



CHAPTER 3

PROPOSED PASSENGER RAIL IMPROVEMENTS AND INVESTMENTS

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3 Proposed Passenger Rail Improvements and Investments

3.1 Introduction

This chapter summarizes ongoing and proposed passenger rail improvements and investments that have the potential to enhance mobility and expand transportation options for Virginia. In general, passenger rail service is categorized as intercity Virginia regional passenger rail service, long-distance intercity passenger rail service, and commuter rail service.

The Virginia Regional passenger rail programs identified in this chapter are consistent with the vision of the Virginia Statewide Transportation Plan (VTrans2040) and the goals and objectives of the State Rail Plan, and are based, in part, on the factors driving change in the rail industry, such as freight movement, household characteristics, land development patterns, transportation technology, and the natural environment.

Over the past two decades, various passenger and freight rail studies and improvement projects have been completed on both of Virginia's main passenger rail corridors to support the Virginia regional passenger rail program, as shown in **Appendix L**. Funding commitments from the Commonwealth of Virginia are already setting the stage for future expansions of Virginia regional intercity passenger rail service, improving connectivity to Amtrak's NEC, and expanding capacity for commuter rail, as well as longer-term planning initiatives to expand long distance service through development of the SEHSR corridor.

Although the Federal Railroad Administration (FRA) requires that this rail plan separate passenger and freight projects (**Chapters 3 and 4**, respectively). Virginia passenger and freight services operate on the same routes using the same infrastructure and as a result many of the projects improve the network for both services.

3.2 Virginia Regional Passenger Rail on Shared-Use Corridors

DRPT will continue to support the improvement and expansion of Virginia regional passenger rail services to better connect and serve the Commonwealth. Current short-term projects to enhance existing and planned services include:

- Continued support of existing Virginia's Amtrak Northeast Regional Passenger service
- Construction of a new Newport News Multimodal Transportation Center



- Service improvements to Virginia regional service passenger trains to Lynchburg
- Additional Virginia Northeast Regional passenger train frequencies between Richmond and Hampton Roads

For DRPT, improving Virginia regional passenger rail services is not simply a matter of paying for train equipment and operating expenses. All intercity passenger rail services in Virginia operate on rail lines owned by freight railroads, and many of those routes are busy freight railroad corridors with little to no excess capacity. DRPT's approach has been to secure capacity on freight rail lines for future passenger service expansion. The agency has established a track record of success through its partnerships with host freight railroads to expand or introduce intercity passenger rail service on major freight rail corridors, balancing freight and economic development needs with the improved mobility, transportation, and environmental benefits offered by passenger rail. Support for conventional intercity passenger rail projects advances DRPT's overarching transportation goals to optimize return on investments; ensure safety, security, and resiliency; efficiently deliver programs; consider operational improvements and demand management first; and ensure efficient intermodal connections. Long term projects to improve passenger rail services are described in the following chapters.

3.2.1 Improvements to Richmond and Hampton Roads Services

Expansion and improvement initiatives for Virginia regional passenger rail services between Washington, D.C., Richmond, and Hampton Roads that serve the Washington to North Carolina and a part of the East-West corridor are included in the following chapters.

3.2.1.1 Long Bridge Capacity Expansion

The Long Bridge is a double-track railroad bridge built in 1904 and owned by CSX, which crosses the Potomac River between Washington, D.C. and Arlington, Virginia. The bridge provides the only Potomac River rail crossing between Washington, D.C. and Northern Virginia, and is used by all Amtrak intercity passenger trains, VRE commuter trains, and CSX freight trains entering or passing through the Washington, D.C. area from Virginia. Passenger and commuter trains now comprise more than two-thirds of the train traffic crossing Long Bridge.

As rail traffic of all types over Long Bridge has increased in the past two decades, notably intercity passenger and commuter rail traffic, the bridge's two mainline tracks have become a chokepoint that in recent years has proven to be the most significant rail network bottleneck to rail services in Virginia. Without additional rail capacity across the Potomac River, Virginia will be unable to implement long-term plans to expand and improve passenger, commuter, and freight rail services.



In 2011, Washington, D.C.'s Department of Transportation (DDOT) received a federal HSIPR grant from FRA to complete a two-stage feasibility study for the rehabilitation or replacement of Long Bridge. Phase I of the study was completed in 2015. Phase II of the Long Bridge Study is currently underway and being managed by DDOT in coordination with DRPT, VRE, CSX, and FRA. This phase will advance the National Environmental Policy Act (NEPA) process by developing a draft Purpose and Need Statement, developing a service plan based on future demand in the corridor, further refining conceptual alternatives developed in Phase I, and defining evaluation criteria to screen and identify the alternatives that will be carried forward for analysis in Phase III of the study, which will be an Environmental Impact Statement (EIS). In 2016, DDOT received a Transportation Investment Generating Economic Recovery (TIGER) grant from FRA for the preparation of the Long Bridge EIS - Phase III. The study will evaluate a range of alternatives, all of which include increased rail capacity across the Potomac River.

3.2.1.2 Atlantic Gateway Project

In July 2016, U.S. DOT announced the award of a federal FASTLANE grant for \$165 million to expand rail and highway capacity in Northern Virginia as a part of Virginia's Atlantic Gateway Project, a \$1.4 billion package of rail and highway expansion projects intended to address some of the worst freight and passenger transportation bottlenecks on the Interstate 95 corridor. DRPT and VDOT collaborated on the development of the multimodal Atlantic Gateway Project, and will combine the federal grant funding with \$565 million in private investments and \$710 million in state and other transportation funds. The Atlantic Gateway Project contains five distinct rail capacity and engineering projects, described in **Table 3-1**.



Table 3-1: Atlantic Gateway Rail-Related Projects

Name	Description	Estimated Cost, in millions (2015)
6 miles of 4th main track (Arlington-Alexandria)	Construct six miles of fourth mainline track from the north bank of the Potomac River at Arlington to the AF interlocking in Alexandria, where passenger and commuter trains bound for Manassas diverge from CSX's RF&P mainline. The addition of a fourth mainline track will expand network rail capacity and improve operations on the most heavily used rail line in Virginia. These improvements will allow additional intercity passenger and commuter trains to use the corridor.	\$185
8 miles of 3rd main track (Franconia-Occoquan)	Construct eight miles of third mainline track from the Franconia-Springfield VRE station to a location just north of the Occoquan River. The additional third track would connect with the existing third mainline track constructed in 2009, to provide approximately 20 miles of continuous three-track mainline from Arlington, Virginia to the Occoquan River. These improvements will allow for additional VRE commuter trains to use the corridor and ultimately accommodate the proposed SEHSR corridor passenger service, as well as expanded intermodal and freight rail traffic.	\$220
Two universal crossovers	Construct two universal crossovers south of Fredericksburg to improve operational flexibility and network fluidity just south of the VRE commuter territory. The crossovers will increase operational flexibility by providing additional locations where Amtrak passenger trains can meet and pass freight trains, and will ultimately accommodate the proposed SEHSR corridor passenger service, as well as expanded intermodal and freight rail traffic.	\$30
Long Bridge Program Development	Fund program development to advance engineering, stakeholder agreements, and outreach in support of the long-term, multi-agency initiative to increase rail capacity across the Potomac River through the expansion or replacement of the Long Bridge.	\$30
S-Line Transfer	Provide a mechanism to allow for the transfer from CSX to public ownership of the S-Line, an abandoned rail line that runs from North Carolina to the Petersburg area. The line is a critical component of the SEHSR corridor's proposed route between Richmond and Raleigh, and will enable the operation of higher-speed passenger trains on a dedicated passenger rail line at speeds of 110 mph.	\$30

Source: DRPT



Table 3-2 identifies the sources and uses of funds for the Atlantic Gateway rail projects described previously. DRPT has committed up to \$174 million (2015 dollars) in IPROC funds toward these significant projects and has received allocations of \$118 million (2015 dollars) in Priority Transportation Funds from the Secretary's office to supplement the FAST Act and other federal funds that will be used for third track and Long Bridge improvements. Atlantic Gateway project segments are expected to go to bid in 2017.

Table 3-2: Sources and Uses of Funds for Atlantic Gateway Rail Projects
(all funds in millions of dollars, 2015)

Project	Total Cost	Private	State	FASTLANE	Other Federal
6 miles of 4 main tracks (Arlington-Alexandria)	\$185	-	\$48	\$55	\$82
8 miles of 3 main tracks (Franconia-Occoquan)	\$220	-	\$220	-	-
Two universal crossovers	\$30	-	\$30	-	-
Long Bridge Program Development	\$30	\$15	-	\$15	-
S-Line Transfer	\$30	\$30	-	-	-
Total Cost	\$495	\$45	\$298	\$70	\$82

Source: Atlantic Gateway: Partnering to Unlock the Interstate 95 Corridor FASTLANE Grant Application

3.2.1.3 Arkendale to Powells Creek Third Track

In 2010, FRA awarded DRPT \$74.8 million (2010 dollars) in federal ARRA funds to construct a third main track along CSX's Interstate 95 corridor between Powells Creek and Arkendale in Prince William and Stafford Counties. This \$115 million project will improve intercity passenger rail service and minimize interference with freight train traffic. In addition, the CTB allocated \$40 million (2016 dollars) in IPROC funds for passenger station platform improvements at the existing Quantico station and future Potomac Shores VRE station. These improvements are scheduled to be completed in 2018.

3.2.1.4 Norfolk Train Extensions - Second and Third Round Trips

In 2012, DRPT completed capacity projects on the NS mainline between Petersburg and Norfolk that enabled the launch of the first daily round-trip intercity passenger train between Richmond and Norfolk. While the improvements made on the NS segment will allow up to three daily passenger round trips, the Richmond to Petersburg segment on CSX requires additional capacity improvements before a second and third passenger train to Norfolk can be accommodated.



DRPT has obligated \$117 million of IPROC and REF funds (2015 dollars) to the construction of new west bypass tracks around Acca Yard in Richmond, removing all mainline tracks from inside the yard and allowing passenger and freight trains to move through the terminal more smoothly and at a higher speed. Construction of a fourth mainline track between Richmond Staples Mill Road Station and the north end of Acca Yard; construction of a second mainline track between Carson and Reams (south of Petersburg) to eliminate an 8-mile, single-track operational bottleneck and reduce conflicts with passenger trains; and construction of three crossovers south of Richmond to improve network fluidity are also part of this project. These improvements to improve capacity will potentially allow for two additional round-trip passenger trains between Richmond and Norfolk, as well as an additional round-trip passenger train between Washington, D.C. and Lynchburg. Two Virginia regional trains that now terminate in Richmond could extend their route to Norfolk to provide the additional service.

3.2.1.5 Long-Term Investments in Washington, D.C. – Richmond – Hampton Roads Passenger Service

DRPT will continue to look for opportunities to invest in additional rail capacity that will provide for additional frequencies, improved reliability, and faster travel times for intercity passenger trains along the Washington D.C. – Richmond – Hampton Roads Corridor. Some of the potential long-term funding opportunities that DRPT may pursue to enhance conventional intercity passenger rail service between Washington, D.C., Richmond, and Hampton Roads include:

- Investments to add rail capacity across the Potomac River through an expansion or replacement of Long Bridge. Construction of additional Long Bridge rail capacity is crucial for long-term expansions of intercity passenger rail service and commuter rail service.
- Investments to building one or more additional mainline tracks between Washington, D.C. and Richmond, or fund other types of capacity improvements such as additional crossovers.
- Investments to build additional track, crossovers, or other capacity projects to eliminate bottlenecks on shared-use passenger lines between Richmond and Hampton Roads.
- Investments in the SEHSR corridor, discussed in **Chapter 3.3**, which will require capacity improvements such as those discussed above and will also deliver benefits to the Virginia regional passenger rail service, host freight railroad operations, and VRE commuter services in this shared-use corridor.

3.2.2 Washington to Lynchburg/Roanoke Corridor Improvements

Expansion and improvement initiatives for Virginia regional passenger rail services between Washington, D.C., Lynchburg, and Roanoke that serve the U.S. 29, Interstate 81, and U.S. 460 corridors are described in the following chapters.



3.2.2.1 Extension of Amtrak service from Lynchburg to Roanoke

In late 2017, DRPT introduced Virginia regional intercity passenger service between Lynchburg and Roanoke. This service is operated as an extension of the current Virginia regional round-trip train between Washington, D.C. and Lynchburg. DRPT obligated \$77.5 million in IPROC funds and \$24 million from the REF (2015 dollars) to construct track capacity improvements between Lynchburg and Roanoke with a train servicing facility and a boarding platform in downtown Roanoke.

3.2.2.2 Second Regional Round Trip to Lynchburg

Following the service extension to Roanoke, DRPT will pursue a project that would allow a second daily round-trip train between Lynchburg and the NEC via Washington, D.C. The proposed frequency would run counter to the current single round-trip train service, which provides an early morning northbound departure from Roanoke and Lynchburg to Washington, D.C., and an evening southbound return from Washington, D.C. to Lynchburg and Roanoke. The proposed second daily round-trip would be in addition to Amtrak's long-distance Crescent train between New York and New Orleans.

3.2.2.3 Service Extension Studies: Roanoke to New River Valley and Bristol

Further extensions of intercity passenger rail service from Roanoke west to the New River Valley and Bristol continue to be part of DRPT's long-term plans to incrementally expand service on the Interstate 81 corridor. The CTB has allocated funds for a network capacity study that, if performed, would help determine potential rail infrastructure requirements that might be required to extend passenger service from Roanoke to Christiansburg in the New River Valley and beyond to Bristol.

3.2.2.4 Long-Term Investments in the Interstate 81, U.S. 29, and U.S. 460 Corridors

The strong ridership and revenues achieved by Virginia's regional passenger service to Lynchburg points to the value of the investments made so far, and provides evidence that suggests additional expansion opportunities will generate more benefits for travelers and communities in Central and Southwestern Virginia. Some of the potential long-term funding opportunities that DRPT may pursue to enhance intercity passenger rail service between Washington, D.C. and areas in southern and western Virginia include:

- Investments to build additional track, crossovers, or other capacity projects to eliminate bottlenecks on shared-use passenger lines between Alexandria and Lynchburg, Roanoke, or other passenger rail destinations in the corridor.
- Investments that will allow for the operation of additional frequencies on existing corridors or expansions of service to new locations. Specific long-term initiatives include those to advance cross state connections and may include, but are not limited to, the following:

- **Roanoke-New River Valley-Bristol:** Investments to extend intercity passenger service west of Roanoke to the New River Valley, Bristol, and potentially further west to Knoxville or Chattanooga, Tennessee.
- **Lynchburg-Charlotte:** Investments to extend regional intercity passenger service south of Lynchburg to Danville, Virginia and beyond to Charlotte, North Carolina; a corridor identified by stakeholders during the State Rail Plan outreach process as a potential new service extension opportunity.
- **Second Roanoke Train:** Investments to support additional frequencies on existing corridors, including a potential second daily round-trip regional train to Roanoke from the NEC via Washington, D.C.
- **Lynchburg-Richmond:** Investments to extend service on the U.S. 460 corridor between Lynchburg and Richmond, which would not only provide opportunities for cross-state travel but also establish connections between existing intercity passenger rail corridors that are currently oriented toward north-south travel. Potential routes identified include a connector bus along Interstate 64 or Route 460. Rail service could include the NS line between Lynchburg and Richmond or the Buckingham Branch line between Charlottesville and Richmond.

3.3 Southeast Corridor Initiative

Virginia is supportive of the federal initiative to improve passenger rail in the Southeast. As such, the Commonwealth will continue to engage in the following initiatives to advance passenger rail projects in this region:

- Virginia-North Carolina High Speed Rail Compact
- SEHSR Richmond to Raleigh (R2R) Final Design and Implementation
- SEHSR, Washington D.C. to Richmond (DC2RVA) Tier II Environmental Impact Statement / Preliminary Engineering
- SEHSR, Richmond to Hampton Roads Tier II Study

Virginia and North Carolina have established the only bi-state, high-speed rail partnership in America, the Virginia-North Carolina High Speed Rail Compact, which was authorized by Congress and established through legislation enacted by the Virginia and North Carolina General Assemblies. The purpose of the Compact is to examine and discuss strategies to advance multi-state high-speed rail initiatives. Virginia has also planned for the acquisition of CSX's abandoned S-line between the Petersburg area and Norlina, North Carolina, which is slated to be used for dedicated, 110-mph high-speed intercity passenger rail service.



3.3.1 Federal High Speed Rail Program

In 2002, FRA designated ten high speed corridors under Section 101-0 of the Intermodal Surface Transportation Act of 1991 (ISTEA) and Section 11-03(c) of the Transportation Efficiency Act for the 21st Century (TEA-21) for passenger rail service in high population density and congested intercity sections of the nation.^{1,2} This designation allows a corridor to receive specially targeted funding for highway-rail grade crossing safety improvements and recognizes the corridor as a potential center of high speed rail activity.

3.3.1.1 Southeast High Speed Rail Corridor

In 1992, the U.S. DOT designated the SEHSR, from Washington, D.C. to Charlotte, North Carolina, as one of five original national high-speed rail corridors. The SEHSR corridor is made up of a number of rail segments with top speeds of up to 110 mph covering the south Atlantic states with passenger rail service to and from the NEC, including Amtrak's service north to New York and Boston. The U.S. DOT subsequently designated an extension of the SEHSR corridor from Richmond to Hampton Roads in 1996, followed by other extensions to Georgia and Florida.

In 2002, a Tier I EIS was completed for the original, 450-mile Washington, D.C. to Charlotte, North Carolina segment of the SEHSR. The environmental study also established the purpose and need for the SEHSR as well as the vision for passenger rail service on the corridor. The SEHSR Tier I EIS recommended an incremental approach to developing the corridor.

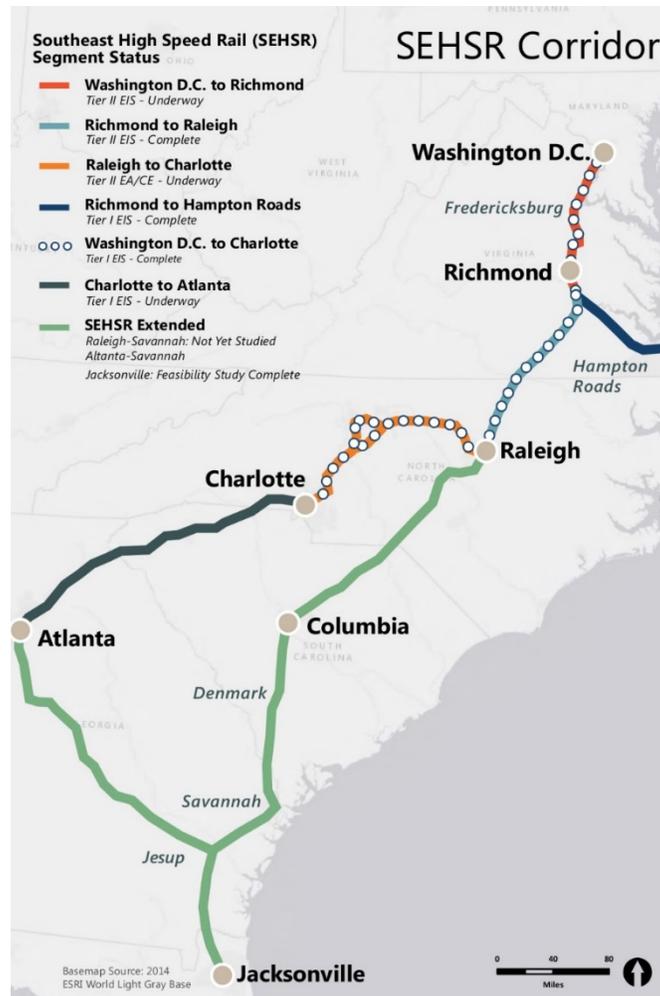
Since then, DRPT has been working with the FRA and the states of North Carolina, South Carolina, and Georgia to advance higher-speed rail service on the SEHSR corridor. The system will be developed incrementally, improving and adding capacity to existing rail routes where feasible. The components of the SEHSR corridor, shown in **Figure 3-1**, are in different stages of the planning process.

¹ <https://ntl.bts.gov/DOCS/istea.html>

² <https://www.fhwa.dot.gov/tea21/h240suba.htm#1103>



Figure 3-1: Map of SEHSR network



3.3.1.2 DC2RVA SEHSR Tier II EIS and Service Development Plan

On October 28, 2010, the FRA announced an award of \$45.3 million to DRPT for the completion of a Tier II EIS and Service Development Plan (SDP) for the DC2RVA portion of the SEHSR Corridor. DRPT completed a Draft EIS, which was released in the fall of 2017. The Tier II environmental process has four basic goals:

- Update and confirm the purpose and need as established in the Tier I EIS for the Washington, D.C. to Richmond portion of the SEHSR.
- Develop site-specific rail alternatives to accommodate construction of a third mainline track and other improvements.
- Conduct a detailed evaluation of environmental impacts for the alternatives.
- Select a preferred alternative.



The study will also conduct preliminary engineering and design for the preferred alternative.

3.3.1.3 Richmond to Raleigh Southeast High Speed Rail Corridor Tier II EIS

In 2009, FRA announced the award of \$4 million in federal ARRA funds for a Tier II EIS and preliminary engineering for the Richmond to Raleigh, North Carolina segment of the Southeast High Speed Rail Corridor. The study covers the 162-mile segment of the SEHSR between Richmond and Raleigh, and calls for the reactivation of 76 miles of CSX's abandoned S-Line running southwest from Petersburg, Virginia to Norlina, North Carolina for use as a dedicated passenger right-of-way where trains can operate at speeds of up to 110 mph. The study proposes operating four daily SEHSR round trips between New York and Raleigh via Richmond, with three of those round trips continuing west to Charlotte. As part of the Atlantic Gateway Project, DRPT and CSX will enter into an agreement that will establish a process for transferring ownership of the abandoned S-Line right-of-way to continue advancing work on this segment of the SEHSR corridor.

DRPT and the North Carolina Department of Transportation (NCDOT) completed a Final EIS, which was signed by FRA in September 2015, followed by a signed Record of Decision (ROD) in March 2017.

3.3.1.4 Richmond to Hampton Roads Southeast High Speed Rail Corridor Tier II EIS

DRPT is in the process of identifying funding sources to initiate a Tier II Environmental Analysis within the next six years for the Richmond-Hampton Roads segment of the SEHSR corridor. In 2012, FRA, in partnership with DRPT, completed a Tier I EIS and ROD for the Richmond to Hampton Roads Passenger Rail Project, which defined the route and service characteristics for the extension of the SEHSR corridor from Richmond Main Street Station south and east to Hampton Roads. The preferred alternative endorsed by DRPT, FRA, and the CTB would provide higher-speed passenger rail service from Richmond Main Street Station to the southern portion of Hampton Roads (Richmond to Norfolk) while improving passenger rail service on the Peninsula (Richmond to Newport News). The Richmond to Norfolk higher speed service would utilize the active portion of the CSX S-Line from the west side of Main Street Station south to Petersburg, and then access the east-west NS line to Norfolk. The Richmond to Norfolk segment could potentially achieve maximum operating speeds up to 90 mph with up to twelve trains per day (six round trips), depending upon the ultimate route chosen and negotiations with the relevant stakeholders. The Richmond to Newport News conventional service would follow the existing route for Amtrak's service to Newport News, which uses CSX tracks (the Peninsula Subdivision) from the east side of Main Street Station through Fulton Yard to Newport News with up to six trains per day (three round trips). A federal ROD was signed in December 2012.



3.3.1.5 Long-Term Projects: Pursue Capacity Improvements to Initiate SEHSR Service

No long-term funding has been allocated for DRPT to construct the full Washington, D.C.-Richmond or Richmond-Raleigh segments of the SEHSR. DRPT will continue to pursue funding opportunities to advance projects in the SEHSR corridor.

3.3.1.6 Union Station Improvements

In July 2012, Amtrak released a Washington Union Station Master Plan, which provides a blueprint for a series of improvements that will address existing deficiencies and accommodate future growth. The Master Plan envisions a four-phase construction effort to be implemented over a 15- to 20-year period. Among the improvements identified in the Master Plan are projects to expand track and platform capacity in the station's lower level, as part of the second phase. A platform will be added to provide access to a new, seventh lower-level platform track, and two island platforms will be rebuilt with high-level surfaces to provide level boarding on four platform tracks. Due to rolling stock incompatibility with high-level platforms, VRE commuter trains would use three low-level platform tracks. In September 2016, Amtrak announced it would use a portion of the \$2.45 billion investment package it received for the purchase of 28 next-generation, high-speed Acela Express trainsets to fund a modernization of Washington Union Station's passenger rail concourse and an expansion of its equipment fleet maintenance facility.

3.3.1.7 Northeast Corridor Improvements

Although Virginia's passenger service benefits from the one-seat-ride opportunities provided to major cities in the Northeast, its service is simultaneously impacted by infrastructure constraints and congestion from passenger and commuter trains on the NEC. The limited platform capacity at Washington Union Station creates an additional constraint to both intercity and commuter services. Because of these constraints, any planned service expansions in Virginia would likely be achieved by extending trains that currently terminate at Washington Union Station. This approach provides a way to offer additional frequencies in Virginia that also offer one-seat rides north of Washington, D.C. to destinations such as New York Penn Station, without the need to add more trains on the busy NEC. Because of the heavy commuter traffic on the NEC between Washington, D.C., New York, and Boston, the number of train slots available for additional conventional intercity passenger trains is limited without making costly increases in track capacity.



Other long-term improvements to the NEC are being assessed by Amtrak and FRA. In December 2016, FRA released a Tier 1 Final EIS for the NEC FUTURE project, a comprehensive planning effort to define, evaluate, and prioritize future investments in the NEC from Washington, D.C. to Boston. The NEC FUTURE planning effort will result in a Passenger Rail Corridor Investment Plan (PRCIP) for the NEC that will establish a framework for future investment in the corridor through 2040 and beyond, and provide a long-term vision for the role of passenger rail on the NEC in the regional transportation system and a phased investment plan to accomplish that vision. In July 2012, Amtrak released its own future investment and service plan for the NEC, in a comprehensive study entitled *The Amtrak Vision for the Northeast Corridor – 2012 Update Report*.

3.4 Passenger Rail Station Improvements and Investments

This chapter discusses significant capital improvement projects planned or underway at intercity passenger rail stations in Virginia.

3.4.1 Station Projects Planned or Underway

Major capital investments underway or proposed for intercity passenger rail stations in the Commonwealth are described in this chapter.

3.4.1.1 Alexandria Station Improvements

DRPT and VRE have several projects underway at Alexandria Union Station that will improve pedestrian flow, transit connections, and rail operations. DRPT and VRE are conducting a \$10 million project (2016 dollars) to build a pedestrian tunnel between the Alexandria passenger rail station and the adjacent WMATA King Street-Old Town Metrorail station and bus transit center. The new tunnel will provide a direct, sheltered connection between the train station and the transit center. This eliminates the need for passengers making multimodal connections to use a city sidewalk under the railroad and Metrorail bridges at the far end of the station. The pedestrian tunnel will also provide ADA-compliant access to both Alexandria station platforms.

In addition, VRE is about to embark on a \$2.4 million platform improvement project (2016 dollars) that will extend Alexandria Station's east platform to accommodate longer trains and elevate the west platform to provide easier access for passengers. VRE has also completed final design on a third project that will reconstruct the station's east platform as an island platform providing access to mainline tracks on both sides. (Currently, the east platform only serves Main Track 2 at its western edge.) This project will also modify the Slaters Lane interlocking north of the station with the installation of a new crossover to enable passenger trains to use the easternmost mainline track and reach the new platform edge being constructed.



3.4.1.2 Quantico Station Improvements

The Quantico Station will receive new station platforms to accommodate longer trains and a platform relocation to provide access to the existing mainline tracks as well as a third mainline track currently under construction between Powells Creek and Arkendale. A new pedestrian overpass will connect a new island platform with the existing east platform, reducing the need for rail passengers to use the Potomac Avenue grade crossing to move between platforms. The project also includes the development of a multimodal bus transfer facility on the west side of the station and expanded parking capacity on the east side.

3.4.1.3 Richmond Staples Mill Road Station Parking Improvements

DRPT and VDOT have embarked on a joint \$8.3 million project to double the size of the parking lot at the Richmond Staples Mill Road Station in Henrico County. The current overcrowded parking situation has created a significant barrier to improving ridership on Virginia's regional service trains. The project's construction began late summer 2017 and is expected to be completed by summer 2018. DRPT has obligated \$3.3 million of IPROC funds for construction of the Staples Mill Road Station parking expansion.

3.4.1.4 Richmond Main Street Station Restoration

In 2017, the City of Richmond concluded the third phase of a three-phase \$92 million restoration of Main Street Station. The first phase included acquisition of the headhouse by the City of Richmond, renovation of the headhouse, and construction of a new station platform on the east side of Main Street Station, enabling Amtrak service to Newport News to reinstate service to the station in 2003. The second phase included acquisition of the train shed, adjacent Seaboard freight house, and the remaining land. The third phase, now complete, restored the 100,000-square-foot train shed and created new spaces for retail and events. This phase of the project was designed to provide multimodal connections to Richmond's Pulse bus rapid transit system and bicycling connections to the Virginia Capital Trail. The restoration work completed does not preclude the ability of the station to accommodate additional passenger train frequencies.

3.4.1.5 Bland Boulevard Amtrak Station in Newport News

The City of Newport News has secured federal funding for the construction of a new multimodal transportation center, replacing the current Newport News passenger rail station. The new station location will provide improved station access, expand parking capacity, and offer better connections to local transit systems. The new station will be located on a 40-acre site accessed from Bland Boulevard between Highway 60 (Warwick Boulevard) and Interstate 64, in close proximity to the Newport News/Williamsburg International Airport. The facility will be located approximately 8 miles west of the



current passenger rail station, and will include bus bays to provide connections with Hampton Roads Transit and intercity buses, a 222-space parking garage, and transfer areas for airport shuttles and taxis.

The project includes construction of a new passenger train servicing and layover facility located approximately one mile east of the new multimodal transit center, with a new passenger train turning facility. The new facilities will improve passenger rail service reliability by eliminating conflicts with freight trains at the Newport News yard.

3.4.1.6 Tri-Cities High-Speed Rail Station

In May 2017, FRA released a draft Environmental Assessment recommending a new site for a proposed SEHSR multimodal passenger rail station serving the City of Petersburg and surrounding communities in the Tri-Cities Area of Virginia. The recommended site, one of four station sites evaluated, is located on the Boulevard in Colonial Heights. This proposed new station, if built, would replace the existing Petersburg-area passenger rail station located in Ettrick.

3.4.2 Station Policy

The Commonwealth's success in implementing new Virginia regional intercity train routes and frequencies has drawn interest from municipalities seeking to add stops to planned or existing Amtrak services. The expansion of passenger rail service to Lynchburg (2009), Richmond (2010), Norfolk (2012), and Roanoke (2017) and high profile studies such as the DC2RVA high speed rail study have encouraged additional requests, including Bedford, Bowers Hill, Bristol, Carmel Church, Colonial Heights, La Crosse, Petersburg and others. Although new stations provide opportunities for travelers to access a passenger rail service, additional stops may affect train services by increasing travel time and limiting freight network capacity and fluidity. These results affect ridership, travel time, and operations/capital costs for the service.

As a result, DRPT and the CTB determined a need for a consistent policy to evaluate station proposals. The Intercity Passenger Rail Station Policy, provided as Appendix O, lays out a methodology for DRPT and the CTB to evaluate proposals for stops, and provides guidance on the roles and responsibilities of a locality to fund and maintain a successful station. It also outlines necessary coordination efforts required with rail service partners like Amtrak, FRA, and the host railroads.

3.5 Virginia Railway Express Commuter Service

In Northern Virginia, VRE commuter rail service operates on the same CSX and NS freight rail lines used by Amtrak intercity passenger trains. VRE has its own capital plan to address short-term and long-term improvements. DRPT has partnered with VRE on standalone projects that benefit the commuter agency as well as projects to increase rail capacity and improve operational performance on shared-use freight



rail lines accommodating both commuter and intercity passenger rail services. This chapter highlights some of VRE's key initiatives.

3.5.1 VRE System Plan 2040

One of the key drivers behind VRE's short-term and long-term improvement projects is the Virginia Railway Express System Plan 2040, which was released in 2014. The System Plan 2040 outlines a vision for VRE system investments and recommended actions through 2040 to sustain and grow service to meet regional travel needs. The Plan provides the framework within which decisions can be made by the VRE Operations Board with respect to implementation of capital programs and projects, partnerships with DRPT and other stakeholders, and VRE's track use agreements with CSX, NS, and Amtrak. Specific goals of the VRE System Plan include:

- Provide passengers with rolling stock, stations, and service maintained to the highest quality
- Improve and expand service for current VRE passengers
- Address emerging ridership markets
- Advance VRE's role as part of a multimodal regional mobility network
- Invest in partnerships to add capacity in multi-use rail corridors

Investments in the System Plan are grouped into three phases. In the first phase through 2020, relatively low-cost projects are proposed that will maximize the capacity and service currently allowed under VRE's existing agreements with CSX and NS. The second phase from 2021 to 2030 includes a potential service expansion plan in the Manassas area, and major investments that could relieve key capacity bottlenecks on the VRE system, including investments in the Long Bridge crossing of the Potomac River. The final phase of the System Plan, from 2031 through 2040, returns to a level of investment comparable to Phase 1 and contains capital projects that would enable continued growth in traffic, including investments to continue triple-tracking of the CSX mainline between Alexandria and Spotsylvania. The combined projected capital cost for all three phases of the plan is \$2.73 billion (2014 dollars).

3.5.2 Major VRE Initiatives

Significant, multi-year capital improvement projects that VRE and DRPT have partnered to undertake are discussed in the following chapters.

3.5.2.1 Gainesville/Haymarket Extension

VRE is conducting a \$2.5 million (2013 dollars), two-phase feasibility study to analyze several options to expand capacity at the end of the VRE Manassas Line. Phase 1 was completed in late 2016, which identified five different service expansion alternatives, including a potential 11-mile extension of VRE's



service along a NS freight rail line from Manassas through Gainesville and to the general vicinity of the town of Haymarket. After reviewing the initial findings from Phase 1, the VRE Operations Board voted in March 2017 not to pursue an extension to Haymarket, but instead to advance a different alternative identified in Phase 1 that would allow for increased service on the existing Manassas Line route. This alternative recommended an expansion of the Broad Run storage yard and maintenance facility to accommodate six additional trains per day. The Operations Board vote will allow work to begin on Phase 2 of the study, which includes environmental evaluation consistent with the NEPA process and preliminary engineering design.

3.5.2.2 VRE Station Expansion Program

DRPT and VRE are funding several station improvement projects to improve passenger convenience and operating performance. These projects include the construction of a second platform at station locations where only one of the Fredericksburg Line's two main tracks is served by an existing platform, and the lengthening of station platforms to accommodate longer trains of up to eight cars, which will reduce the station stop time required. VRE is planning on implementing platform improvements at the following stations:

- **Crystal City Station:** VRE will replace the existing platform with a new island platform serving Tracks 2 and 3.
- **Alexandria Station:** VRE will lengthen and widen the existing island platform to serve tracks on both sides of it (Tracks 1 and 2), and improve the tunnel connecting the island platform to the main station for ADA accessibility and connectivity to the adjacent King Street Metrorail station.
- **Franconia-Springfield Station:** VRE will lengthen the existing platforms and widen the east platform to become an island platform in preparation for an extension of eastern mainline track 1 through the station area as part of the Atlantic Gateway improvements.
- **Lorton Station:** VRE will lengthen the existing eastern platform, and construct a new platform and pedestrian bridge on the western side of the right-of-way.
- **Woodbridge Station:** VRE will lengthen the existing eastern platform.
- **Rippon Station:** VRE will lengthen the existing eastern platform, and construct a new platform on the western side of the right-of-way.
- **Quantico Station:** VRE is lengthening both existing platforms to accommodate longer trains, and is converting the west side platform into an island platform to serve both an existing track and the new third mainline track under construction between Powells Creek and Arkendale for operational flexibility.
- **Brooke Station:** VRE will lengthen the existing eastern platform, and construct a new platform on the western side of the right-of-way.



- **Leeland Road Station:** VRE will lengthen the existing eastern platform, and construct a new platform on the western side of the right-of-way.

Study, design, and engineering work are advancing independently for each station, with a few exceptions. VRE has combined plans to add second platforms at five of its stations under the “Penta-Platform Project.” This project includes platform additions proposed for Franconia-Springfield, Lorton, Rippon, Brooke, and Leeland Road stations. **Appendix M** summarizes the short-term capital projects identified by VRE in its December 2016 CEO Report.

3.6 Concepts from Stakeholder Outreach

Various project concepts were suggested by the participants of public and stakeholder outreach conducted for the State Rail Plan. Stakeholder Committee meetings were held on November 22, 2016 and April 13, 2017. The meetings used various activities that engaged stakeholders in identifying bottlenecks, chokepoints, and economic development opportunities in the Commonwealth, as well as identified investments to enhance Virginia’s railroad network and to prioritize the types of passenger and freight rail projects needed within the Commonwealth. These activities focused on interviews with representatives from Amtrak and VRE, government agencies, and MPOs using an online survey that was provided by DRPT. Outreach conducted as part of the Virginia State Rail Plan will be described in detail in **Chapter 6**.

Stakeholders expressed support for passenger rail projects that would address:

- Improvements in travel reliability and on-time performance
- Improvements to add more frequencies on existing routes
- Improvements to reduce travel time
- Improvements to corridors that provide opportunities for intra-state trips, particularly cross-state trips (i.e., Norfolk-Roanoke, Charlottesville-Bristol, Lynchburg-Richmond, Lynchburg-Charlottesville-Richmond-Hampton Roads) and interstate trips on routes with high travel demand (i.e., Lynchburg-Charlotte)
- Improvements to develop new intercity passenger corridors (i.e., east-west passenger connections), while maintaining existing service frequencies on existing routes
- Improvements to expand opportunities for commuting to and from work
- Improvements to transit connections at passenger rail stations (i.e., expansions, modal connections, parking, etc.), including additional connecting Amtrak Thruway bus services
- Improvements to VRE commuter service

Chapter 5 includes specific projects identified through the survey and stakeholder outreach process.

