "Very Satisfied" with On-Board Cleanliness	Route	
	Percent of Passengers "Very Satisfied" with On-Board Food Service	Route	
	The following measures are for information only and are based on sources other than the Customer Satisfaction Index		
	Equipment-Caused Service Interruptions per 10,000 Train-Miles	Route	
	Presentation of Amtrak passenger comment data by subject matter and major route grouping.	Type of Route	
Public Benefits	Connectivity Measure: Percent of passengers connecting to/from other routes.	Long-distance Route	
	Availability of other modes: Percent of passenger-trips to/from underserved communities. To be updated annually.	Route, System	

Financial Performance

In FY 2019 the *Cardinal* generated $8.4 million in revenues and served around 108,900 passengers. Amtrak's operating cost for the *Cardinal* was $24.4 million, resulting in an operating loss of $16.0 million. In comparison, the *Capitol Limited* generated $20.3 million in revenues and served approximately 209,000 passengers. Amtrak's operating cost for the *Capitol Limited* was $44.6 million, resulting in an operating loss of more than $24.3 million.

The Table 5-3 on the next page shows the most recent statement of Amtrak revenues and expenditures, and while there has been improvement year over year, the losses continue to mount. The Administration's FY 2020 budget proposes only $936 million for grants to Amtrak – a $1.005 billion (52%) reduction below the enacted level of $1.941 billion provided by Congress in FY 2019. In addition, the Administration proposes a new initiative in FY 2020 to restructure the long-distance network by providing $550 million for the Restoration and Enhancement Grant program.

The FRA explained in its FY 2020 Budget Estimates that: "Amtrak's Long-Distance routes account for only 14% of Amtrak ridership, but 32% of train system operating costs, while also suffering from poor on-time performance due largely to delays on the freight-owned railroads that host long-distance trains (42% endpoint OTP in FY 2019 in comparison to state supported trains, which had an OTP of 75% in FY19)." Therefore, FRA further explains that "The FY 2020 President's Budget proposes to begin the process of restructuring Amtrak's Long-Distance network, phasing decision making and cost responsibilities to states. This proposal promotes a market based, passenger-focused intercity passenger rail network that better meets the transportation demands of the American public."

In a similar vain Amtrak has stated they, "appreciate the Administration's focus on expanding intercity passenger rail service to today's many underserved cities and corridors across the nation. We believe that a restructuring of the National Network, with the right level of dedicated and enhanced federal funding, could improve the services we deliver while improving our ability to sustainably maintain the operation of appropriate long distance routes."

Amtrak has publicly stated that they are focusing on trains that are of shorter distance and city pairs regional trains; thus, connecting cities that are too far to drive and too close to utilize air travel. Rethinking long-distance trains and regional corridors (targeting 400 miles or less). Amtrak additionally recognizes that changing demographics mean Amtrak services must be modernized to stay relevant. Current and future customers desire an inexpensive travel option with seamless connectivity and amenities.

The Cardinal passing under the New River Gorge Bridge.

Table 5-3 Amtrak Statement of Revenues and Expenditures FY 2018-2019

$ in millions	Actual FY 2018	Actual FY 2019	Y/Y Growth $	Y/Y Growth %
Ticket Revenue (Adjusted)	2,207.20	2,288.50	81.3	3.70%
Food & Beverage	140.7	143.9	3.2	2.20%
State Supported Train Revenue	233.8	234.2	0.4	0.20%
Subtotal Passenger Related Revenue	2,581.70	2,666.60	84.9	3.30%
Other Core Revenue	284.5	299.7	15.3	5.40%
Ancillary Revenue	341.8	356.5	14.7	4.30%
Total Revenue	**3,208.00**	**3,322.90**	**114.8**	**3.60%**
Salaries, Wages & Benefits	2,085.60	2,142.80	57.2	2.70%
Train Operations	299.6	306.5	6.9	2.30%
Fuel, Power & Utilities	269.8	260.2	-9.6	-3.60%
Materials	136.1	156.5	20.3	14.90%
Facility, Communication & Office	169.1	171.1	2	1.20%
Advertising and Sales	93.2	99.5	6.3	6.70%
Casualty and Other Claims	119.2	65.6	-53.6	-45.00%
Professional Fees & Data Processing	233.5	222.9	-10.6	-4.60%
All Other Expense	158	116.1	-41.9	-26.50%
Transfer to Capital & Ancillary	-185.5	-188.9	-3.4	-1.80%
Total Expense	**3,378.70**	**3,352.20**	**-26.4**	**-0.80%**
Adjusted Operating Earnings	-170.6	-29.4	141.3	82.80%
OPEB's and Pension	125.2	44.3	-80.9	-64.60%
Project Related Revenue & Expense	-109.9	-141.7	-31.8	-29.00%
Superstorm Sandy Insurance Proceeds	24.4	4.5	-19.9	-81.70%
Depreciation	-811.9	-874.7	-62.8	-7.70%
Office of Inspector General	-21.1	-23.5	-2.4	-11.30%
State Capital Payment Amortization	111.8	127.4	15.5	13.90%
Non-Operating Inc/(Exp)	35	12.3	-22.7	-64.80%
Net Income/(Loss)	**-817.2**	**-880.9**	**-63.7**	**-7.80%**

Source: Amtrak Performance Report FY 2019, April 2020; https://www.amtrak.com/content/dam/projects/dotcom/english/public/documents/corporate/monthlyperformancereports/2019/Amtrak-Monthly-Performance-Report-FY2019-Final.pdf Amtrak Operating Revenues and Expenditures FY 2018 - 2019.

To meet these changes in demand, Amtrak has developed the following strategies to improve long-distance route metrics:

- **Expand Positive Train Control implementation to all routes to improve safety;**
- **OTP improvements and strengthen train performance;**
- **Identify and implement operational efficiencies;**
- **Evaluate service model to improve revenue performance;**
- **Evaluate and implement customer service improvements, including greater café/lounge car menu variety;**
- **Acquire new and improve existing fleet; and**
- **Improve on-time performance.**

According to additional data provided in Amtrak's year-end report for FY 2019, the *Cardinal* operated at an average load factor of 56% capacity for the fiscal year, compared to the *Capitol Limited* at 67%. Additional route metrics for these two trains revealed the *Cardinal's* OTP percentage to be 52.7% for the year, compared to the *Capitol Limited* at 28.5%. While the *Cardinal's* OTP percentage is above Amtrak's service standard of 48.6% for all long-distance trains, the *Capitol Limited* is significantly below the standard and reflects a double-digit decline over its OTP percentage of 47.3% in FY 2017 and a two percent drop over FY 2018. Most recently, the OTP on long distance routes has been poor at 42%. These substandard on-time rates create a huge challenge to attract and retain customers.

In December 2019, the Virginia Department of Rail and Public Transportation (VDRPT) announced an agreement with CSXT and Amtrak that will convey the Buckingham Branch Railroad (BBRR) short line, a segment of the *Cardinal* route) to the Commonwealth. It is not yet known how this new arrangement will influence maintenance and potential *Cardinal* OTP on the corridor. Creation of a Rail Authority is also proposed to govern all state-maintained lines within Virginia.[47] West Virginia should meet with VDRPT to discuss the future of the Cardinal, the route and OTP.

The *Cardinal* operates in 11 states and the District of Columbia. While it connects relatively isolated parts of West Virginia to population centers like Washington to the east and Cincinnati to the west, it also provides the only rail connections between Cincinnati, Indianapolis, and Chicago. Daily rail service connecting these major population centers arguably would provide benefit to taxpayers.

As previously noted, West Virginia's intercity passenger rail consists of two long-distance Amtrak routes. Delays in other states and sections of the routes cause downline delay and reduced OTP. Recent construction projects in Chicago and Washington, D.C. are affecting OTP of trains in and out of those areas. Delays on NS and bottlenecks in Chicago are due to construction at Chicago Union Station and switching trains to the Belt Railway to access the passenger rail station in Chicago. When passenger trains must share the Class I network, which access Chicago Union Station with *Metra* and freight railroad volumes, delays can occur. The Amtrak national system train is a national system issue. Delays are occurring outside of the state and cannot be solved by one entity. West Virginia should continue to participate in regional stakeholder networks to influence improved route metrics along West Virginia's intercity rail routes.

Based on Amtrak's customer service index (CSI) described above, the *Cardinal* earned a CSI score of 81.8 in FY 2019, compared to the *Capitol Limited* at 80.3. The service standard for long-distance service was 83.2.

Source: Amtrak Monthly Performance Report FY 2019, April 2020.

Quality of Service

Freight train interference on the shared-use corridors and weather-related delays are the largest contributors hampering a train's ability to arrive at its destination on time. A higher OTP performance leads to better customer service experience and makes rail a more attractive travel option. Amtrak's route metrics and strategies to improve the financial and operational performance systemwide are indicated below in Table 5-4.

47 https://www.governor.virginia.gov/newsroom/all-releases/2019/december/headline-850120-en.html.

Table 5-4 Amtrak Key Business Metrics

Metric	FY 2019 Goal	FY 2019 Actual	FY2020 Goal	FY 2025 Goal
Ticket Revenue	$2.283 B	$2.289 B	$2.371 B	$2.949 B
Ridership	$32.5 M	$32.5 M	$32.9 M	$38.6 M
Adjusted Operating Earnings	($132 M)	($29.4 M)	$0.0 M	$70.0 M
Customer Satisfaction Index	87.7%	87.4%	87.8%	89.3%
Load Factor				
NEC	57.4%	57.8%	57.0%	51.0%
State Supported	42.5%	41.9%	41.5%	45.3%
Long-Distance	56.1%	55.7%	55.0%	58.0%
Customer On-time Performance*				
NEC	82%	83%	83%	90%
State Supported	79%	75%	78%	82%
Long-Distance	50%	42%	43%	50%

* Customer OTP measures the actual on-time performance of our customers, instead of endpoint OTP. Amtrak Service Line Plans, FY 2020-2025

Public Benefits

The implementation of daily *Cardinal* passenger rail service has been explored for more than a decade when Section 210 of the PRIIA mandated Amtrak to undertake a comprehensive program to improve its long-distance service. The Performance Improvement Plan for the *Cardinal* determined that daily service would significantly improve the train's utility and marketability and would enhance its ability to link rural communities with urbanized areas in the East and Midwest. The report also found that a daily train would be more attractive for short-distance local trips. Recommendations in the previous State Rail Plan discussed improvements to the *Cardinal's* cost recovery ratio as a near-term action, while also advocating for West Virginia to take a leadership role in safeguarding the future of the *Cardinal.* Some measures have been taken to improve the service, however a more aggressive strategy with phased objectives should be prioritized to ensure a sustainable *Cardinal* service moving forward.

Several improvements to the *Cardinal*, including some previous recommendations in the State Rail Plan have been implemented. These improvements include:

- **March 2017:** West Virginia House of Delegates approves legislation (HB 2856) to promote daily service for the *Cardinal*.
- **April 2017:** West Virginia Senator approves legislation (HB 2856) to promote daily service for the *Cardinal*.
- **April 2017:** West Virginia Governor passes legislation in HB 2856 authorizing the Commissioner of the Division of Tourism to enter into compact agreements with Amtrak and other states served by the *Cardinal* in an effort to improve the marketing, quality, and frequency of the service. The legislation also designates a special revenue account, the *Cardinal* Passenger Train Enhancement Fund, however the legislature does not appropriate any dollars specifically to the fund.
- **July 2017:** Amtrak launches a Thruway Bus Connection between Charleston and North Central West Virginia serving the cities of Weston, Clarksburg, Fairmont, and Morgantown along I-79.

As previously noted, accessibility improvements have also been completed at *Cardinal stations* in Huntington and Prince through Amtrak's own accessibility program. Huntington and Prince have received accessible platforms, restrooms, waiting rooms, and water foundations through this program. Wheelchair lifts are also available at these stations and other station facilities throughout the state are partially compliant.

While these measures, have led to a 12.6% increase in *Cardinal* ridership and gross ticket revenue increase of 21.2% for FY 2019 compared to 2018, additional action is needed to improve the train's cost recovery ratio and increase ridership. As previously stated, one of the most prominent hindrances prohibiting *Cardinal* growth is its three-day-a-week schedule. Current schedules limit the train's ability to be a competitive transportation option, especially for short to medium distance travelers. While travel times are comparable between autos and train, for many short distance travelers, the poor on-time performance and limited schedule reduces the competitiveness with auto travel.

Daily service improves connectivity for leisure travelers accessing West Virginia and for West Virginians residing in rural areas where other travel options are practically confined to automobile. West Virginia's primary airports continue to connect travelers with major hubs, although accessing cities within 250-300 miles of West Virginia is most generally limited to automobile or rail.

The *Cardinal* is approximately a 6-hour train ride from Washington, DC to the first West Virginia station stop at White Sulphur Springs and is less than eight hours from Washington, DC to the New River Gorge National River. Each of these stations are located at the core of the state's most popular outdoor recreation destinations and resorts. The Greenbrier Resort in White Sulphur Springs is a popular destination for travelers across the U.S. and world. Near Beckley, in the New River Gorge, the Prince station is within five miles of the Summit Bechtel Reserve Boy Scout facility.

The Summit Bechtel Reserve is the permanent home of the Boy Scout National Jamboree. The facility attracts more than 20,000 participants each year and even more during the National Jamboree that is hosted every four years. In 2019, the International Jamboree was held, hosting more than 50,000 scouts globally. Due to the reserve's rural location and the *Cardinal's* routing near the perimeter of the reserve, passenger rail is a favorable and cost-effective travel option, having the ability to haul a greater number of scouts and support staff

at a more efficient and affordable method than bus or air travel. In 2019, most of the scouts utilized bus and air transportation options due to the train's existing timetable in relation to the start of festivities. Daily service would be a more convenient option for scouts and would boost the train's ridership.

Tapping into this market continues to be a great opportunity to grow *Cardinal* ridership, as originally addressed in the previous State Rail Plan. The plan explained how the existing timetable hindered the ability to adequately serve scouts and associated staff. This still remains an issue nearly five years later. One related issue discussed in the previous plan was a nearby highway bridge that was unable to handle the weight of buses transporting scouts and staff between the Prince station and the nearby reserve. However, the WVDOT has since replaced that bridge with a newer structure capable of heavier tonnages. Further recommendations for improving *Cardinal* access should consider the advantages of serving this market and overall improvements to the train's cost recovery.

The *Capitol Limited*, while only making two stops in West Virginia at Harpers Ferry and Martinsburg, provides daily service and accounts for 38.4% of passenger activity of all West Virginia stations in FY 2017. This is likely due to the route serving as a short haul route to the Washington, DC metro area. Unfortunately, between FY 2018 and FY 2019, the *Capitol Limited* ridership decreased by 4.3%, gross ticket revenue decreased 5.7%, and the CSI decreased by 2.6 points. Several contributing factors to these declines are due to OTP performance, the usage of older two-level Superliner equipment, and poor performance, as well as less than ideal experience as compared to readily available auto or air transportation. With the context provided above, the following recommendations are divided by immediate, near-term, and long-term projects that build upon existing efforts to improve intercity passenger rail statewide. Previous recommendations will also be addressed with an increased emphasis on new priorities and opportunities.

Intercity Passenger Rail Service Needs and Opportunities

Policy

Work that the FRA is doing with Class I railroads and Amtrak concerning on-time performance will help improve system reporting and network performance. The Surface Transportation Board is currently reviewing a case where Union Pacific, a passenger rail supplier to the Chicago METRA system, is arguing that supporting passenger rail service with Union Pacific (UP) laborers is not a common carrier responsibility. The outcome of this case will have a significant impact on the shared use Class I Chicago Region Environmental and Transportation Efficiency Program (CREATE) infrastructure in a congested Chicago rail region. Amtrak is overly dependent upon grants and subsidies on long-distance corridors. West Virginia must carefully monitor the potential for more funding from the state to ensure passenger rail in West Virginia is viable.

Amtrak held an event called the Cardinal Conference in 2016 in Cincinnati at the request of business and local interests on the Chicago-Indianapolis-Cincinnati-West Virginia-Washington, DC portion of the *Cardinal* route. The intent of the conference was to build a coalition of communities, universities, and other public and private interests similar to grassroots coalitions like the Gulf Coast Working Group or on the *Southwest Chief* route. The purpose of such a coalition would be to seek improvements for the *Cardinal*, including increased frequencies. West Virginia should stay abreast of and participate in regional rail stakeholder groups such as the *Cardinal w*orking group.

Operations and Maintenance

The rebuilding of the Chicago Union Station facility in Chicago is creating switching delays from Class I railroads who are interchanging with the Belt Railroad to get passengers into Chicago Union Station. This multi-year project, once completed, will have a significant improvement on intercity rail performance. Additionally, Washington Union Station, in coordination with Amtrak, is expanding and modernizing the station including, reconstructing the entire railyard, passenger platforms and concourses to increase station capacity from approximately 17.7 million passengers per year to 42.4 million passengers per year. The total project cost is estimated at $5.8 billion to $7.5 billion with construction timetables lasting 11 to 14 years. This multi-year project may affect OTP of passenger trains in and out of Washington Union Station in the future, in a similar fashion that CREATE construction is having currently on trains in the Chicago area.

Capital Improvements

Cardinal Passenger Train Enhancement Fund

Building upon legislation to explore daily *Cardinal* initiatives, re-examining the Cardinal Passenger Train Enhancement Fund would allow West Virginia to move forward with engaging the public on the value of expanded service levels. Appropriating funds to this special revenue fund would allow the Division of Tourism and the West Virginia Development Office to lead efforts in championing a daily *Cardinal* service. These efforts would build upon an already noticeable increase in ridership, while strategically developing practical solutions to grow and expand the service. Funds earmarked specifically for this purpose could also be utilized to further collaborate with neighboring states on their efforts to expand service on the *Cardinal* route.

Virginia continues to expand its Northeast Regional service with extensions to Roanoke, VA and other places throughout the state. Similarly, Ohio has earmarked resources to expanding the *Cardinal* service, including the commitment of $700,000 in funds to build a new *Cardinal*-served station stop in Oxford, OH. Located near Miami University, the City of Oxford and Miami University jointly agreed to contribute $350,000 each to build a station platform and shelter; however, a total of $1 million to $1.3 million is needed to complete the project. No schedule for construction has been announced, however partnering with neighboring states and advocacy groups will be important in fostering new relationships that help maintain and improve the service and West Virginia ridership.

These passenger rail recommendations were generated after a review of existing conditions (Chapter 2), analysis of trends at the state and national levels (Chapter 3) and feedback from the public and stakeholders (Chapter 4).

Immediate Intercity Passenger Rail Recommendations

- Create regional routes and state partnerships with Virginia, Pennsylvania, and Ohio to support upgrading *Cardinal* passenger Rail service.
- Re-examine the Cardinal Passenger Train Enhancement Fund and consistently fund.
- Increase multimodal options and improve transportation accessibility and station access in Huntington, WV.
- Construct sidewalks and improve station accessibility and station access in Martinsburg, WV.
- Develop a more robust awareness campaign for passenger (commuter and intercity) rail service in the state, including availability of up-to-date timetables at stations and an online presence.
- Improve universal accessibility / ADA compliance at passenger, commuter, and tourist rail stations.
- Ensure bike racks are available on Amtrak intercity rail corridors and advertise this feature locally.

Near-Term Intercity Passenger Rail Recommendations

- Continue to collaborate with freight railroads and Amtrak to mitigate delays.
- Continue involvement in the Cardinal working group.
- Upgrading of *Cardinal* service- Establish funding and operational strategy; Establish state partnerships and collaboration for regional routes, i.e. WV/VA, WV/PA, WV/OH.
- Evaluate coordination of connecting bus and train schedules.
- Utilize the Amtrak Station Host Program to post volunteers at stations.
- Identify Charleston station needs including dedicated parking spaces and better connections to local transit, conduct needs assessment for multimodal terminal.
- Conduct assessment of potential Huntington Multimodal Terminal, to include transit and rail co-location.

Cardinal and Capitol Limited Station Access Improvements

Rail stations and station access across West Virginia remains an issue for *Cardinal* and *Capitol Limited* train stations. While notable efforts have been made in the past five years to bring stations into compliance with the ADA standards, there is additional work required to make all West Virginia's train stations fully accessible.

Many of West Virginia's intercity passenger rail stations are privately owned and, in some instances, the ownership varies between the facility, platform, and parking lot. While Amtrak has led recent accessibility efforts through its own accessibly program, there is additional work needed to ensure all the state's station facilities meet ADA-compliant standards. Its also important to note that some flag stops are not required to meet ADA standards, however these accessibility hurdles are still challenging for passengers, particularly West Virginia's elderly population in rural areas. Furthermore, Amtrak has de-staffed all station facilities in West Virginia on both the *Cardinal* and *Capitol Limited* routes, further limiting a passenger's ability to rely on Amtrak staff or other personnel.

A summary of West Virginia's intercity passenger rail stations, ridership, station revenue, and accessibility is provided in the following table. A complete inventory of the state's passenger rail stations, including, ownership, services, and accessibility is included in Appendix 5, Station Inventory.

Table 5-5 Amtrak Key Business Metrics

Station name	FY 2018 Ridership	FY2018 Revenue	FY 2019 Ridership	FY 2019 Revenue	Accessible
Charleston *(Cardinal)*	11,203	$623,920	8,280	$592,855	**Yes:** Platforms, restrooms, waiting rooms, water fountain, same-day parking, overnight parking, wheelchair lifts and wheelchair available
					No: High platform or accessible ticket office available
Martinsburg *(Capitol Limited & MARC)*	10,687	$504,786	10,917	$504,585	**Yes:** Platforms, waiting rooms, same-day parking, overnight parking, and wheelchair lift available
					No: Restrooms, accessible ticket office, accessible water fountain, high platform, or wheelchair available
Huntington *(Cardinal)*	10,248	$533,919	8,870	$335,116	**Yes:** Platforms, restrooms, waiting rooms, water fountain, same-day parking, overnight parking, and wheelchair lifts available
					No: High platform, accessible ticket office, or wheelchair available
Harpers Ferry *(Capitol Limited & MARC)*	7,612	$333,679	7,920	$314,369	**Yes:** Same-day parking and overnight parking is available
					No: Restrooms, accessible ticket office, waiting rooms, water fountain, high platform, wheelchair lift, or wheelchair available
Hinton *(Cardinal)*	5,836	$337,129	6,456	$140,994	**Yes:** Accessible platform, same-day parking, overnight parking, and wheelchair lift available
					No: Restrooms, accessible ticket office, waiting room, water fountain, high platform, or wheelchair available
White Sulphur Springs *(Cardinal)*	5,680	$388,917	5,191	$302,945	**Yes:** Accessible platform, same-day parking, overnight parking, and wheelchair lift available
					No: Restrooms, accessible ticket office, waiting room, water fountain, high platform, or wheelchair available
Prince *(Cardinal)*	2,162	$143,628	2,717	$212,540	**Yes:** Accessible platform, waiting room, same-day parking, overnight parking, and wheelchair lift available
					No: Restrooms, accessible ticket office, water fountain, high platform, or wheelchair available
Alderson *(Cardinal)*	433	$22,302	578	$22,437	**Yes:** Same-day parking and overnight parking available
					No: Restrooms, accessible ticket office, waiting room, water fountain, high platform, wheelchair, or wheelchair lift available
Montgomery *(Cardinal)*	347	$18,887	275	$15,690	**Yes:** Accessible platform, same-day parking, overnight parking, and wheelchair lift available
					No: Restrooms, accessible ticket office, waiting room, water fountain, high platform, wheelchair, or wheelchair lift available
Thurmond *(Cardinal)*	285	$20,077	364	$18,717	**Yes:** Same-day parking and overnight parking available
					No: Restrooms, accessible ticket office, waiting room, water fountain, high platform, wheelchair or wheelchair lift available

ADA improvements have been proposed for Harpers Ferry for many years, including a wheelchair lift, which would be the minimum accessibility requirement for rail passengers. Accessibility improvements to the Harpers Ferry Station will take additional thought given the complexities of site ownership by the NPS, the historic nature of the building and grounds, and its operation as a visitor center, which is only open during park operating hours. It is recommended that Amtrak, West Virginia, and the NPS coordinate to finalize this project.

While it is not the WVSRA's financial responsibility to maintain or implement accessibility improvements at many of these public and privately-owned station facilities, it is important to prioritize station improvements to help improve passenger safety and enhance customer experience. Identifying funding opportunities and improved organization for shared responsibility of these types of projects is needed to ensure the recommendations are implemented. These improvements not only provide passengers with the accessibility they deserve, but it can be leveraged as a marketing tool for continued growth.

Previously recommended station accessibility improvements and expansions, including Harpers Ferry, have gone unfunded since the previous State Rail Plan. In 2013, a $2.3 million project cost was estimated to help improve accessibility at Harpers Ferry. Served by both Amtrak and MARC services, the station's historic nature and unique design makes it virtually inaccessible to anyone requiring handicap accessibility. The facility is owned by the National Park Service, while the platform is owned by CSXT, and utility and snow removal expenses are the ongoing responsibility of the WVSRA. No funding has been identified at this time to implement the previously recommended accessibility improvements.

Long-Term Intercity Passenger Rail Recommendations

- Evaluate governance of planning efforts to maintain passenger rail service.
- Continue to support the need for daily *Cardinal* service.
- Identify opportunities for development around passenger rail stations.

Passengers boarding the Cardinal at the Prince station

Commuter Passenger Rail Service Needs and Opportunities

Commuter rail services in West Virginia are provided by MARC's Brunswick Line. Weekday service connects West Virginia's Eastern Panhandle communities of Harpers Ferry, Duffields, and Martinsburg with Washington Metro Area and beyond. MARC trains use CSXT-owned freight corridors to serve these West Virginia communities. The WVSRA does not currently have a dedicated fund to assist with MARC Brunswick Line service. The WVSRA is responsible for utilities and snow removal at the Harpers Ferry and Duffields facilities, but does not maintain, nor own any of the station facilities or equipment used to provide the commuter rail service in West Virginia. The opportunities and challenges associated with West Virginia's commuter rail services are described in greater detail below.

MARC Brunswick Line in West Virginia continues to face challenges with ridership growth and secured funding. One of the primary challenges hindering growth on the MARC Brunswick Line is the inability for increased service and capacity. The Brunswick Line remains at practical capacity due to freight congestion on the CSXT-owned corridor, parking and layover capacities, stations, and number of train slots available.

There are only three trains departing from and arriving at West Virginia's MARC stations daily and those trains operate weekdays only. Current timetables are optimal only for commuters traveling into Washington, DC or the neighboring area for work and do not accommodate weekend visitors traveling between West Virginia's Eastern Panhandle and other regional attractions in the Northeast.

Existing capacity issues limit the ability to grow existing Brunswick Line trains due to the size of the train parking and maintenance facility in Martinsburg and the capacity on existing train slots. Adding trains presents a challenge due to the route's dependence on using the CSXT-owned corridor, a route with dense freight traffic.

These challenges make it increasingly difficult to financially subsidize, especially without a dedicated funding source appropriated by West Virginia. The state, through the WVSRA, has traditionally been responsible for utilities and snow removal at two of the three MARC-served stations in the state, but does not maintain, nor own, any of the station facilities or equipment used to provide the commuter rail service in West Virginia.

In 2019, the service was at risk for annulment due to lack of sustained operating funds. Maryland is calling on West Virginia's legislature to further support the service by helping to operationally subsidize the service into the Eastern Panhandle communities. Contributions from multiple sources, including the state contingency fund and local funding, were secured to meet the necessary operation costs.

West Virginia Code §29-18-24 authorizes a Commuter Rail Access Fund to cover expenditures required under §29-18-6(c) "for the continued operation of the commuter rail operation between Maryland and the Washington DC metropolitan area and West Virginia." A continuing appropriation to this fund for operation of the MARC service in West Virginia would provide predictability for riders and the community served, and allow transit to be part of amenities that the Eastern Panhandle would use in part to attract for workers based in the metropolitan Washington, DC area. It would also demonstrate a State commitment for the service, as part of an effort to leverage an ongoing local matching fund obligation.

Additional approaches for commuter rail funding could possibly involve an examination of federal Congestion Mitigation Air Quality (CMAQ) funds. This category of funding may be used for service marketing or for up to three years of operating assistance for a potential new frequency. The intent is to help start up viable new transportation services that can demonstrate air quality benefits and eventually cover their costs as much as possible. Other funding sources should supplement and ultimately replace CMAQ funds for operating assistance, as these projects no longer represent additional net air quality benefits, but have become part of the baseline transportation network. When CMAQ funds are used for operating assistance, non-Federal share requirements still apply, as the program is funded at no more than 80%.

As ridership flatlines, or decreases on West Virginia's portion of the MARC Brunswick Line, funding for these improvements presents increasing challenges. West Virginia must evaluate how the MARC service brings value to the state and how it could be promoted in a region where roadway congestion and communities are experiencing rapid growth and development. Weekend service, a concept previously studied by the MARC Riders Advisory Council, should also be reevaluated to determine if adding frequency or expanding to a weekend service could improve the service's cost recovery.

The WVSRA does not currently allocate funds specifically for MARC projects or investments beyond what is appropriated annually by the legislature through the state budget process. In 2018, the Commuter Rail Access Fund was provided $1.5 million and during the 2019 legislative session, $1.1 million was allocated to the service. MARC is currently calling on West Virginia to provide $3.5 million in annual support to subsidize the operations into West Virginia.

Immediate Commuter Rail Recommendations

- Develop a more robust awareness campaign for passenger (commuter and intercity) rail service in the state, including availability of up-to-date timetables at stations and an online presence.
- Recommend long-term funding solution and agreement with Maryland to ensure continued MARC regional commuter operations.
- Recommend long-term funding solution and agreement with Maryland to ensure continued MARC regional commuter operations.
- Construct sidewalks and improve station accessibility and station access in Martinsburg, WV.
- Improve existing commuter rail service by evaluating weekend service and long-term funding options. If commuter weekend service becomes available ensure coaches have bike racks.
- Improve universal accessibility/ADA compliance at passenger, commuter, and tourist rail stations.

Near-Term Commuter Rail Recommendations

- Conduct MARC Brunswick Line Extension Study.
- Evaluate coordination of connecting bus and train schedules.
- Evaluate the need for West Martinsburg Train Service Facility and Multimodal Station.
- Evaluate MARC station/infrastructure needs; conduct assessment of existing MARC stations in WV, necessary upgrades and need for multimodal facility in the MARC service area.
- Consider weekend schedules for commuter rail service; include bike racks.
- Design and construct proposed MARC/EPTA transit station and bus transfer center to replace the Duffields Station.

Long-Term Commuter Rail Recommendations

There is value to retaining MARC service in West Virginia long-term. The relatively favorable cost of living – particularly housing – and high quality of life in the Eastern Panhandle are stimulating new development.

Ranson, about 5 miles from the Duffields Station, for example, saw its population increase by 16.7% between 2010 and 2018, according to U.S. Census data. According to Zillow, the median house price in Ranson is $148,700, while the median price house in Leesburg, VA (a mere 24 miles away) is $536,100, almost 3.6 times as much. This economic reality will likely spur further growth in parts of the Eastern Panhandle closest to employment centers in Metropolitan Washington. Meanwhile, highway congestion in Northern Virginia and Maryland's Montgomery County is unlikely to improve over the long run. Continued availability of MARC commuter service from Jefferson and Berkeley Counties to Washington, D.C., and its Maryland suburbs will enhance the quality of life for this corner of the Mountain State.

- Identify opportunities for transit-oriented development around stations in Harpers Ferry, Duffields, and Martinsburg.
- Consider operation of an express commuter train that would eliminate potential stops terminating at Washington Union Station.

Source: MARC

Tourist Rail Service Needs and Opportunities

West Virginia's tourist railroad business bestows both opportunity and challenges. Tourist railroads are an imperative economic contributor to rural West Virginia communities and an amplified demand for unique outdoor recreational venues continues to drive increasing audiences to West Virginia's tourist trains.

These opportunities do not come without their own difficulties. The infrastructure and historic rail equipment used to transport these passengers is aging and the need to continue adding different attractions for repeat business is vital. Most of West Virginia's tourist railroads are privately operated on tracks either owned or overseen by the WVSRA. The one exception is the Autumn Colors Express, which operates on a CSXT-owned corridor in southern West Virginia. Most of the state's tourist railroads report directly to the WVSRA and in many cases, the same tracks used by tourist trains are also shared by freight trains, which are overseen or operated by the WVSRA or its contracted operators.

The WVSRA is responsible for capital expenditures on the lines in which tourist trains operate, however day-to-day operations and maintenance of these rail lines is the responsibility of the WVSRA's contracted operators. Crossties and other track supplies are oftentimes funded through the WVSRA's budget, but the labor and equipment to install the materials is handled by the operator. Some of the assets used to haul passengers, including locomotives and passenger equipment is owned by the state, while other equipment is privately owned. This allows the WVSRA to take a greater role at overseeing tourist railroad operations, while the management and promotion of the services are handled by the respective operators.

Tourist railroad opportunities and challenges are described in greater detail below.

Infrastructure and Equipment Improvements

One of the challenges facing the leisure travel business is the constant need for capital investment and upgrades to rail infrastructure and historic rail equipment. Many of the state-owned rail lines hosting West Virginia's tourist trains today are more than 100 years old. Bridges and other infrastructure are aging with necessary repairs dependent on WVSRA funds. Rail lines that no longer support freight traffic, but have been repurposed for tourist train use require regular track repairs. These investments are oftentimes justified for the return on investment they yield due to increased passenger ridership. One of the primary challenges is securing the funds needed to continually make repairs and grow. For West Virginia's tourist railroads to prosper, an ongoing commitment to tourist rail-related infrastructure is essential.

Tourist railroads in West Virginia continue to expand and previously recommended improvements have moved forward in phases through partnerships involving the WVSRA and its operators. As stated before, this has allowed the state's tourist railroad operations to experience growth and ridership has increased at most attractions in recent years. The projects outlined above are updates to previously recommended plans and include new opportunities to further grow the tourist rail industry throughout West Virginia.

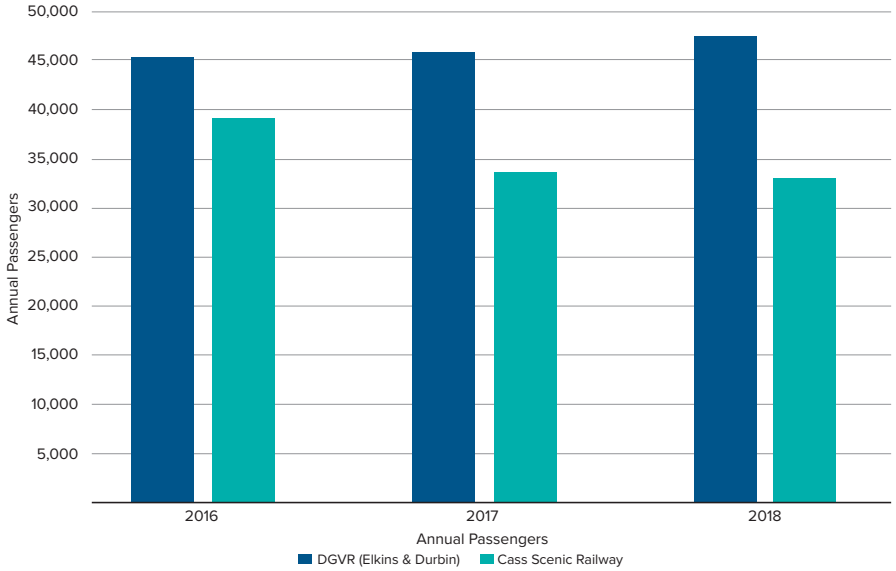
Operational and Expansion Opportunities

The major challenge for West Virginia tourist railroads is keeping their product offerings fresh so they can attract repeat customers.

Durbin and Greenbrier Valley Railroad and Cass Scenic Railroad

Figure 5-1 below shows three-year traffic trends for two affiliated West Virginia tourist operations, the Durbin & Greenbrier Valley Railroad (DGVR) and the Cass Scenic Railroad (CASS). The DGVR recorded a 5.1% increase in passenger traffic between 2016 and 2018, for a respectable 2.5% compound average growth rate. During the same two-year period CASS saw customers drop 15.3%.[48] The different behaviors in ridership trends reflect different patron behaviors and product development and marketing for the two tourist operations.

Figure 5-1 Annual Ridership on DGVR & CASS Railroads



DGVR is more aggressive with special events than CASS, which principally focuses on conventional rail excursions to nearby scenic Bald Knob, the third highest point in West Virginia. DGVR's menu of special events includes a murder-mystery wine train, a beer train, and the "Polar Express," licensed from the Warner Brothers Rail Events subsidiary. The latter is responsible for more than a third of DGVR's revenue stream. Rail Events also extracts a significant franchise fee from DGVR's revenue. Such fees and the fear of cannibalizing existing traffic has dissuaded DGVR from expanding alternative products by including, for example, the "Peanuts" Great Pumpkin Patch Express product at Halloween.

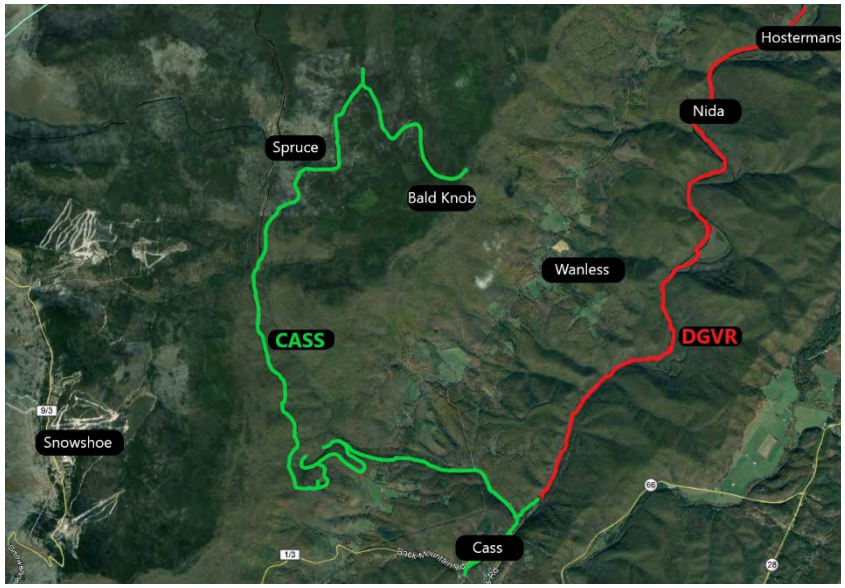
The reality of the tourist railroad business is that customers within the 300-mile radius that could be considered their market have little reason to return for a second visit with the identical product. Successful tourist railroads offer a vast and changing array of special events and special services to effectively change their array of product offerings and cater simultaneously to different market segments. Given that both the CASS and DGVR are very near to Snowshoe Mountain Resort, a principle ski and summer attraction for the entire Southeast, programs which target that resort's clientele for repeat business are likely to be successful.

Some of the more aggressive railroads in this respect are located in nearby Maryland and Pennsylvania. The Western Maryland Scenic Railroad offers moonshine trains, the opportunity to get behind the throttle of a diesel-electric locomotive, and a service that allows passengers to transport bicycles to the top of a hill and descend the 2% grade on two wheels. North Central Railroad in Pennsylvania is particularly creative in its offerings, which include the Pennsylvania Cowboy Weekend, "Tannenbaum," an excursion to a Christmas-tree farm where passengers can cut their own tree, which then follows them back to the origin in New Freedom, PA, a cigar train, and railroad weddings.

DGVR and CASS should follow such examples and experiment with new special services, in particular those that require no commission to other companies for using franchised content. In addition to the special events and services mentioned above, West Virginia's tourist railroads could consider operations to shuttle canoeists, kayakers, rafters, skiers, and mountain bikers.

48 Source: Mountain Rail internal figures.

Figure 5-2 Map of the CASS and southern DCVR



The two affiliated railroads will benefit from both an operational and a marketing standpoint with a track connection between Cass and Durbin when bridge work at Trout Run near Nida, WV is completed.[49] The connection will enable joint use of facilities and operations, which will reduce expense. It also will enable operation of an expanded menu of steam-powered and diesel-electric offerings.

New River Train

As noted in Chapter 2, the popular New River Train Excursions operated by the Collis P. Huntington Historical Society using Amtrak equipment and private cars on CSXT track were suspended due to large increases in operating costs. As operations on Class I railroads have embraced "precision scheduled railroading," they have become less tolerant of non-core elements of their business, including tourist excursions. Likewise, Amtrak's new management team, led by a longtime airline executive, has increased fees for operating private equipment. Looking five years into the future, it's difficult to anticipate the reversal of these trends to create a more welcoming environment for excursions.

Potomac Eagle Scenic Railroad

To the northeast of the aforementioned CASS and DGVR railroads and closer still to the greater Baltimore – Washington Metropolitan Area is the Potomac Eagle Scenic Railroad which hosts the Potomac Eagle Express excursion trains. These trains operate from May to November from Romney, WV over the South Branch Valley Railroad along the Potomac River over what is normally a weekday freight operating railroad.[50] Three variations of service are offered from Romney, including out-and-back operations to Petersburg and Green Spring, WV respectively and an end-to-end operation to both stations. From November 22 to December 22, the North Pole Express Christmas theme train is operated.

These operations make for a nearly year-round source of additional revenue and excellent use of assets for both the passenger and freight components.

Corporate Sponsorships

The impact of increased expenses for all tourist operations can be mitigated by searching for new sources of revenue. Some tourist railroads successfully enhance their revenue streams with corporate sponsorships. This should be explored in the long-term.

49 http://www.mountainrailwv.com/tour/durbin-cass-connection/.

50 During October, the maximum fall foliage season, the passenger trains run daily.

Immediate Tourist Rail Recommendations

- Provide advance notice of any plans of removal from public ownership or demolition of any railway facilities (active or inactive) in West Virginia with the state WV Rails to Trails Council and the national Rails to Trails Conservancy. Railway facilities to include but not be limited to bridges, depots, spur lines, and railway corridors.
- Improve universal accessibility/ADA compliance at passenger, commuter, and tourist rail stations.
- Consider operations to shuttle canoeists, kayakers, rafters, skiers, and mountain bikers during weekend service to capture growing outdoor tourism market.
- Design and Construction of Harrison County Southern Rail Trail.
- Design and Construction of Meadow River Trail (Phased).

Near-Term Tourist Rail Recommendations

High Adventure of Mountain and Rail Loop

Durbin & Greenbrier Valley Railroad has nearly completed the first phase of the 90-mile rail excursion loop originally presented to the West Virginia Tourism Commission in 2012. This multi-phase excursion loop is repurposing out-of-service, state-owned rights-of-way for expanding tourist rail services in rural mountainous West Virginia. Utilizing rights-of-way owned and overseen by the WVSRA, the excursion loop utilizes existing tracks already used for tourist trains, while proposing to revitalize other out-of-service tracks. The 90-mile loop intends to connect Spruce in Pocahontas County with Bergoo in Webster County and Durbin in Pocahontas County to Elkins in Randolph County.

In late 2019, DGVR will complete the first 15-mile phase linking Cass, WV with Durbin, WV. This track rehabilitation project has already included the installation of more than 20,000 crossties, thousands of tons of rock ballast, and is in the process of including a bridge replacement. The project's objectives are to increase the regional connectivity of the state's tourist rail system by attracting new audiences with new rail tourism and outdoor activities. The project is the result of a public-private partnership between the WVDOT, WVSRA, and the WVSRA's contracted operator DGVR. WVSRA supplied track materials and oversight, while DGVR provided labor and equipment to install the track supplies.

Continued

Near-Term Tourist Rail Recommendations (continued)

Subsequent phases of the project include connecting the WVSRA-owned and WVCR-operated right-of-way at Spruce, WV with Bergoo, WV in Webster County via a 28-mile section of out-of-service right-of-way. While the track and roadbed are largely intact, there are several track washouts impeding the reconnection. Although no funds have been specifically earmarked for this phase or subsequent phases of the 90-mile loop, careful budgeting by the WVSRA and DGVR is allowing the project to gradually advance.

- Examine opportunities for special event trains such as the Autumn Colors Express (Rail Excursions) and a BSA Jamboree Train; continue discussions with Amtrak, CSX, NS.
- Work with short lines to maintain existing tourist rail track conditions into a state of good repair.
- Parkersburg to Pittsburgh Trail Corridor in Wood, Doddridge, Ritchie, Harrison, Marion and Monongalia Counties: Complete the 150-miles of rail trail, 22 miles remaining (Phased).
- Development of Phase I and II of Hampshire County Industrial Park and Potomac Eagle expansion of depot, shop, restaurant and hotel.
- Complete track connection between Durbin and Cass, including bridge replacement at Trout Run.
- Clarksburg Connector - acquisition of CSXT rail corridor for North Bend Rail Trail.

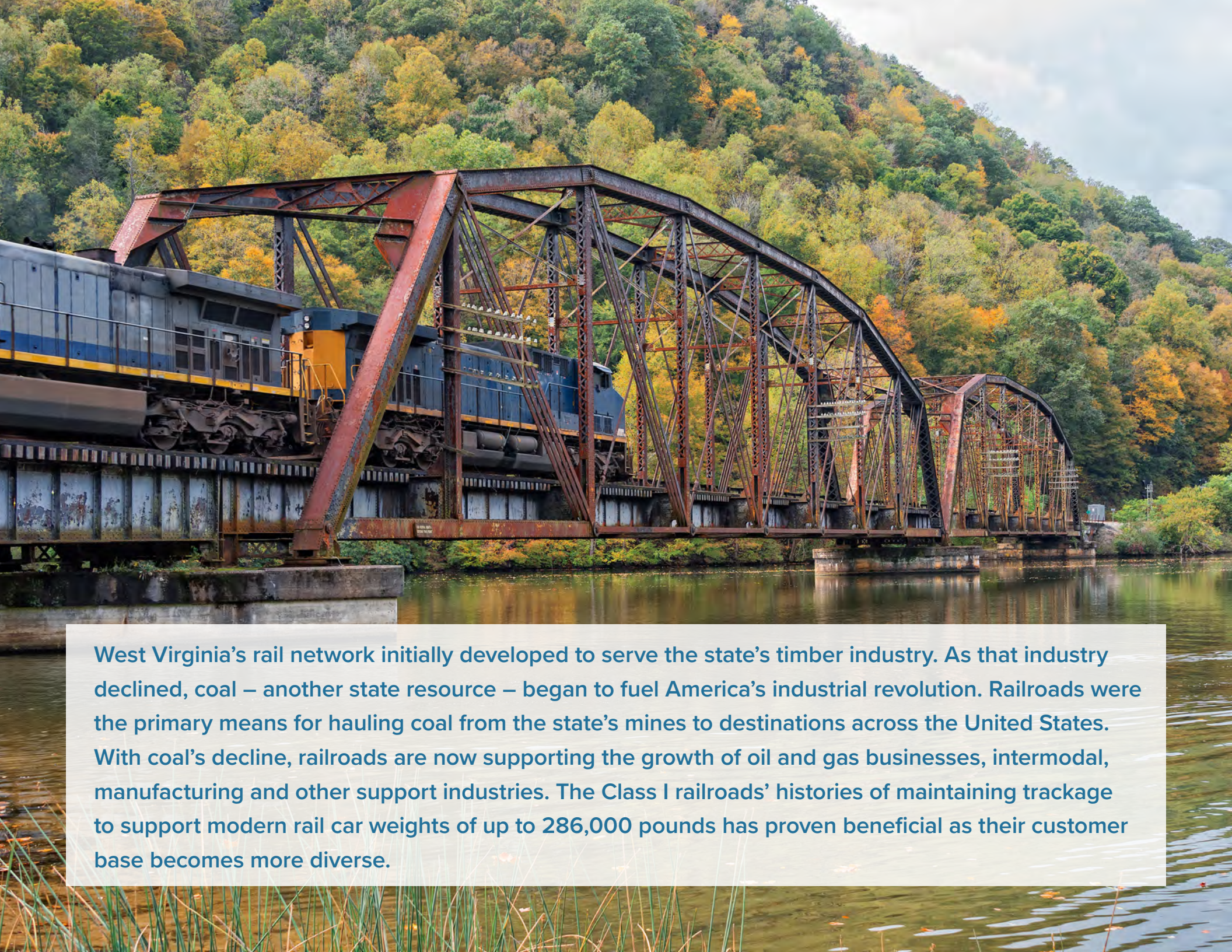
Long-Term Tourist Rail Recommendations

- Explore corporate sponsorships for future tourist train services.
- Elk River Rail Trail System: Utilize 72 miles of abandoned rail lines for recreational trails (Phased).
- New River Gorge Trail Alliance- construct and promote a regional trail system connecting gateway communities, national and state parks in Fayette, Nicholas, Raleigh, Greenbrier and Summers counties (Phased).
- Conduct feasibility of extending WVCR trackage by 28 miles to Bergoo for additional tourist and overnight attractions.
- Completion of WV portions of Great American Rail-Trail: Panhandle Trail and Weirton to WV/OH State Line (Design currently underway in 2020 STIP).

Passenger Rail Recommendations – A Path Forward for West Virginia

In reviewing these recommended courses of action for intercity, commuter, and tourist passenger rail services in West Virginia, it's fundamental to consider the diverse and long-lasting benefits of maintaining a well-balanced and attractive passenger transportation system. The recommendations were based on the 2020 State Rail Plan vision, goals and objectives, detailed in Chapter 1, as part of a multimodal transportation system that supports transportation choices and the state economy.

West Virginia's proximity to neighboring populations, the appeal of leisure rail travel, and the necessity to remain economically competitive with an interconnected passenger rail system are driving forces for developing these recommendations. These recommendations factor in the current financial structure and organizational responsibility of the WVSRA and the railroads and operations it oversees. As West Virginia's economy and demographic makeup shifts, these recommendations place greater emphasis on considering ways to restructure the WVSRA's responsibilities and to allocate the resources it needs to better preserve, protect, evaluate, and improve West Virginia's passenger rail services.



West Virginia's rail network initially developed to serve the state's timber industry. As that industry declined, coal – another state resource – began to fuel America's industrial revolution. Railroads were the primary means for hauling coal from the state's mines to destinations across the United States. With coal's decline, railroads are now supporting the growth of oil and gas businesses, intermodal, manufacturing and other support industries. The Class I railroads' histories of maintaining trackage to support modern rail car weights of up to 286,000 pounds has proven beneficial as their customer base becomes more diverse.

6. Proposed Freight Rail Improvements and Investments

Key Freight Rail Service Needs and Opportunities

With a secular market shift in coal use in the United States, reductions in coal traffic may lead to loss of freight rail corridors or line sales if new freight opportunities are not found. These changes combined with new Precision Scheduled Railroading strategies, which limit intermediate yards and focus on improved asset utilization, will be difficult for the future of railroads in West Virginia.

This chapter describes proposed freight rail and rail safety improvements to West Virginia's existing freight rail operations. The needs, opportunities, and challenges are discussed in this section, as well as West Virginia's economic climate and businesses that influence these operations. Class I railroads, Class II/III short line and regionals, and state-owned and state-maintained freight railroads and operations will be discussed. The proposed projects were identified by participants during stakeholder outreach activities, as detailed in Chapter 4 and listed in Appendix 6. While some projects are identified as either passenger or freight related, as required by FRA, many of West Virginia's rail lines are shared routes and as such, many of the opportunities identified in this chapter benefit both passenger and freight rail services.

Additionally, this chapter identifies the needs and opportunities for improving and investing in all statewide freight rail systems, while considering freight rail projects that could benefit West Virginia's economic development and safety initiatives. While the WVSRA is not directly responsible for the capital, operational, or maintenance needs of privately-owned Class I or Class II/III railroads, these companies and projects will be discussed as it relates to the state's overall freight rail network, safety, and the economy.

Recommended projects for state-owned railroad operations, including the SBVR, the WVC and other WVSRA-managed rights-of-way are also discussed. Freight rail projects previously recommended in the State Rail Plan, which have either gone unaddressed or partially unfunded, are updated in this chapter and latter sections.

Freight Rail Diversification

West Virginia's economy has benefitted from an upswing in oil and gas investments in recent years, which has naturally helped diversify the type of freight carloads on West Virginia's rail network today. Raw materials and finished products related to the oil and gas industry are helping diversify West Virginia's complex energy-related industries. Additional investments in petrochemical, manufacturing, and other industries will further diversify these efforts and create a more balanced freight network.

Today, southern West Virginia's rail lines continue to rely heavily on coal traffic, however the central and north central parts of West Virginia ship a variety of commodities in addition to coal. Economic development initiatives are also commonly linked to the central and north central sections of West Virginia, presenting an opportunity for growth in new chemical and manufacturing carload opportunities for freight railroads. Railroads provide one of the safest means of transport for large chemical companies, however these safety efforts often necessitate the ownership of private railroad cars and one-way loaded movements, requiring shipper paid empty repositioning.

Energy-related investments and support businesses throughout north central West Virginia will continue to help diversify the economy and freight rail

operations. While natural gas pipelines are currently under construction in these regions, there are additional businesses committed to making investments in West Virginia. Freight railroads in close proximity to these operations can potentially benefit from increased carloads, underpinning the significance for West Virginia's economic development leaders to leverage existing freight railroads and services when promoting local business development.

Rail access, siding extensions, or additional transload opportunities are options to strongly consider as energy, manufacturing, and other industries invest in West Virginia. Transloads are a means for lower volume users, or industries without rail access, to take advantage of the steel wheel economics and benefits, even if they don't have direct connection. Public transloads investments allow multiple users to leverage the same rail access location and the railroad benefits by being able to serve more shippers at a single location, with a single railroad switching crew.

In addition to freight carload diversification, West Virginia's export coal business remains an important contributor to local communities and is largely responsible for the number of freight carloads operating in southern West Virginia today. CSXT and NS combined hauled 527,500 coal cars through West Virginia in 2018, 78.6% of the state's total freight carload traffic. Coal transportation relies on highly-productive and well-maintained rail corridors, as coal volumes decline due to a reduction in fossil fuel energy consumption. As high capacity corridors become available to handle growth in other commodities, West Virginia and the WVSRA must be proactive in examining ways to proactively position the state for rail growth by increasing access for new businesses and industries taking the place of coal in West Virginia.

The increases in other types of commodities does not understate the important role coal still plays in the state's economy, however a shift in coal markets is placing a greater focus on international exports, as opposed to domestic utility coal. As a result, the needs and opportunities discussed in this chapter offer support to these expanding business sectors and the infrastructure required to haul these freight products by rail. The recommendations also take a proactive rail planning approach in positioning West Virginia and its existing freight rail system for long-term growth.

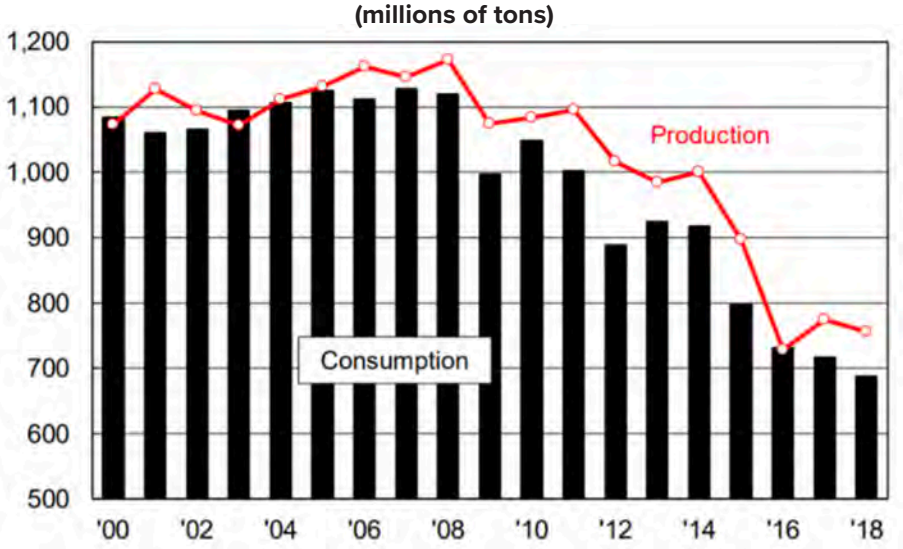
Background Studies

West Virginia Rail Capacity

Chapter 3 discussed freight rail tonnage trends and suggests that overall future tonnage in West Virginia will likely remain steady or decrease. While through traffic and tonnage will likely remain steady, outbound coal tonnage will continue to decline. Coal represents more than 80% of the rail tonnage originating in the state of West Virginia. The state's first challenge is to figure out how to export the coal reserves and to work with eastern coastal ports on environmentally safe ways to handle this cargo for export.

Figure 6-2 U.S. Coal Consumption and Production

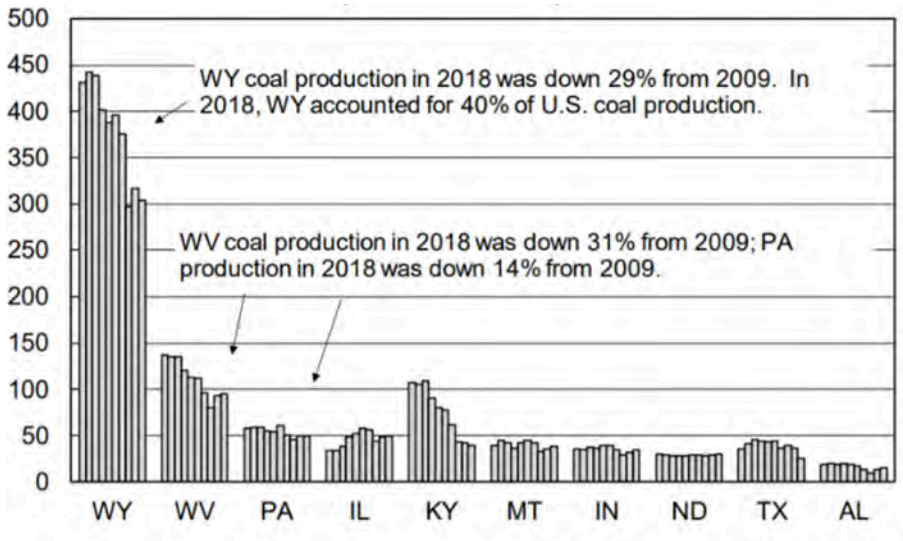
(millions of tons)



Source: Energy Information Administration.

Figure 6-3 U.S. Coal Production by State: 2009-2018

(millions of tons)



Source: Energy Information Administration.

The second challenge is to identify rail freight industries, which can use a highly-productive transportation system and has been well maintained to handle some of the heaviest rail cars within the freight system. Rail transportation has an impressive track record when it comes to safety. Working with chemical companies to locate on these former coal corridors could provide a safe and efficient transition from one declining commodity group to another growing industry for the state.

West Virginia Freight Rail Plan

The WVDOT completed its West Virginia State Freight Plan (WVSFP) in September 2018. The plan's purpose is to guide freight planning and implementation activities throughout the state. The plan provides a snapshot of the state's multimodal freight infrastructure and it helps position the state to maximize from funding opportunities that will build and enhance the movement of people and goods throughout West Virginia.

The WVSFP discusses freight congestion and infrastructure needs as it relates to highways, bridges, rail infrastructure, and air. The freight plan discusses mainline capacity needs as discussed in the previous West Virginia State Rail Plan update. Extensive stakeholder engagement sessions resulted in the development of a freight needs summary.

Several freight rail projects were identified in the process, including recommendations that expand multimodal access and improve railroad access at strategic points throughout the state, increase passenger rail services, and increase improvements to safety and highway-rail grade crossings. While direct funding sources were not identified in the WVSFP for the rail-related recommendations, newly proposed projects within this Rail Plan update will incorporate information from the WVSFP.

Class I Railroad Improvements

Class I railroads utilize private funding resources to maintain their locomotives, track, railcars and maintenance facilities, and work within regulatory boundaries set forth by the FRA and Surface Transportation Board.

One such element of the regulatory environment is Positive Train Control, which reduces the likelihood of speed-related derailments, incursions into established work zone limits, and train-to-train collisions through highly advanced technologies in locomotives and signal systems. PTC must be installed on all main lines with passenger and commuter operations, as well as most of those over which hazardous materials are transported by December 31, 2020. West Virginia's Class I railroads (NS and CSXT) will continue to upgrade their infrastructure within the state to meet freight and shipping demands for their customers.

Other technological investments have allowed Class I railroads to increase the efficiency of their operations in West Virginia and throughout their networks. CSXT and NS have increased the use of distributed power units (DPUs), which allows trains to have locomotives distributed at strategic locations through a single train to maximize train handling. The increased use of these technologies allows railroads to increase train size. This is particularly useful to railroads hauling high-tonnage unit coal trains bound for export destinations.

During the stakeholder outreach process, there were no suggested improvements for NS rail lines. CSXT indicated there were no mainline capacity issues within the state, however safety improvements and grade crossing closures were suggested to improve volume and performance. Highway-rail grade separations of CSXT system near the New Martinsville Rail Yard would improve safety, switching maneuvers, and limit blocked at-grade crossings. Highway-rail grade separations in the Martinsburg area would improve both safety and capacity as the city continues to grow.

CSXT supports grade crossing improvements over double tracking rail lines to improve rail capacity in the state. In South Charleston, Jefferson Road is a priority grade separation. WVDOH and CSXT are coordinating on the design and construction of improvements to grade separate Jefferson Road at the entrance of South Charleston rail yard. This crossing is located on a well-traveled local road and the increased rail maneuvers within the yard contribute to frequent roadway traffic stops.

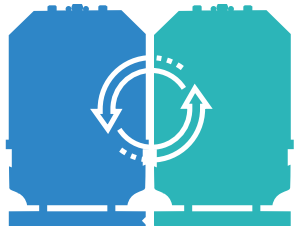
Past Improvements

Class I railroads spend billions of dollars annually to improve network infrastructure and modernize assets.

CSXT spent between $1.6 and $1.7 billion in 2019 on track improvements, upgrades to bridges, railroad signals, facilities, and technology. Similarly, NS spent approximately $1.8 billion across its entire network for similar upgrades in 2019.

These capital investments allow railroads to replace rail and crossties, improve track curvature, and reinforce rights-of-way with additional rock ballast and other materials. Capital investments also include bridge improvements or replacements, upgrades to signaling infrastructure, and other wayside technology. In the past five years, CSXT and NS have focused their capital investments in West Virginia, mainly on preventative maintenance and the upgrading of signaling equipment and infrastructure as part of the previously mentioned PTC initiative. CSXT and NS mainlines are now equipped with new signals and wayside PTC-compliant technologies that increase efficiencies and safety.

Immediate Class I Rail Improvements



Class I railroads typically fund and finance their own projects, however they connect to the 10 short lines in the state. When West Virginia provides funding for the State Rail Development Fund it increases the market reach of Class I railroads by supporting improved track weight for short lines, by increasing public access, or by funding industrial spurs to new industries. Supporting public transload operations is a cost-effective method to provide access to rail service for shippers who either have no rail access today or who ship small volumes and cannot justify individual dock door access. By funding the West Virginia State Rail Development fund, small to medium rail improvement projects can add fluidity and resiliency to the existing network.

Near-Term Class I Rail Improvements

Class I railroads access many river, lake, and ocean terminals in North America. CSXT serves 70 ocean, river, and lake terminals. NS services 24 seaports, 10 river ports, and 9 lake ports. Supporting rail connections between West Virginia and these marine and rail network interchanges provides cost effective transportation access to international markets. Near-term efforts to work with coastal ports to leverage inland terminals in West Virginia will support trade growth.

The following actions may help improve freight rail volumes and jobs in West Virginia:

- Collaborate with local Economic Development Organizations in Prichard, WV to stimulate global trade and export activities;
- Coordinate with the Port of Virginia, Norfolk Southern, and the West Virginia Commerce Department on the development of freight logistics and inland port facilities connected to Hampton Roads. Coordinate with United States Maritime Administration (MARAD) resources to improve freight movement visibility between Atlantic Ocean Vessels and Prichard, WV;
- Consider soliciting manufacturers of equipment to support Domestic Preference requirements for transportation projects. MARAD struggles to find Domestic Preference (Buy American Act and Trade Agreements Act) qualified crane and lift devices. These cranes are primarily comprised of steel and electronics. Used at both coastal and inland ports with rail access, these cranes could be delivered throughout North America;
- Develop Atlantic coastal port coal transfer relationships to maximize the export connection for West Virginia railroads;
- Team up with chemical manufacturers and distributors to consider locating on the state's high-performance rail corridors;
- Support short line rail segments to support private car storage;
- Educate Economic Development Agencies to improve market understanding of how to attract site selectors to rail served properties; and
- Encourage Class I railroads to replace yard locomotives in non-attainment zones with hybrid locomotives and idle reduction technology via potential funding mechanisms such as EPA CMAQ funding.

Long-Term Class I Rail Improvements

Long term Class I improvements are typically multijurisdictional in nature and are typically multimillion-dollar investments. The State of West Virginia's four primary objectives to consider for long-term Class I rail improvements are to support preservation, resiliency, safety and economic development.

Preservation	Resilience	Safety	Economic Development
While coal struggles to compete with natural gas on price, there is still demand for export coal. Identify export facilities which still handle export coal and co-market West Virginia's vast resources.	Work with Class I railroads to support short line partner railroads, through sustained funding of the State Rail Development Fund, thereby improving the resiliency of the short lines and improving the efficiency of Class I railroads.	To support the need for improved safety at grade crossings, engage Class I railroads in an annual grade crossing improvement workshop, and prioritize grade crossing projects over the next 12 months.	Work with the Class I railroads to meet annually focusing on freight logistics marketing opportunities. Encourage cooperative ventures with East Coast ocean ports to increase global trade options for West Virginia industries.

Potential recommendations include the following:

- Collaborate with Class I railroads to prioritize Section 130 grade crossing improvements.
- Collaborate with Class I railroads on a state export strategy to support coal, chemicals and forest products.
- Develop inland port relationships and marketing programs with coastal ports.

Class II/III Railroad Improvements

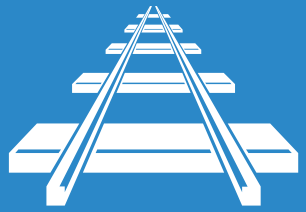
Considering most rail lines in the state were born out of the coal industry, the majority of West Virginia's Class II and Class III network is capable of handling 286,000 pound rail cars. While this is the industry standard for Class I railroads, it is often not the case for short line railroads across the country. West Virginia's short lines are ahead of their competitors and can improve the attractiveness of freight rail shipments to new and existing customers.

Since a 286,000 pound loading is not a critical issue, the state can focus on other critical infrastructure improvements that support safety, preservation, resiliency, and economic development. Improvements could include bridge or clearance improvements, increased line or rail car storage capacity, and new or improved connections to industries or transload facilities.

Potential program and policy recommendations include the following:

- Provide a state funding program to help bring all short lines up to the minimum 286,000 pound rail weights, making the state fully operational to 286,000 pounds;
- Promote short line and Class I collaboration through an annual meeting of rail operators in the state;
- Provide workshops about how to succeed in the development of transloads with grant funding; and
- Create a short line annual report, which requires short lines to disclose projects, planned investments, and performance measure data to evaluate their infrastructure.

Past Improvements



Privately owned, West Virginia-owned, or West Virginia maintained Class II/III railroads have also made noticeable investments and improvements in recent years.

Watco Companies' Kanawha River Railroad spent $4.3 million in capital investments in West Virginia alone in 2018. The investments were on its 250-mile line spanning from the Ohio/West Virginia border to southern West Virginia. Similarly, the Durbin & Greenbrier Valley Railroad's Cass Scenic Railroad has invested nearly $750,000 in the past two years to rehabilitate a 10-mile track segment in rural West Virginia. Other short line and regional railroads have made similar improvements. These investments include new rail, rock ballast, right-of-way improvements, and other infrastructure enhancements.

Underway Improvements

The WVSRA continues to improve state owned facilities through a program of projects that maintain and improve WVSRA managed properties. A series of track improvements and rehabilitation of bridge decks has been completed since the last state rail plan in 2013. Currently underway are the rehabilitation of a bridge at milepost 6.5 on the SBVR as well as the Trout Run Bridge replacement, which will connect the SBVR to the DGVR Cass. This bridge connection will benefit the operations of the SBVR freight operations as well as tourist rail operations on the DGVR through enabling the joint use of facilities and operations, reducing expense and enabling the operation of steam-powered and diesel-electric trains for tourist train events. Other improvements on state owned facilities include the new truck and locomotive maintenance facility, which is in the design phase, and an asset management and records management program for WVSRA properties, improving administrative and maintenance operations.

West Virginia Central Dailey Branch Upgrade

Previously recommended in the 2013 State Rail Plan is the $3.1 million project to upgrade operations over a portion of the WVC Dailey Branch. This spur line extends north from Elkins approximately six miles to the perimeter of a large hardwood manufacturer that is currently undergoing a significant expansion. While the company has not committed to the shipments by rail due to a bridge outage and other needed repairs along the right of way, a series of track upgrades could revitalize the shared-use corridor for both freight and tourist rail operations.

The project has been unable to identify a funding source since originally recommended in 2013, but due to recent expansions and an increase in nearby tourist rail operations in recent years, the WVSRA can reevaluate potential funding streams for this project that would bring increased employment and an additional tax base to local economies, while also having the potential to increase freight carloads in the area.

Immediate Class II/III Rail Improvements

- Consider proposing a 45G type tax credit at the state level to help short lines improve right-of-way;
- Consider a $50 per carload incentive for new tenants locating on short lines through state economic development programs; and
- Provide short lines with matching funds for Federal discretionary grants if their performance has improved over the past three years.

Near-Term Class II/III Rail Improvements

- Establish a goal to ensure all short line track is up to the minimum 286,000 lb. track weights to improve network performance.

Long-Term Class II/III Rail Improvements

- Work with short lines to ensure all are PTC compliant; and
- Provide a loan forgiveness program if short line railroads increase traffic volumes as a result of this investment.

Rail Safety Improvements

West Virginia has made significant progress in implementing safety and at grade crossing improvements. West Virginia's Public Service Commission (PSC) has one of the largest state rail inspection programs in the country. The PSC rail safety inspection program, established in 1975, is comprised of FRA certified inspectors including, track inspectors and motive power, as well as equipment inspectors, operating practices inspectors, signal and train control inspectors, and one hazardous material inspectors. These inspectors coordinate their inspections with FRA regional inspectors.

In addition to inspections, inspectors also respond to complaints and conduct rail accident investigations. West Virginia Signal and Train Control Inspectors also conduct final inspections for grade crossing improvement projects and administer West Virginia's Operation Lifesaver program. It remains important for the state to continue these programs.

West Virginia's highway-rail grade crossing improvement program (Section 130) is administered by the WVDOH. The DOH schedules the design and construction of all grade crossing improvement projects and coordinates with railroads on issues where both rail and state highway infrastructure are involved.

Safety is tremendously important for the state considering some of the highest commodities transported by rail, other than coal, are minerals, hazardous materials and chemicals. Significant Federal funding is available for rail safety improvements, of which the state should take full advantage. Consolidated Rail Infrastructure and Safety Improvements (CRISI) is a Federal grant program from the FRA, which funds safety improvements beyond grade crossings and PTC applications. West Virginia should ensure that short lines in the state are aware of these programs and help them find public matching funds to participate in these improvement efforts.

Potential program and policy recommendations include the following:

- Support Operation Lifesaver by encouraging rail experts and West Virginia's first responders to collaborate to bring attention to West Virginia's most dangerous crossings;
- Create a state program to prioritize grade crossing improvements and funding strategies to improve them;
- Coordinate with communities on the development of Quiet Zones, where pubic benefits outweigh the costs; and
- Collaborate with local municipalities to identify potential closures of at-grade rail crossings over the next five years to reduce the more than 3,650 highway-rail grade crossings in the state today.

Past Improvements

Below is a listing of Section 130 projects WVDOH has completed since the 2013 State Rail Plan. This list shows significant improvements to at grade crossings across the state. Overall, 65 projects were completed, totaling $10.9 million, with an average project cost of $170,000.

Project Name	County	Route	Project Cost	Crossing Number	Railroad
Godby Street, Logan	Logan	NA	$182,325	226597Y	CSX
Dingess Street, Logan	Logan	NA	$238,000	226598F	CSX
Charles Street, Logan	Logan	NA	$240,000	226603A	CSX
Pine / Wilson Street	Logan	NA	$190,616	226605N	CSX
Thorpe Crossing	McDowell	WV 103	$210,000	470938H	NS
White Street, Logan	Logan	NA	$42,274	226599M	CSX
Cole Street, Logan	Logan	NA	$306,000	226600E	CSX
Hudgins Street, Logan	Logan	NA	$35,639	226601L	CSX
Stollings Truck Bypass	Logan	CR 119/20	$322,000	226606V	CSX
Low Gap	Boone	NA	$213,408	226324E	CSX
Jarrett Hollow	McDowell	WV 103	$317,853	470941R	NS
Virginia Ave./Bridge	Harrison	CR 24	$304,946	146372X	CSX
YMCA Kennedy Center	Cabell	CR 2/35	$245,000	147942L	CSX
Henry White Road	Cabell	CR 17/2	$376,161	225627K	CSX
John Street	Berkeley	NA	$142,321	144945W	CSX
Louise Street	Brooke	CR 7/6	$186,000	472891W	Wheeling & Lake
Mason Crossing Safety	Mason	MASON	$1,135,000	147807T, 147804X	CSX
True Apple Road	Berkeley	CR 11/22	$173,000	517889A	Winchester W.
Adams Avenue	Cabell	US 60	$96,000	225702U	CSX
Davis Avenue	Randolph	N/A	$77,995	832702T	WV Central
Scary Creek/Hedrick Road	Putnam	CR 44	$238,000	225549F	CSX
Us 60 Rainelle	Greenbrier	US 60	$31,000	870562V	CSX
WV 45	Berkeley	WV 45	$86,017	517905G	Winchester W.
WV 51	Berkeley	WV 51	$127,000	517890U	Winchester W.
CR 26	Berkeley	CR 26	$102,212	517885X	Winchester W.
CR 51/5	Berkeley	CR 51/5	$124,000	517886E	Winchester W.
CR 28	Berkeley	CR 28	$109,098	517879U	Winchester W.
CR 25/5 Glen Jean	Fayette	CR 25/5	$95,173	225792V	RJ Corman
CR 19/13 Red Star	Fayette	CR 19/13	$130,000	225790G	RJ Corman
CR 11/2	Upshur	CR 11/2	$128,092	146892G	App & Ohio

Project Name	County	Route	Project Cost	Crossing Number	Railroad
Braxton Cr. 5/10	Braxton	CR 5/10	$130,141	146937L	App & Ohio
Upshur Cr. 11	Upshur	CR 11	$147,806	146890T	App & Ohio
Upshur WV 20	Upshur	WV 20	$210,165	146818C	App & Ohio
Braxton Cr. 1/3	Braxton	CR 1/3	$129,714	146928M	App & Ohio
CR 1	Braxton	CR 1	$130,228	146930N	App & Ohio
Braxton WV 5	Braxton	WV 5	$192,494	147088J	App & Ohio
RJ Corman Railroad	Statewide	N/A	$106,741	225786S	RJ Corman
Mount Hope Railroad Crossing	Fayette	N/A	$126,000	225802Y	RJ Corman
Raleigh County Crossing Upgrade	Raleigh	VARIOUS	$70,958	225878E	CSX
Wv 3 Whitesville Betterment	Boone	WV 3	$18,000	226199U	CSX
CR 79/3 Dawes Betterment	Kanawha	CR 79/3	$31,000	226081E	CSX
CR 45/17 Meadow Betterment	Berkeley	CR 45/17	$15,254	517916U	Winchester W.
Corning Way	Berkeley	CR 11/22	$301,216	517895D	Winchester W.
CSX Guyandotte River Betterment	Cabell	N/A	$93,500	226489C	CSX
NS Grade Crossing Betterment	Jefferson	WV 51	$23,750	469366M	NS
Burnsville Railroad Crossing Betterment	Braxton	WV 5	$221	147088J	App & Ohio
Wharton WV 85	Boone	WV 85	$14,584	226452M	CSX
US 60, Rupert	Greenbrier	US 60	$35,000	870579Y	CSX
US 220, Petersburg Gap	Hardy	US 220	$11,249	144820W	S. Branch Valley
US 220, Petersburg	Grant	US 220	$275,000	144825F	S. Branch Valley
Bunker Hill Railroad Signal	Berkeley	US 11	$112,000	517883J	Winchester W.
US 250, Cheat Bridge	Randolph	US 250	$260,000	832163G	State Rail Authority
CR 16/4 Luther Jones	Jefferson	CR 16/4	$187,317	144593T	CSX
Van Clevesville Road	Berkeley	CR 9/18	$215,000	144600B	CSX
Harding Street	Fayette	CR 61/25	$240,285	225360W	CSX
CSX Fay/Kan Railroad Signal Upgrade	Kana/Fayette	NA	$53,263	various	CSX
Bedington Railroad Signal	Berkeley	CR 5	$93,118	517922X	Winchester W.
Charles Street	Upshur	CR 9	$99,760	146846F	App & Ohio
Putnam, CR 32	Putnam	CR 32	$233,389	225585B	CSX
Chesapeake Avenue Betterment	Kanawha	N/A	$17,526	225508B	CSX
5th Street Betterment	Kanawha	N/A	$32,000	225523D	CSX
Taven Road	Berkeley	CR 10/1	$110,000	517913Y	Winchester W.
Brooklyn Junction	Wetzel	WV 2	$385,923	146223W	CSX
Railroad Pavement Marker Symbols	Statewide	N/A	$659,898	various	various

Immediate Rail Safety Improvements

- Develop an FRA-compliant Crossing Safety Action Plan;
- Evaluate and prioritize grade crossing improvements;
- Coordinate collaboration between Operation Lifesaver and West Virginia first responders to increase awareness of dangerous at-grade crossings; and
- Provide public safety funding through the PSC to support Operation Lifesaver visits at grade schools across the state.

Near-Term Rail Safety Improvements

- Implement Crossing Safety Action Plan to systematically reduce the number of at-grade rail crossings in the state for the next five years.
- Develop freight and passenger rail safety performance measures at the state level.

Long-Term Rail Safety Improvements

As a long-term strategy, consider adopting these FRA safety improvement goals at the State level, including:

- Goal #1: Reducing the number and rates of accidents, incidents, injuries, and fatalities involving railroads, including train collisions, derailments, and human factors.
- Goal #2: Improving the consistency and effectiveness of enforcement and compliance programs.
- Goal #3: Improving the identification of high-risk highway-rail grade crossings and strengthening enforcement and other methods to increase grade crossing safety.
- Goal #4: Improving research efforts to enhance and promote railroad safety and performance.
- Goal #5: Preventing railroad trespasser accidents, incidents, injuries and fatalities.
- Goal #6: Improving the safety of railroad bridges, tunnels, and related infrastructure to prevent accidents, incidents, injuries, and fatalities caused by catastrophic failures and other bridge and tunnel failures.

Freight Rail Recommendations – A Path Forward for West Virginia

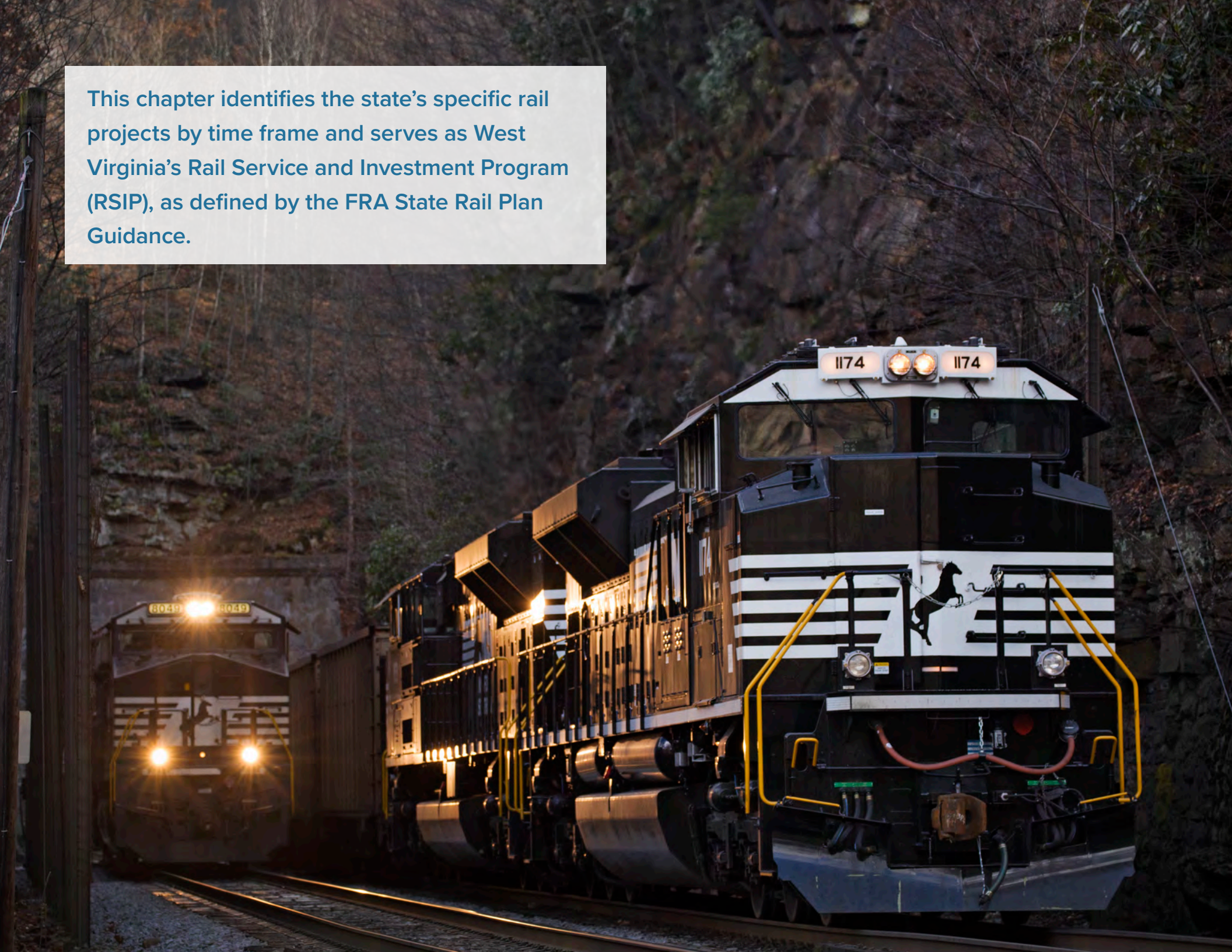
These recommendations were based on the identified vision, goals and objectives developed for the 2020 State Rail Plan, detailed in Chapter 1, and supports investment resulting in an efficient and modern railroad network that leverages passenger and freight service as part of a multimodal transportation system to support a thriving state economy.

West Virginia's strategic location between Atlantic Coast ports and major Mid-West transportation hubs provides opportunities to develop the state into a freight rail logistics center and remain economically competitive for business location and expansion. These recommendations factor in the current structure of state government and private railroads and suggest that not only the WVSRA maintain and operate the state-owned railroads but to include a policy and coordination role as it pertains to the state rail network.

Long-term policy and coordination roles could include:

- Improve communications with state railroads by establishing two meetings per year with Class I, II, and III railroads to discuss railroad and state investment priorities.
- Revitalize a state rail association to introduce grant education, coordination of safety improvements, corridor improvements and passenger rail programs.
- Leverage the WVSRA to champion rail usage in the state and find ways to consistently fund this increased administrative role.
- Manage the WVSRA assets well through improved data and property management.
- Consistently fund and utilize the state Rail Development Fund as match for potential Federal loan and discretionary grant applications.

This chapter identifies the state's specific rail projects by time frame and serves as West Virginia's Rail Service and Investment Program (RSIP), as defined by the FRA State Rail Plan Guidance.



7. Rail Service and Investment Program

The State of West Virginia and the Steering Committee for the 2020 State Rail Plan have identified a vision and six-point goals to support investment that will result in an efficient and modern railroad network that leverages passenger and freight service offerings as part of a multimodal transportation system to support a thriving state economy. Goals to achieve this vision include:

- Improving Rail Safety with an emphasis on highway-rail crossings
- Establishing a continuing state funding source for railroad revitalization and preservation
- Leveraging rail infrastructure as an environmentally favorable alternative to support business development and movement of goods
- Improving and strengthening intercity passenger rail service
- Utilizing rail services as part of sustainable tourism for economic development
- Preserving and supporting commuter rail service connections to metropolitan areas

This group along with stakeholders identified 93 rail projects in West Virginia which would benefit from federal formula, state funding or which may be eligible for Federal discretionary grants. The full list of projects can be found in Appendix 6 which includes projects from the 2013 State Rail Plan, the 2018 Freight Plan, and input from this plan's outreach efforts. Of the 93 projects identified:

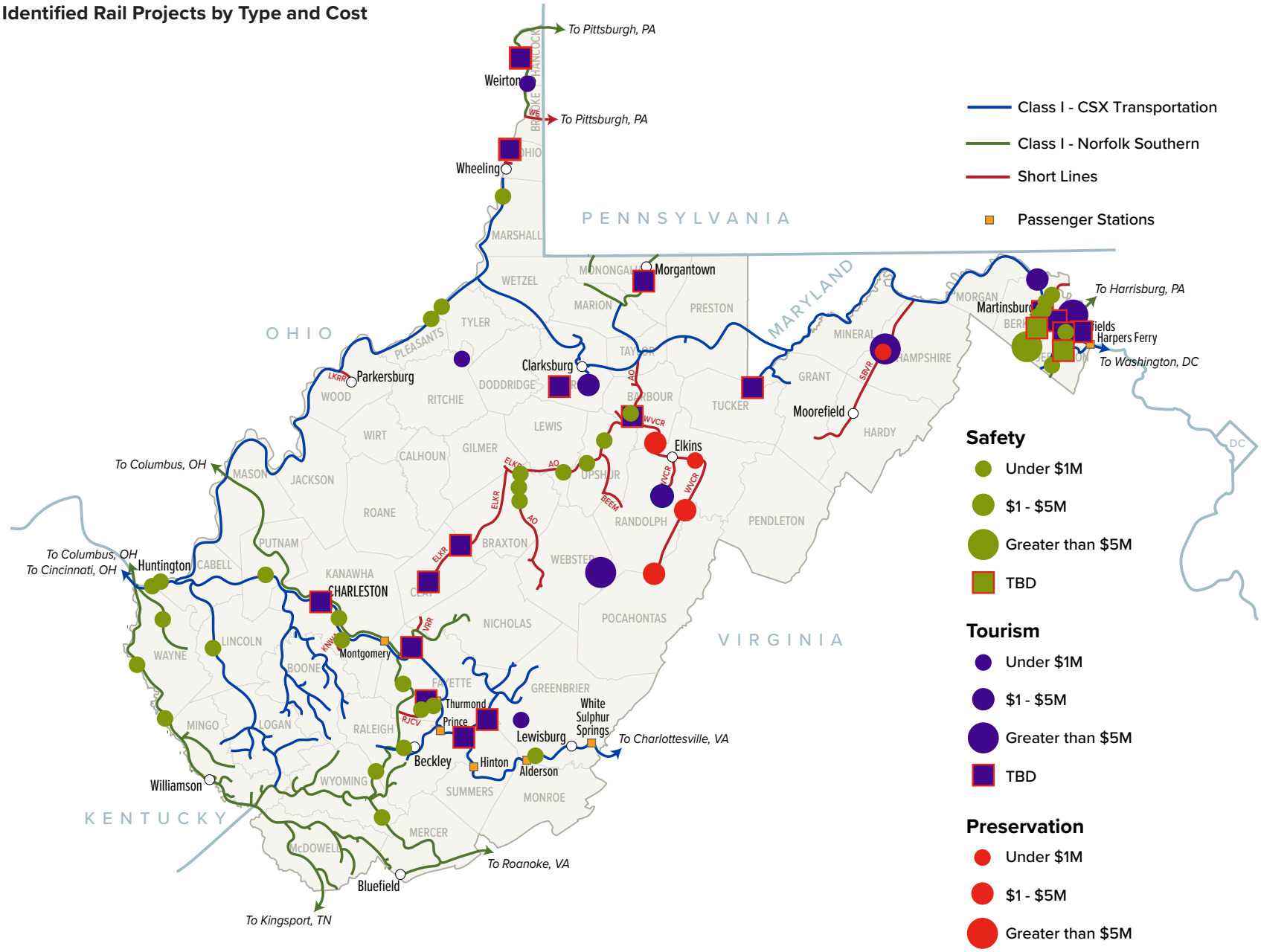
- **3 projects** were estimated to cost more than $10 million. These projects may be good candidates for CRISI or BUILD Federal grant programs and are largely outside the reach of a state rail program.
- **5 projects** fell between $1-$10 million and averaged $2.3 million each. These projects supported public transportation, tourism and safety.
- **54 projects** were still considered in the scoping phase and had no costs associated with the project.
- **31 projects** remained with a cost of less than $1 million, and the majority of these projects were safety related.

This set of 93 projects has been subdivided into capital, operating, and planning projects and further defined by type of benefits which include preservation, safety, passenger, freight, tourism and economic development.

To date, the State has been largely successful through the identification of formula funding available through the Fast Act, however with reauthorization looming in an election year it is likely a temporary program extension will be undertaken. For West Virginia to maintain current levels of passenger and freight safety and network resiliency, a dedicated source of rail funding would be quickly oversubscribed.

A useful role of this Rail Plan is to propose projects that the WVSRA may consider sponsoring for a federal grant. West Virginia should identify projects for competitive Federal discretionary grant programs, including BUILD (formerly TIGER) and INFRA (formerly FASTLANE), as well as FRA-administered programs from the Fixing America's Transportation Act, such as Consolidated Rail Infrastructure and Safety Improvements grants. The RSIP list will assist in these efforts by providing a pool of potential projects in advance of the release of Notices of Funding Opportunity rather than a reactive approach. Because needs identified in this Rail Plan are a snapshot of needs based on current conditions, new projects could be added to this Rail Plan as conditions change.

Figure 7-1 Identified Rail Projects by Type and Cost



Developments Since 2013

In absence of a state dedicated rail program, the WVSRA improved state-owned rail facilities through close fiscal management and methodical capital improvement and maintenance plans. West Virginia supports business through low taxing structures, a favorable business climate and financial assistance as allocated. Specifically, multiple West Virginia agencies have collaborated to steadily improve the state's rail system:

- **Department of Transportation:**
  - Working with local governments in the Eastern Panhandle to fund MARC operations in the state;
  - Division of Highways continues at-grade crossing safety improvements utilizing federal Section 130 formula funding; and
  - WVSRA is utilizing revenues from the state-owned short line railroads for reinvestment back into the railroad for maintenance and upgrades to trackage and locomotives including the completion of SBVR capacity improvements.
- **Department of Commerce:**
  - Development Office is actively seeking new industrial development that utilizes rail infrastructure and providing financial support to attract new business;
  - Tourism Office is maximizing tourism and economic development through funding rail trail projects;
  - Improving ADA accessibility at passenger stations; and
  - Providing support to and promotion of tourist and excursion train operations.

For West Virginia to leverage the economic engine of a railroad program, which would provide for basic preservation of the existing network, investment in resilience for freight and passenger rail options is an essential first step. The state currently has statutory powers to support railroad safety, preservation and resilience but no consistent mechanism to fund this program.

Rail Financial Needs

Consistent and predictable funding provides modal programs with the opportunity to develop ongoing efforts to make capital improvements and support operations and maintenance where it is in the public interest to do so. Capital improvements may include the following: projects that improve safety, capacity and reliability along rail lines to support increased freight traffic; to support new economic development and job creation; improvements in safety through the replacement of at-grade crossings with the construction of grade separations (new highway bridges over the railroad or railroad bridges over highways); and multimodal connectivity for people and goods through improved stations and bulk and/or containerized loading facilities.

While railroads have generally covered their full costs through shipper rates and/or surcharges, development depending on highways or airports have been able to rely on publicly funded improvements. An ability to improve rail transportation infrastructure with public funds would reinforce efforts to establish new jobs and economic growth throughout a state or region and not be limited by the return on private investment that a railroad company requires for an ongoing business concern. Aspiring for a more level playing field amongst transportation modal funding can help better ensure that the public highway system is not left as the only alternative for traffic and in turn require additional road maintenance or even complete rebuilding due to premature obsolescence as a result of unforeseen traffic types, levels and weights.

Consistency and predictability of rail funding is key for railroad companies, local governments and authorities and economic developers to commit to the delivery of capital improvements to ensure reliable transportation connections for new and expanded business and industries. Simply put, rail is one more method of bringing jobs to people or people to jobs.

A continuing appropriation provides for ongoing funding from a guaranteed source or multiple sources. West Virginia currently depends on annual recurring state general fund appropriations for rail improvements and federal formula funding, such as Section 130 allocations for crossing safety improvements. State-funded capital investments have been limited to state-owned freight railroads, enhancement projects for rail trail construction, commuter operating funds, and station improvements.

West Virginia's rail infrastructure shows no general or widespread major deficiencies. This allows any dedicated sources of public investment to be directed toward rail-related economic development opportunities (such as access to new customers or markets) and to improving the level of service, and – as opportunities arise – the expansion and reach of the state rail passenger services. A continuing appropriation, with the flexibility to direct resources to strategic rail projects on a statewide basis, would provide the state the means and opportunity to address many of the proposed projects over a reasonable period of time.

A Rail Federal Grant Formula

1	2	3	4
Project in STIP or capital program, the more developed, the better	Non-federal match from state/ local government, railroad or authority	Buy-in from railroad owner, operator, community, state and Congressional Delegation	Ongoing long-term commitment to operate and maintain

To better plan and prepare for future rail improvements, the WVSRA and WVDOT should consider taking advantage of federal funding opportunities, including competitive grant opportunities. In addition, AASHTO's Council on Rail Transportation is a useful and available conduit for seeking information on approaches that other states may be taking for rail program development and infrastructure funding. As West Virginia currently has limited programs to improve rail infrastructure in the state, formalizing of any new approaches may take time to review as part of budget expansion priorities and other policy and financial implications. In the near term, the state would likely best be served by utilizing state rail funds as match for federal competitive grant programs. Working with private companies and economic development agencies to leverage available federal funding would benefit all parties and the state economy into the future.

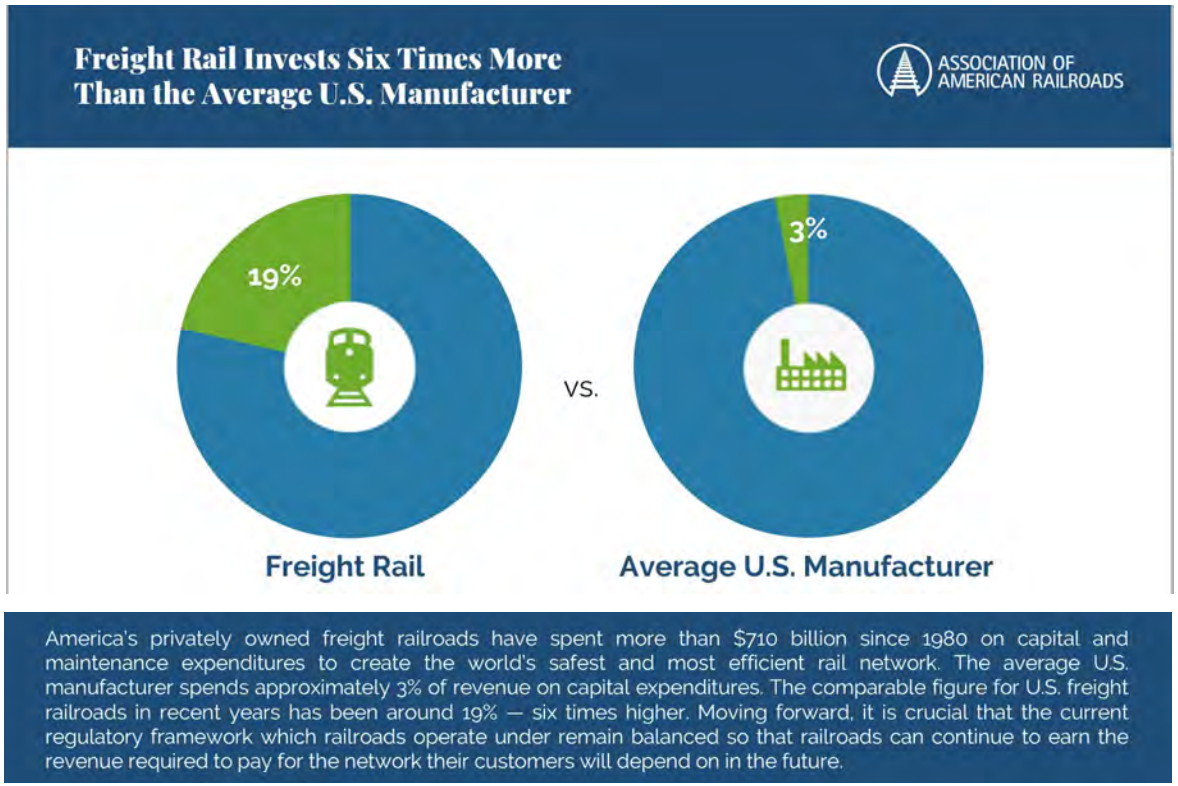
Funding Changes Since 2013

After the economic downturn in 2009, Federal discretionary grant programs were announced to invest in the nation's infrastructure. The first program, Transportation Investment Generating Economic Recovery, has funded 609 projects amounting to $8.1 billion since the program inception. Typically, a 20% match was the minimum requirement, however match could be waived for rural projects. For several years, planning grants as eligible projects were deemed suitable for funding awards. Performance measures were instituted as part of the Moving Ahead for Progress in the 21st Century Act legislation, requiring project evaluations to include minimum performance measures. With a solid track record of more than 10 years of program history, the competitive discretionary grant programs have grown from a flexible multimodal, multijurisdictional funding source for projects difficult to fund, to a family of competitive modally-focused funding programs with similar flexible project eligibility. There are now multiple competitive discretionary grants available via each modal administration within the U.S. Department of Transportation for which rail projects are eligible. On average, transportation awards are getting smaller and match requirements for winning proposals are increasing.

The railroad industry is typically divided into Class I railroads, and short lines; classifications are based on revenues. The number of short line railroads have been growing over the past decade and these properties are often left in a state of disrepair and with limiting property holdings for development. Many states have altered their transportation funding programs to include multimodal project funds for which railroads are eligible. This has been a good news/bad news story for some states where railroads often have to compete with marine and other highway projects for limited funding. Not all states have rail related funding programs and the investment landscape is full of interesting case studies. A review of federal and peer state funding programs is detailed in Appendix 3.

America's privately-owned Class I railroads have spent $710 billion since 1980 on capital improvements, maintenance and rolling stock which has resulted in the safest, most efficient railroad network in the world. The Class I railroads collectively invest six times more than the average U.S. manufacturer according to the U.S. Census Bureau and the Association of American Railroads (AAR).

Figure 7-2 Freight Rail Investments



Source: U.S. Census Bureau, AAR.

Looking Ahead

The FAST Act expires September 30, 2020 and the reauthorization of federal transportation funding is currently in progress. A five-year surface transportation reauthorization (FY 2021-2025) has been drafted and is making its way through Congress. It remains to be seen if the bill will be approved by Congress before the expiration deadline; additionally, transportation organizations, including AASHTO, have called for a one-year extension of the current FAST Act funding legislation. The TIGER, BUILD, and INFRA programs, among other popular funding programs such as CRISI, MARAD Port Infrastructure Development grants, CMAQ, DERA and CARES Act, allow funding to flow to eligible rail projects. Without these competitive grant programs it will be difficult for states to fund rail projects that often fit within existing state and federal formula funding programs (CMAQ, STP, HSIP and others). Including grant funding strategies as a component to long range capital funding programs is a necessary requirement.

West Virginia should proactively prepare a list of freight and passenger rail project improvements through the STIP process and identify those projects which have the greatest impact in the support of the State's Rail Vision and Goals. The state should be prepared to provide matching funding support from formula funds and other private sector sources to achieve the stated goals and objectives for the rail network.

Identifying sources of rail funding available for West Virginia projects is key to the continuation and improvement of the state's rail network. All projects contained within the RSIP list potential sources of funding, and include multiple sources of funding for which programs may be eligible to support the identified projects.

The next section of this chapter identifies funding sources available to West Virginia to achieve stated investment objectives.

Rail Funding Sources Available for Projects in West Virginia

Federal Formula Programs

Several federally administrated grant and loan programs provide funding assistance for rail projects nationwide. Overseen by USDOT, these programs provide funding support for rail infrastructure, safety, and technology, among other focus areas. Each program has its own matching fund requirements and other stipulations. Ongoing federal funding and grant programs that could benefit rail projects in West Virginia are discussed in greater detail below.

Step	Programs	Calculation of amounts
1	**NHFP [23 U.S.C. 104(b)(5)]**	Funded in an amount equal to the national amount for the program *multiplied by the following ratio: FY '16–$1.15B, FY '17–$1.10B, FY '18–$1.2B, FY'19–$1.35B, FY '20–$1.5B* • State's base apportionment for FY • National total base apportionment for FY
2A	**CMAQ [23 U.S.C. 104(b)(4)]**	Funded in an amount equal to the State's base apportionment (net of step #1), *multiplied by the following ratio*: • State's FY09 CMAQ $ • State's total FY09 apportionments
2B	**Metro Planning [23 U.S.C. 104(b)(5)(D) & (6)]**	Funded in an amount equal to the State's base apportionment (net of step #1); *plus* the State's NHFP funding (under step #1), *multiplied by the following ratio:* • State's FY09 Metro Planning $ • State's total FY09 apportionments
3	**NHPP [23 U.S.C. 104(b)(1)]** **STBG [23 U.S.C 104(b)(2)]** **HSIP [23 U.S.C. 104(b)(3)]**	The remainder of the State's base apportionment (net of amounts under steps #1 through #2B) is divided on the following proportions: • 63.7% to NHPP • 29.3% to STBG • 7.0% to HSIP and then the NHPP and STBG amounts are increased by the "supplemental NHPP and STBG" amounts calculated above.
4A	**Railway-Highway Crossings set-aside [23 U.S.C. 130; § 126 of Division L of Pub. L. 114-113]**	Funded via a set-aside from the States' initial HSIP amounts prior to apportionment based on apportionment formula under 23 U.S.C. 130; and such that the national total for the program is as follows: *FY '16–$350M, FY '17–$230M, FY '18–$235M, FY'19–$240M, FY '20–$245M*
4B	**Safety-related activities set-aside 2 [§ 1519(a) of Pub. L. 112-141, as amended by the FAST Act]**	Funded via set-aside from the States' initial HSIP amounts prior to apportionment–determined proportionally based on the initial HSIP amounts and such that the national total is $3.5 million for each fiscal year.

Federal Grant Funding

Several federally administrated grant and loan programs provide funding assistance for rail projects nationwide. Overseen by USDOT, these programs provide funding support for rail infrastructure, safety, and technology, among other focus areas. Each program has its own matching fund requirements and other stipulations. Ongoing federal funding and grant programs that could benefit rail projects in West Virginia are discussed in greater detail below.

Grant Programs	Eligibility	Funding History
Better Utilizing Investments to Leverage Development (BUILD) Grants, previously known as TIGER Grants (FY 2009-2020)	• Capital investments in surface transportation infrastructure • Improve major highways, bridges, ports, and railroads – awarded on a competitive basis for projects that will have a significant local or regional impact • In 2020, USDOT will award no less than $15 million (of the $1 billion) for the planning, preparation or design of eligible projects	**$8.1B over 11 rounds**
Consolidated Rail Infrastructure & Safety Improvements Program (CRISI)	• Capital projects that benefit passenger and freight rail systems in terms of safety, efficiency, or reliability • Improve safety – track and infrastructure improvements or relocation, protect or eliminate at-grade crossings, remove hazards • Modernize track infrastructure – assist with track improvements: tie replacement, rail, turnouts • Increase freight capacity – assist with projects to improve rail access to port and military facilities • Regional rail and corridor service development plans and environmental analyses • Multimodal connections and enhancements that facilitate service integration between rail and other modes • Implementation of a safety program or institute • Non-PTC railroad safety technology and rail integrity inspection systems • Research to advance rail-related capital, operations, or safety improvements	**$318,878,853**
Federal-State Partnership for State of Good Repair (SOGR) Grant Program	• Capital projects to repair, replace, or rehabilitate qualified railroad assets to reduce the state of good repair backlog and improve intercity passenger rail performance • Replacing existing assets in-kind • Replacing existing assets with assets that increase capacity or provide a higher level of service • Ensure that service can be maintained while existing assets are brought to a state of good repair • Bring existing assets to a state of good repair	**$272.25M**

Grant Programs	Eligibility	Funding History
Infrastructure for Rebuilding America (INFRA) Grants	• Highway and freight projects of national or regional significance. • A freight intermodal or freight rail project • A project within the boundaries of a public or private freight rail, intermodal facility, and is a surface transportation infrastructure project necessary to facilitate direct intermodal interchange, transfer, or access into or out of the facility • Projects that will make a significant improvement to freight movements on the National Highway Freight network • Railway-highway grade crossing or grade separation project	**$900M**
Railroad Trespassing Enforcement Grant Program (FY 2018-2020)	• Funding for enforcing railroad-specific laws to reduce rail trespassing incidents and casualties, particularly in areas near railroad trespass hot spots	**Project dependent**
America's Marine Highway Program	• Supports the development and expansion of vessels and port and landside infrastructure. Projects must have been previously designated as a Marine Highway Project	**$10M per year average**
Surface Transportation Program	• FHWA funding allocation to each state for the improvement of Federal-aid highways. Funding is apportioned separately for urban and rural areas. Project selection is determined by each state.	**Formula funding**
Highway Safety Improvement Program (HSIP)	• State program of highway safety improvement projects • The Section 130 Railway-Highway Crossing Program • High Risk Rural Roads (HRRR) program in states with increasing fatalities on rural roads	**Formula funding**
Congestion Mitigation and Air Quality Improvement (CMAQ)	• Surface transportation projects that result in improved air quality and reduced roadway congestion. Intermodal facility projects improve transportation network efficiency.	**Formula funding**
Transportation Infrastructure Finance and Innovation Act (TIFIA)	• Credit assistance to transportation projects of regional or national significance. Exact terms of the assistance are determined on a case-by-case basis with project stakeholders but is limited to no more than 33% of the total estimated project costs. • Eligible projects include intermodal freight transfer facilities and projects providing access to intermodal services	**Project dependent**

Grant Programs	Eligibility	Funding History
Private Activity Bonds	• Authorizes the U.S. Secretary of Transportation to disburse up to $15 billion in tax-exempt bonds to projects including highway and freight transfer facilities. • Bonds are intended to encourage private sector involvement and financial commitment by lowering the cost of capital.	**$15B**
Rail Rehabilitation and Improvement Financing Program (RRIF)	• Provides direct loans and loan guarantees to finance the development of railroad infrastructure. • Low cost, long term financing • RRIF Express Pilot Program was extended for smaller railroads • Can finance up to 100% of project cost • Interest rate is 1/2 of the Treasury rate - currently 1/2 of 1.47% for up to 30 years	**Project dependent**

State Funding

The West Virginia Railroad Maintenance Authority was formed by an act of the Legislature in 1975 to facilitate railroad transportation and commerce in the state. In 1989, it was made a division of the West Virginia Department of Transportation to better coordinate the rail program with an overall state transportation improvement strategy. In 1994, its name was changed to the West Virginia State Rail Authority. The State Rail Authority has the administrative ability to provide funding for state railroad projects, but the authority currently is not sufficiently funded to disburse grants or loans.

Many states use similar state funding programs to help short lines invest in rail spurs or access to new customers or industries. Funding this program would provide matching resources available to state short lines for federal match requirements or a direct funding instrument to support short line improvement, expansion or preservation projects.

Effects & Benefits

It is difficult to predict the effects on rail transportation in the future without a continuing funding source for a rail improvement program that addresses statewide rail infrastructure. However, by consistent implementation of short- and long-range projects West Virginia will make strides to improve the state's rail infrastructure and link to the larger national freight and passenger rail network.

West Virginia's rail network connects the state to the national rail system by connecting West Virginia communities to other major population centers and economic centers across the country. Most notably the rail network distributes the state's coal, natural resources, and manufactured products throughout the world. These connections contribute to the state's economic well-being and quality of life. An assessment of rail trends is detailed in Chapter 3. Below is a summary of the potential benefits of improving the rail network in West Virginia. Specific project benefits are indicated in the project listings later in this chapter and Appendix 6.

Freight Benefits

- Rail transport can be cost effective. Shippers who convert long-haul freight from road to rail can save 10-40% in freight rates, and also can reduce handling and packaging costs for bulk products.
- Rail transportation is more environmentally friendly. On average one ton of freight can move 479 miles on a single gallon of fuel.
- Rail shipments reduce highway congestion and delay.
- Moving freight by rail reduces individual tax burdens by reducing highway maintenance costs associated with heavy trucks.
- Railroad operations provide access to capacity for freight shipments when the truck market is saturated.
- Railroads are safer than comparative highway freight transportation movements.
- Long distance trains can compete effectively with single driver long haul truck transit times.

Passenger Benefits

- The average commuter spends 54 hours per year stuck in traffic; the MARC service provides Eastern Panhandle residents a different option instead of driving on the region's congested roadways.
- Supporting passenger rail provides long distance transportation to those who may not have access to a reliable vehicle.
- It takes 16 lanes of highway to carry as many people per hour compared to a two-track railroad.
- Railroads reduce the amount of paved surface required for transportation.
- Reducing the number of cars and trucks on the highway reduces the maintenance expenditures on state-maintained roadways.
- Long distance Amtrak routes are the only transportation option for most West Virginia residents who desire to travel by train.
- Passenger rail connects West Virginia to larger population centers such as Chicago, Washington, Philadelphia, and New York.
- Access to rail transit has a positive impact on property values, through access to employment, transportation accessibility, and development growth.[51]

51 Impacts of Rail Transit on Property Values, Roderick B. Diaz, Booz Allen & Hamilton, Mclean, VA

Proposed Rail Studies and Policy Changes

Coordination with stakeholders and comments from the general public have resulted in recommendations for potential policy changes and feasibility studies to better guide short-term and long-term investments. Policy or organizational changes were focused on the need for a dedicated rail financial assistance program, for state short line operators with capital improvements, keeping trackage in a state of good repair and increasing weight or other size limitations.

Below are proposed policy changes and studies that are recommended to improve the overall state rail program or determine the feasibility of future projects or programs. These studies should be implemented prior to making significant financial investments in order to estimate project costs and funding mechanisms.

Table 7.1 Railway-Highway Crossing Prioritization, 2010-2019

Project ID	Project/Initiative	Cost	Potential Funding Source	Type
E-20-2	Provide advance notice of any plans of removal from public ownership or demolition of any railway facilities (active or inactive) in West Virginia with the state WV Rails to Trails Council and the national Rails to Trails Conservancy. Railway facilities to include but not be limited to bridges, depots, spur lines, and railway corridors.	TBD	State General Fund	Rail Trail
F-13-1	Support the development of new freight rail business opportunities.	TBD	State General Fund	Freight
FS-13-1	Improve existing commuter rail service by evaluating weekend service and long-term funding options. If commuter weekend service becomes available ensure coaches have bike racks.	TBD	State General Fund, CMAQ	Commuter
FS-20-2	Inventory Highway-Railroad crossings; Identify problem crossings including high traffic humped crossings and short throat intersections; evaluate for improvements.	$0.250	State General Fund, Federal Highway Funds	Safety
P-20-1	Develop a more robust awareness campaign for passenger (commuter and intercity) rail service in the state, including availability of up-to-date timetables at stations and an online presence.	TBD	State General Fund	Commuter, Intercity
P-20-10	Evaluate governance of planning efforts to maintain passenger rail service.	TBD	State General Fund	Commuter, Intercity

Project ID	Project/Initiative	Cost	Potential Funding Source	Type
P-20-2	Improve universal accessibility/ADA compliance at passenger, commuter, and tourist rail stations	TBD	State General Fund, CMAQ,	Commuter, Intercity
P-20-3	Ensure Amtrak coaches are equipped with bike racks for multimodal transportation or outdoor enthusiasts and advertise bike rack availability on all Amtrak routes.	TBD	Amtrak	Intercity
P-20-4	Recommend long-term funding solution and agreement with Maryland to ensure continued MARC regional commuter operations	TBD	State General Fund	Commuter
Z-20-1	Develop a FRA-compliant Crossing Safety Action Plan	$0.500	State General Fund, Federal Funds	Safety
F-13-3	Upgrade Mittal Weirton Yard	TBD	Private	Freight
FS-13-3	Conduct feasibility of extending WVCR trackage by 28 miles to Bergoo for additional tourist and overnight attractions.	$44M	State General Fund, WVCR Special Revenue Fund, Federal Grant	Tourist
F-18-1	Improve rail access within the Morgantown Industrial Park: Identify parcels for development and potential rail extensions; work through state and local economic development authorities	TBD	Local, State General Fund	Freight
F-18-2	Redevelop rail line that runs through Clay County to Charleston	TBD	Private	Freight
F-18-3	Increase rail capacity along the Ohio River	TBD	Private	Freight
F-20-3	Improve railroad condition: work with short lines and assist in applying for Federal grants bringing the state short line rail system into a state of good repair	TBD	State General Fund	Freight
FS-18-1	Conduct traffic separation study in Huntington focused on improving crossings, consolidating crossings and potential underpass improvements at 20th and 16th Streets	$0.25M	State General Fund	Safety

Project ID	Project/Initiative	Cost	Potential Funding Source	Type
P-20-7	Identify opportunities for development around stations in Harpers Ferry, Duffields, and Martinsburg.	TBD	Local	Commuter
Z-20-7	Re-align Mildred Street at-grade crossing on Rt. 115 in Ranson to cross perpendicular vs angled.	TBD	State General Fund, Federal Highway Funds	Safety
E-20-1	Identify and map rail corridors and rights of way for trail and other transportation use. Serve as a clearinghouse for voluntary notification rail property disposal actions that are not already covered by the STB	TBD	State General Fund, Private	Rail Trail
FS-13-4	Evaluate need and feasibility for a transload facility in Upper Kanawha Valley	TBD	State General Fund	Freight
FS-18-2	Conduct statewide truck route/railroad crossing improvement study	TBD	State General Fund	Freight
FS-20-1	Rural Opportunities to Use Transportation for Economic Success (ROUTES): Follow new USDOT program and identify ways for WV to participate and apply for Federal discretionary grants	TBD	State General Fund	Commuter, Intercity, Freight
FS-20-6	West Martinsburg Train Service Facility and Multimodal Station	TBD	MPO Regional Planning Funds, Local	Commuter
FS-20-7	MARC Brunswick Line Extension Study	$3.7M	MDOT	Commuter
P-13-1	Upgrading of Cardinal service- Establish funding and operational strategy; Establish state partnerships and collaboration for regional routes, i.e. WV/VA, WV/PA, WV/OH	TBD	Amtrak, State General Fund	Intercity
P-20-12	Examine opportunities for special event trains such as the New River Gorge Autumn Train (Rail Excursions) and a BSA Jamboree Train; continue discussions with Amtrak, CSX, NS	TBD	State General Fund, TAP Funds	Tourist

Project ID	Project/Initiative	Cost	Potential Funding Source	Type
E-20-3	Analysis of rail trail alignment from Jefferson Bridge to West Fork River Trail	TBD	State General Fund, WVCR Special Revenue Fund	Rail Trail
E-20-5	SRA to continue cooperation to own property and lease to non-profits, state agencies, and municipalities for rail-banked properties and rail-trail management when rail properties are scheduled for abandonment	TBD	State General Fund	Rail Trail
E-20-6	Provide legal assistance with any property disputes and/or negotiations on current rail-trail/rail-banked properties on corridors to be owned or purchased by the SRA	TBD	State General Fund	Rail Trail
F-20-1	Secure dedicated funding to build new rail spurs and to assist with maintenance of existing spurs/rail sidings for economic development	TBD	State General Fund	Freight
P-20-5	Utilize the Amtrak Station Host Program to post volunteers at stations	TBD	Private	Commuter, Intercity
FS-13-2	Evaluate MARC station/infrastructure needs; conduct assessment of existing MARC stations in WV, necessary upgrades and need for multimodal facility in the MARC service area	TBD	State General Fund, CMAQ	Commuter
FS-20-3	Identify Charleston station needs including dedicated parking spaces and better connections to local transit, conduct needs assessment for multimodal terminal	TBD	State General Fund, CMAQ	Intercity
FS-20-4	Evaluate coordination of connecting bus and train schedules	TBD	State General Fund, Transit Funds	Commuter, Intercity
FS-20-5	Huntington Multimodal Terminal	TBD	MPO Regional Planning Funds, Local	Intercity

Capital Projects

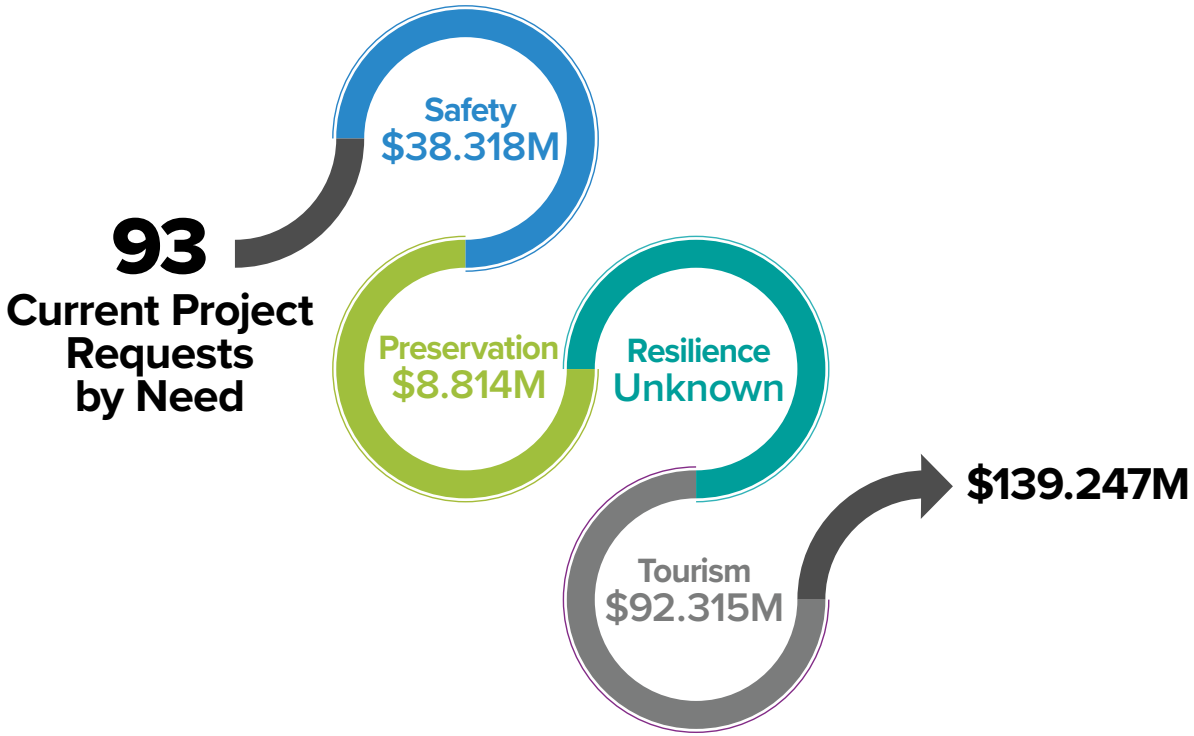
A broad set of stakeholders in West Virginia were surveyed to identify projects that support the State's rail vision, goals and objectives. Over 90 projects were identified to meet these objectives.

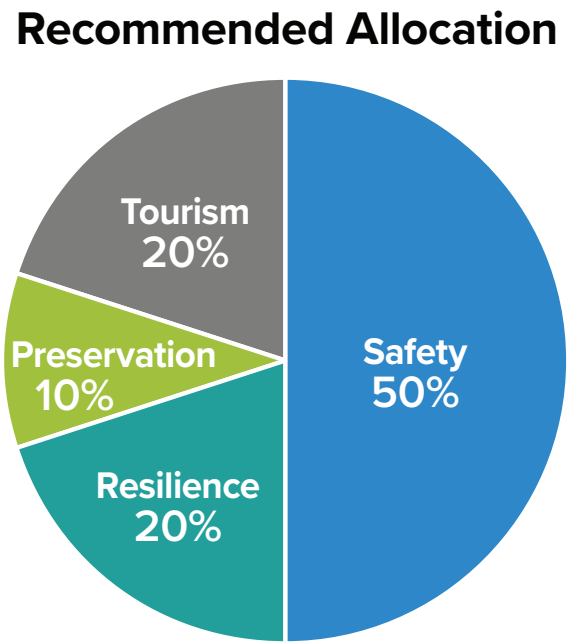
West Virginia's capital program invests in immediate (less than 5 years), near (5-10 years) and long (10-20 years) range projects to meet the goals and objectives of the State's rail program. The complete RSIP, located in Appendix 6, indicates by project, the location, estimated cost (if available), potential funding source, benefits, type and project lead agency.

The West Virginia State Rail Plan Steering Committee preferred to retain the previous plan goals–safety, rail preservation, resiliency and tourism–while concentrate funding on the following themes in an effort to make clear and substantive progress in the state's rail network.

Railroad Investment Themes

Based upon the project identification complied in Appendix 6 and guidance provided by the State Rail Plan Steering Committee, four possible investment themes emerged which include safety, preservation, resilience and tourism. These projects represent 89% of the overall identified and estimated need. West Virginia statutes allow for a state rail funding program; however no funding for projects identified in this plan have been provided through this funding mechanism.





To make progress on the focus areas of safety, resiliency, and preservation, it is recommended that the state consider a program level of approximately $10 million per annum which could be initially funded through numerous sources, including state recurring rail funding and allocated federal-aid FAST Act funding as deemed eligible from programs, including but not limited to those supporting highway safety, rail crossing safety, freight, and air quality. Positioning state funding to be utilized as match for a project that could score well under federal competitive grant programs such as CRISI, BUILD, and INFRA should be considered. Highway-rail crossing consolidation and grade separation projects that improve safety along localized railroad corridors and improve highway and pedestrian mobility have been known to compete well for federal grant funding.

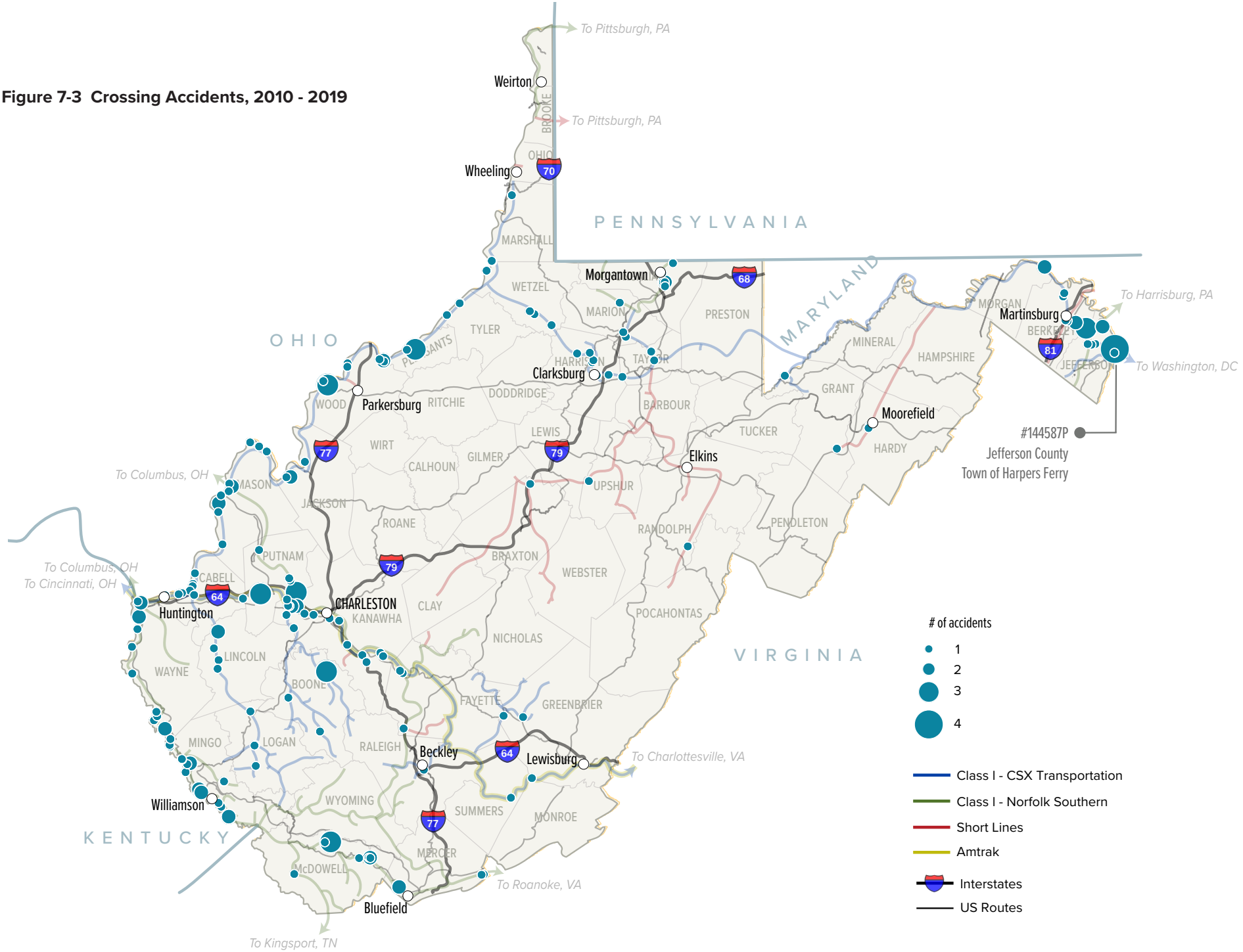
In recent years, multiple states have created programs and/or formulas to provide a competitive opportunity for multimodal projects to receive eligible state and federal funding. Multiple programs involve significant local input from entities including metropolitan and rural planning organizations, public transportation authorities and railroads. These efforts provide continuing funding and/or grant opportunities for multimodal projects based on agreed-upon criteria that are scored to provide metrics for a data-driven project prioritization process. North Carolina's Strategic Transportation Investments program has utilized a strategic mobility formula that prioritizes multiple categories of funds and allows for non-highway modes, including rail projects, to successfully compete where the public benefit is documented and clearly demonstrated based on agreed-upon service outcome. For example, North Carolina partnered with CSXT to fund and develop a freight intermodal terminal that included stated outcomes that supported transportation network safety, mobility and capacity directly supporting regional economic development and job creation, access to the state's ports, and additional transportation network capacity, with agreement provisions that allow the state to take actions in protecting the public investment. In Minnesota, Illinois and California, applicants such as public planning agencies, short line railroads and ports are able to compete for grant funding based on the state's project priorities with a minimum project matching funds requirement.

Safety

National railroad freight flows to, from and through West Virginia and reveals that the vast preponderance of tonnage is passing through the state instead of originating or terminating in the region. In West Virginia there are more than 3,000 at-grade crossings and based on past year's data, yearly averages result in 22 grade crossing incidents and at least one fatality each year impacting state residents. An analysis of highway-rail grade crossing accidents was completed during the development of the rail plan and is located in Appendix 7. The analysis identified 10 crossings with multiple incidents since 2010. It is recommended that these crossings be further investigated for additional safety improvements, closures or bridging. Additionally, West Virginia should strategically identify the crossings that result in the highest crash frequencies and develop a program to leverage private sector railroad crossing improvement contributions to be used in conjunction with Federal FRA Section 130 annual allocations. It is recommended that that state conduct a FRA-compliant Crossing Safety Action Plan.

Priority #	Crossing ID	County	City	Highway	Total Incidents
1	144587P	Jefferson	Harpers Ferry	Engle Road	4
2	144600B	Berkeley	Martinsburg	Vanclevesville Road	3
3	147664X	Wood	Washington	Dupont / Westvaco	3
4	225588W	Putnam	Hurricane	Dogfood Crossing	3
5	226172K	Boone	Peytona	Public Road	3
6	471013A	McDowell	Davy	School Street / CR 4	3
7	915334M	Pleasants	St. Marys	Private Road	3
8	144627K	Morgan	Hancock	Private Road	2
9	147591P	Wood	Waverly	Corbitt Hill Road	2
10	147850Y	Mason	Point Pleasant	Viand Street	2

Figure 7-3 Crossing Accidents, 2010 - 2019



Of the 93 projects identified in the RSIP, 51 projects were related to safety; none of which exceeded $1 million. West Virginia receives approximately $2.24 million annually in Section 130 funds which are currently covering only approximately 26% of the need. The current at-grade crossing project list from WVDOH includes 37 projects, of which 34 are listed as requiring immediate attention. To address all prioritized grade crossing improvements would cost the state $8.75 million, a gap of $6.51 million. Over the life of the Section 130 program many of the lower cost simple projects have been completed and currently programmed into the STIP with an average cost of $250,000.

The remaining projects often have multiple infrastructure components which need to be addressed at the same time the grade crossing is improved. There are 40 safety projects, totaling $39.32 million. The largest project, Inwood Bypass grade separation, totals $30 million and is funded with a combination of federal, state, and GO bonds.

The remaining projects that currently have no associated funding are:

- WV45/Apple Harvest Drive and Winchester Western short line intersection grade separation, and
- Re-align Mildred Street at-grade crossing on route system 115 in Ranson to cross perpendicular vs angled.

These two long term projects should undergo additional preliminary engineering and planning to accelerate project delivery. Based on the preliminary engineering, these projects may qualify for competitive grant funding. These recurring grant programs are for both urban and rural communities with a set aside specifically for rural communities. Preference is given to projects with a local match of 50% or greater.

Preservation

Railroad bridges and trackage are built, designed and maintained by private sector railroad companies. Like the national highway system, many of these structures are critical to the efficiency and productivity of the rail network and yet are the hardest type of infrastructure to get public funding to support. Preserving rail corridors, connected by critical bridges, is an essential undertaking to maintain mode options as economic cycles wax and wane. Rail service for bulk commodities such as coal, aggregate, lumber and other building supplies can help new industries save on total logistics costs and rail served production or distribution facilities, typically generate more than 25 jobs per facility and pay family supporting wages.

Of the 93 projects, seven could be categorized as preservation projects totaling $8.814 million, which averages $1.76 million per project.

West Virginia should focus at a minimum of 10% of the annual state rail funding program on preservation (which mirrors the state highway transportation system in the state).

Resilience

The national freight rail network is over 150 years old and over time, industry standards have increased railcar size and weights. Class I railroads, which interchange with local short lines in the state, are pushing a national weight standard of 286,000 lbs. (286K) capable rail. When track weights are less than 286,000 lbs. shippers and receivers have to lighten the loads they ship to comply with the track weights they operate. To improve productivity and performance of railroads in West Virginia, the state should make a goal of ensuring all rail track meets the 286K minimum standard. There were no specific projects identified through the stakeholder process, however, it is a long-term goal to maintain track to a state of good repair and ensure the state's short line railroads meet customer and industry needs. The state should work with its short line railroad partners to identify projects that would be beneficial to the overall state rail system for improvement. Resilience projects are good opportunities for pursuing Federal discretionary grant funding.

Tourism

In 2019, the U.S. Department of Commerce reported that the national travel and tourism sector supports 7.8 million jobs and accounted for 2.8% of U.S GDP in 2018. During the same time frame, the West Virginia tourism industry outpaced national growth by 58%. Travel spending in West Virginia continues to grow and in 2018 contributed $4.55 billion to the state's economy.

West Virginia leads the nation in railroad tourism because of its scenic terrain and tourism flair. Of the 93 projects identified by the WVSRP, 39 projects were related to railroad tourism and regional economic development and total $92.3 million.

New Hampshire Case Study

A recent economic impact study of an excursion railroad's economic impact was completed in New Hampshire. A 43-mile excursion railroad, operated on a state-owned rail line segment, contributed $17.4 million dollars in total economic impact annually and affects the equivalent of 380 full and part time jobs in the restaurant, lodging, hospitality and retail sector. The state-owned line welcomed over 2.1 million guests from around the world and creates an added attraction that keeps out-of-state visitors in New Hampshire for an extended stay. In 2018 alone, the Railroad welcomed more than 260 bus tours, which accounted for nearly 12,000 additional guests to the region.

Each year, the Railroad pays a "user fee" to the State of New Hampshire, as track owner, totaling approximately $100,000 – a portion of which is returned to the local communities along the line. Furthermore, the Railroad typically invests an additional $150,000 annually in the form of maintenance contributions, to help preserve rail service over the 55.2-mile corridor through central and northern New Hampshire.

Rail Service and Investment Program Summary

Through the development of the state rail plan, a comprehensive list of projects that support the State's rail vision, goals and objectives was developed and a priority focus was given to projects that address safety, preservation, resiliency and tourism were identified. The full RSIP is located in Appendix 6.

For projects where funding has not been fully secured, it is recommended that the state take a multi-step project development approach:

1. Prepare rail project list during the STIP process
2. Identify and utilize federal formula funding for project development based on need and benefits
3. Identify additional funding partners
4. Utilize the state rail development fund to provide matching funding for Federal discretionary grant application if full funding cannot be achieved through federal and state appropriations
5. Apply for federal grants when Notices of Funding Opportunity are released
6. Update the RSIP list annually

West Virginia Department of Transportation
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