CHAPTER 1
INTRODUCTION

D.C. TO RICHMOND SOUTHEAST HIGH SPEED RAIL

1 INTRODUCTION

The Federal Railroad Administration (FRA) and the Virginia Department of Rail and Public Transportation (DRPT) are proposing passenger rail service and rail infrastructure improvements in the 123-mile north-south corridor between Washington, D.C. and Richmond, VA—collectively known as the Washington, D.C. to Richmond Southeast High Speed Rail (DC2RVA) Project. Sections 1.2 and 1.3 provide a brief background and overview of this Project, respectively.

1.1 FINAL EIS READER'S GUIDE

The purpose of this section is to inform the reader on how to review the information presented in this Final Environmental Impact Statement (EIS).

- Section 1.1.1 presents an overview of the EIS process, including guiding federal laws and regulations, and explains the consistency of this Final EIS with previous documentation.
- Section 1.1.2 summarizes how to use this Final EIS document, which is presented in a condensed format in order to streamline the reader's review of the information, particularly that which has been revised or updated since the Draft EIS. The condensed document format is consistent with the Council on Environmental Quality (CEQ) recommendations by allowing the reader to easily focus on the reasons for selecting the Preferred Alternative and the potential environmental impacts and avoidance and mitigation measures associated with the Preferred Alternative.
- Section 1.1.3 summarizes how comments on the Draft EIS are addressed in this Final EIS.
- Section 1.1.4 summarizes the errata table for the Draft EIS, which is provided in lieu of rewriting the Draft EIS documentation in its entirety.
- Section 1.1.5 summarizes the content included in the chapters of this Final EIS.

Existing Intercity Passenger Service in the DC2RVA Corridor

1.1.1 EIS Process Overview

The DC2RVA Project is being evaluated through the mechanism of an EIS to satisfy the requirements of the National Environmental Policy Act (NEPA). NEPA is a federal environmental law that establishes study policies and facilitates public disclosure of a proposed project. Per NEPA, an EIS must be prepared by a federal agency for any major federal action significantly affecting or with the potential to significantly affect the quality of the natural and built environment. FRA, as the lead federal agency, prepared this EIS to evaluate the potential impacts to the human and natural environment resulting from the DC2RVA Project. FRA published the Notice of Intent (NOI) to prepare an EIS for the Project in the Federal Register on October 23, 2014.

This EIS was developed in accordance with CEQ regulations (40 CFR part 1500 et. seq.) implementing NEPA and FRA's Procedures for Considering Environmental Impacts (64 FR 28545, May 26, 1999). In addition to NEPA, this EIS addresses other applicable statutes, regulations, and executive orders, including the 1980 Clean Air Act Amendments, Section 404 of the Clean Water Act, the National Historic Preservation Act, Section 4(f) of the Department of Transportation Act, the Endangered Species Act, and Executive Order 12898 on Environmental Justice. This EIS provides FRA, reviewing and cooperating agencies, and the public with information to assess alternatives that will: meet the Project's Purpose and Need; evaluate the potential environmental impacts; and identify potential avoidance and mitigation measures.

As described in 23 CFR 777.111(g)[1] and CEQ regulations 1502.20 and 1508.28, a tiered approach to NEPA documentation occurs when a first-level document (Tier I) evaluates what is to be done at the program level and a second-level document (Tier II) provides a more detailed analysis of specific actions necessary to implement Tier I decisions. This document is a Tier II Final EIS for the DC2RVA Project, and follows publication of the Tier II Draft EIS.

Consistency with the 2002 Tier I EIS and Record of Decision. The DC2RVA Project is the second part of a two-tiered environmental process. In October 2002, FRA, in coordination with DRPT and the North Carolina Department of Transportation (NCDOT), completed a first-level Tier I EIS and Record of Decision (ROD) for the Southeast High Speed Rail (SEHSR) corridor between Washington, D.C. and Charlotte, NC (hereinafter referred to as the 2002 Tier I EIS).[2] The 2002 Tier I EIS defined the physical limits for passenger rail improvements in the 500-mile corridor between the endpoint cities, from which subsequent Tier II studies (e.g., this DC2RVA Project) would define the specific alignment and infrastructure improvements and service plan for a section within the larger corridor. The 2002 Tier I EIS also determined programmatic-level environmental decisions that are the basis of this Project, which are summarized in Section 1.2.

Consistency with the Tier II Draft EIS. Pursuant to NEPA, this Final EIS is being published subsequent to the public review of and comments received on the Draft EIS,[3] which are incorporated and addressed herein. A comparison of the Draft and Final EIS documents, and details on how comments on the Draft EIS were addressed, are provided in the following sections. Chapter 7 describes the future steps in the Project process following publication of this Final EIS.

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[1] Title 23 of the Code of Federal Regulations applies to the Federal Highway Administration. FRA can, however, use Title 23 as guidance for preparation of FRA's NEPA documents.

[2] The 2002 Tier I EIS and ROD is available at: https://www.fra.dot.gov/Page/P0427

[3] The Draft EIS for the DC2RVA Project was published on September 8, 2017, and is available on the Project website: http://dc2rvarail.com/draft/

1.1.2 How to Use this Document

In accordance with CEQ guidance promulgated in 40 CFR 1502.14(e) and 23 CFR 771.125(a), a Final EIS should:

- Reference and summarize Draft EIS information
- Identify the Preferred Alternative, the basis for its selection, and document any changes or ongoing activities since the publication of the Draft EIS
- Describe coordination efforts and include public and agency comments, and responses to these comments
- Present any required findings or determinations, such as mitigations and the Final Section 4(f) evaluation

Additionally, Section 1304 of the FAST Act "Efficient Environmental Reviews for Project Decision Making" and Section 1319 of the Moving Ahead for Progress in the 21st Century (MAP-21) "Accelerated Decision-making in Environmental Reviews" allow for an approach that does not require republishing the entirety of the Draft EIS content.

In accordance with these directives, this Final EIS is presented in a "condensed" format that avoids duplication with content previously presented in the Draft EIS[4] that remains unchanged and does not affect the NEPA decisions to be made. This Final EIS does not republish all data and analyses at the same level of detail as the Draft EIS and its technical appendices; rather, each chapter of this condensed Final EIS focuses on the Preferred Alternative by referencing the corresponding section(s) of the Draft EIS and presenting any noteworthy changes that may have occurred since the publication of the Draft EIS. The condensed document format is intended to allow the reader to focus on the reasons for selecting the Preferred Alternative and the potential environmental impacts and avoidance and mitigation measures associated with the Preferred Alternative.

The key elements of the Draft EIS are provided below, with a comparison to this Final EIS.

- **Purpose and Need.** Chapter 1 of the Draft EIS provided the full detail of the Purpose and Need of the Project. There are no changes to the Purpose and Need between the Draft and Final EIS. Refer to Section 1.3.1 in this chapter for a summary of the Purpose and Need of the Project, which includes additional clarification regarding the consistency between the Tier I and Tier II Purpose and Need statements.
- **Alternatives.** The Draft EIS summarized the alternatives development process and provided details on the six alternative areas of the corridor and the 23 Build Alternatives within those areas (refer to Section 1.3.3 of this chapter for a summary, and Chapter 2 and Appendix A of the Draft EIS for full details). This Final EIS evaluates the Preferred Alternative; it connects a Build Alternative from each of the six alternative areas evaluated in the Draft EIS to form the 123-mile Preferred Alternative route through the Project corridor. Any conceptual design modifications that occurred between the Draft and Final EIS are noted within this document (refer to Chapter 4 of this Final EIS for details).

[4] As previously mentioned, the Draft EIS is available on the Project website and is incorporated herein by reference: http://dc2rvarail.com/draft/

- **Affected Environment.** Chapter 3 of the Draft EIS presented a full description of the affected environment of the DC2RVA corridor. There have been no noteworthy changes to the existing conditions since the completion of the Draft EIS; therefore, there is no corresponding chapter in this Final EIS.
- **Environmental Consequences.** Chapter 4 of the Draft EIS presented the potential effects on the environment of all 23 Build Alternatives. This Final EIS presents potential impacts of only the Preferred Alternative in Chapter 5. Both Draft and Final EIS impact evaluations are based on conceptual engineering design; refinements to the conceptual engineering resulted in design changes to Project infrastructure—and therefore changes to the anticipated environmental impacts—between the Draft and Final EIS, which are fully detailed in this Final EIS.
- **Section 4(f) Evaluation.** There are no changes to the Section 4(f) evaluation process between the Draft and Final EIS. The Draft EIS presented a Draft Section 4(f) evaluation in accordance with the US Department of Transportation Act of 1966, and this Final EIS presents the Final Section 4(f) evaluation in the same format as the Draft. In addition, the Final EIS includes updates to and documentation on any additional coordination and analyses conducted for the final evaluation. FRA's Final Section 4(f) determination will be included with the Record of Decision.
- **Public Involvement and Agency Coordination.** The Draft EIS summarized the agency coordination and public outreach efforts during the development of the Draft EIS. This Final EIS expands upon that information by summarizing all outreach activities that have occurred since the FRA's Notice of Intent to prepare a Tier II EIS for the DC2RVA corridor and documents the responses to public and agency comments that were received on the Draft EIS.
- **Corrections to the Draft EIS.** The content of this Final EIS presents up-to-date analysis and conditions of the Preferred Alternative. Any minor clarifications to content of the Draft EIS that are not fully republished as part of this Final EIS are presented as errata to the Draft EIS, as detailed in Section 1.1.4 below.

1.1.3 How Comments on the Draft EIS Were Addressed

The Draft EIS was made available for public review and comment, and was distributed to agencies and stakeholders with jurisdiction, expertise, or interest in the issues involved in the Project (see Chapter 2 of this Final EIS for details). DRPT and FRA have reviewed and taken into consideration all comments received on the Draft EIS during the decision-making process, which led to the selection of the Preferred Alternative in this Final EIS. DRPT and FRA do not view the public comment process as a "vote counting" exercise but rather one seeking substantive comments that benefit the final decision-making process. The public comment process is also an opportunity for the public to inform FRA or DRPT of potential concerns or conditions that were not identified during the preparation of the Draft EIS.

The following types of comments were received:

- Overall position or opinion for or against the Project
- Preference for or opposition to a specific Build Alternative or element that was evaluated in the Draft EIS, both in general as well as with specific concerns

- Suggestion of additional alternatives to consider, most of which were considered but dismissed during the 2002 Tier I EIS, or do not align with the implementing actions that were the outcome of the 2002 Tier I EIS and ROD
- Request for detailed information or data that is beyond the scope of an environmental document and would be developed during future phases of design and permitting

Responses to substantive comments are incorporated and addressed by way of providing additional or revised information and analyses, as needed, in the appropriate sections of this Final EIS. Substantive comments are those that question, with reasonable basis, the accuracy of information and methodology in the Draft EIS or present new information not considered in the Draft EIS, and cause changes or revisions in one or more alternative or environmental resource.

Detailed responses to comments from federal, state, and local agencies, organizations, and the general public are provided in appendices to this Final EIS:

- Appendix B of this Final EIS provides specific detailed responses to each agency and organization letter.
- Appendix C of this Final EIS provides responses by topic to substantive comments that appeared in individual comments and form letters from the public, either in writing or at the public hearings.

Where appropriate, the responses in these appendices indicate the section(s) in this Final EIS where additional/revised information is provided, including the errata table for the Draft EIS, which is Appendix A of this Final EIS.

1.1.4 Use of the Errata Table for the Draft EIS

Pursuant to Section 1304 of the FAST Act "Efficient Environmental Reviews for Project Decision Making" and Section 1319 of MAP-21 "Accelerated Decision-making in Environmental Reviews," Appendix A of this Final EIS provides an errata table for the Draft EIS in lieu of rewriting the Draft EIS documentation in its entirety.

As previously explained, this Final EIS is presented in a format that allows the reader to readily focus on the Preferred Alternative, and does not republish all data and analyses at the same level of detail as the Draft EIS such as: re-documentation of existing conditions or all 23 Build Alternatives that were developed and evaluated in the Draft EIS. The purpose of the Appendix A errata table, therefore, is to document factual corrections and/or minor clarifications to the portions of the Draft EIS that were not fully re-issued as part of this Final EIS. It is not intended to provide a summary of substantive comments received, which are separately addressed in this Final EIS in Appendix B; any modifications as a result of substantive comments received are incorporated into the appropriate chapters of this Final EIS and are not part of the errata table.

Each errata entry includes references to relevant page, table, and/or figure numbers from the Draft EIS and presents the original Draft EIS text next to the revised or replacement text. The factual corrections and/or minor clarifications and updates that are itemized within the errata table were identified from agency and public comments as well as ongoing coordination and documentation that has occurred since the publication of the Draft EIS. This approach is appropriate as comments received specific to the Draft EIS content were minor and do not affect the decisions made or the selection of the Preferred Alternative.

1.1.5 Contents of this Document

The chapters of this Final EIS are arranged in chronological order, representing the sequential order of events since the publication of the Draft EIS. The content focuses on the presentation of the Preferred Alternative and its potential effects.

- **Final EIS Chapter 2: Overview of Public Involvement and Agency Coordination**. This chapter describes the public involvement and agency outreach that has occurred since the initiation of the Project. It includes a summary of comments received on the Draft EIS; a complete compilation of comments and responses are included as Appendices B and C to this Final EIS.
- **Final EIS Chapter 3: Additional Information**. This chapter presents additional material that provides the reader with a better understanding of various Project elements and potential impacts to human and natural resources, in response to comments received on the Draft EIS. FRA and DRPT developed this additional material to document ongoing activities and coordination efforts that extended beyond the Draft EIS.
- **Final EIS Chapter 4: Selection of the Preferred Alternative**. This chapter presents the elements of the Preferred Alternative in each of the six alternative areas in the Project corridor, and the reason for the selection of each. It also describes any modifications to the Preferred Alternative since publication of the Draft EIS.
- **Final EIS Chapter 5: Environmental Consequences of the Preferred Alternative**. This chapter documents the potential impacts of the Preferred Alternative to each of the environmental resources presented in the Draft EIS. The quantitative range of impacts of the other Build Alternatives from the Draft EIS are provided for comparison purposes only, and efforts to further minimize and mitigate impacts are described.
- **Final EIS Chapter 6: Final Section 4(f) Evaluation**. This chapter presents the Final Section 4(f) evaluation, which includes updates since the Draft Section 4(f) evaluation, results of agency coordination, a summary of all Section 4(f) comments, a least harm analysis, and the basis for a finding that there are no feasible or prudent alternatives to the use of any Section 4(f) properties, when applicable.
- **Final EIS Chapter 7: Overview of Future Steps**. This chapter describes the anticipated sequence of events following the publication of this Final EIS.
- **Final EIS Appendices.** The text and figures that comprise this Final EIS are supported by a series of detailed appendices that contain material too lengthy to include in the body of the document[5] and include: errata for the Draft EIS (Appendix A); detailed responses to agency and public comments (Appendix B and Appendix C, respectively); detailed cultural resources documentation (Appendix D); documentation of agency coordination and consultation for Section 106 and Section 4(f) (Appendix E); detailed rail operations simulation modeling since the Draft EIS (Appendix F); documentation of relevant agency resolutions, agreements, and reports (Appendices G through I, and Appendix K) and detailed design information, including mapbooks, of the Preferred Alternative (Appendix J, Appendix L, and Appendix M).

[5] As stated in CEQ's NEPA regulations, an EIS should be kept concise and be no longer than necessary to comply with NEPA and its implementing regulations.

1.2 PROJECT BACKGROUND

The DC2RVA Project is one part of a larger series of rail improvement projects throughout the state, region, and eastern portion of the U.S. intended to improve passenger rail service and make rail a competitive choice for travelers within intercity corridors of 100 to 600 miles. Studies of the SEHSR corridor and its extensions, collectively referred to as the SEHSR program, have been ongoing since the early 1990s and have called for developing a range of improved intercity passenger rail speeds, from 79 mph to 110 mph on shared track (freight and passenger service), and possibly up to 150 mph on dedicated track (passenger service only).

- In 1991, the Intermodal Surface Transportation Efficiency Act (ISTEA) became law, under which Section 1036 authorized a program of high speed rail corridors in the United States.
- In 1992, the U.S. Department of Transportation (DOT) designated the SEHSR corridor from Washington, D.C. to Charlotte, NC as one of the original national high speed rail corridors. In 1996, U.S. DOT administratively designated an extension of the SEHSR corridor from Richmond to Hampton Roads.
- In 1998, the Transportation Equity Act for the 21st Century (TEA-21) became law, under which Section 7201 authorized the designation of additional high speed rail corridors and extensions of existing corridors. Later that same year, U.S. DOT extended the SEHSR corridor into South Carolina, Georgia, and Florida. In 2000, further extensions added connections in Georgia and Florida.

The SEHSR program has evolved since its inception in 1992 to reflect additional studies and planning, national and state transportation priorities and funding, and demand for intercity passenger rail services. This evolution of the SEHSR program and its relation to the DC2RVA Project is exhibited in the following key documents, each of which is described below:

- The 2002 SEHSR Tier I EIS and ROD[6]
- The 2012 SEHSR Tier I EIS and ROD for the Richmond to Hampton Roads (R2HR) project[7]
- The FRA Vision for Higher Speed Rail in America[8]
- The Virginia Interstate 95 (I-95) High Speed Rail Corridor & Service Development Plan[9]
- The Commonwealth's 2017 Statewide Rail Plan[10]

1.2.1 2002 SEHSR Tier I EIS

In 2002, FRA and the Federal Highway Administration (FHWA) completed a Tier I EIS and ROD for the original SEHSR corridor from Washington, D.C. to Charlotte, NC that established the overall Purpose and Need and defined the route for providing a competitive transportation

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6 The 2002 Tier I EIS and ROD documents are available on the Project website at: http://dc2rvarail.com/resources/documents/

7 Project documents related to the R2HR project are available at: https://www.fra.dot.gov/Page/P0481

8 The FRA Vision for Higher Speed Rail in America document is available at: https://www.fra.dot.gov/Elib/Document/1468

9 The Virginia I-95 High Speed Rail Corridor & Service Development Plan is available on the Project website at: http://dc2rvarail.com/resources/documents/

10 The Virginia Statewide Rail Plan (2017) is available at: http://www.drpt.virginia.gov/rail/reference-materials/virginia-state-rail-plan/

choice for travelers with the corridor. The 2002 Tier I EIS selected an incremental approach to develop the rail corridor with upgraded intercity passenger rail service between Washington, D.C. and Charlotte, NC, including using existing fossil fuel locomotive technology, upgrading existing rail corridors instead of developing new corridors, and building the corridor in incremental sections as funds became available. The incremental approach selected in Tier I sought to minimize cost and potential impacts to the environment by utilizing existing railroad tracks and rail rights-of-way as much as possible. Refer to Draft EIS Section 1.6 for full discussion of the 2002 Tier I EIS and its effect on the DC2RVA Project segment of the 500-mile corridor.

The 2002 Tier I EIS assumed a maximum speed of 110 mph with an average speed of approximately 70 mph along the full length of the SEHSR corridor between Washington, D.C. and Charlotte, NC. The 2002 Tier I EIS concluded that additional track would be required along sections of the CSX Transportation (CSXT) rail corridor between Alexandria and Richmond to accommodate the freight and passenger growth needs of all rail users and institute higher speed passenger service; however, the Tier I EIS did not specify the extent of additional track required or the possible higher speed that could be accommodated between Alexandria and Richmond.

The 2002 Tier I EIS proposed up to eight new roundtrips per day along portions of the corridor, and that these trains would serve all stations where Amtrak already provided service (but not every train would stop at all stations). Four of these new daily round trips were proposed to be interstate service between Washington, D.C. and Charlotte, NC (and are included in the DC2RVA Project service plan, as summarized in Section 1.3.2), with four additional round trips per day between Raleigh and Charlotte in North Carolina only.

1.2.2 2012 SEHSR Richmond to Hampton Roads Tier I EIS and ROD

Subsequent to the 2002 Tier I EIS, the SEHSR corridor was extended south and east to Hampton Roads (to destinations in Norfolk and Newport News). In 2012, FRA and DRPT completed a Tier I EIS and ROD for the Richmond to Hampton Roads project, which defined the route and proposed up to nine daily round trips, consisting of existing and new frequencies, to and from Hampton Roads. The service plan for the DC2RVA Project, which is summarized in Section 1.3.2, includes five new daily round trips between Washington, D.C. and Virginia, of which four extend to Hampton Roads to complete the service plan defined in the R2HR project.

1.2.3 FRA Vision for Higher Speed Rail in America

In 2009, FRA released its strategic plan for higher speed rail in America. FRA's plan envisioned a combination of express and regional high-speed rail corridors developing from upgraded, reliable intercity passenger rail systems in key travel corridors. The 2009 Plan called for a long-term strategy to build an efficient higher-speed passenger rail network of 100- to 600-mile intercity corridors, as one element of a modernized transportation system. The American Recovery and Reinvestment Act (ARRA) and a high-speed rail grant program were applied to strategic investments in intercity rail infrastructure, equipment, and performance, including within the expanded SEHSR corridor. FRA's near-term investment strategy was to:

- Upgrade reliability and service on conventional intercity rail services (operating speeds up to 79 to 90 mph on shared track), with the intent of providing travel options and developing the passenger rail market.
- Develop emerging and regional higher-speed corridor services (operating speeds up to 90 to 110 mph on shared track and 110 to 150 mph on dedicated track) in corridors of 100 to

500 miles, with the intent of developing the passenger rail market and providing some relief to other travel modes.

- Advance new express high-speed corridor services (operating speeds above 150 mph on primarily dedicated track) in select dedicated corridors of 200 to 600 miles), intended to relieve air and highway capacity constraints.

The DC2RVA Project was designed to fit the near-term strategy of upgrading reliability and service of conventional intercity rail services at speeds up to 90 mph in a corridor shared with commuter and freight services. The DC2RVA Project also provides a critical link between Amtrak's heavily traveled Northeast Corridor (NEC) and the developing SEHSR corridor.

1.2.4 Virginia I-95 High Speed Rail Corridor & Service Development Plan

DRPT's September 2009 Corridor & Service Development Plan (Plan) details the Commonwealth of Virginia's vision for the Virginia I-95 High Speed Rail Corridor and lays out a detailed series of projects that would create a 90-mph corridor between Petersburg, Richmond, and Washington, D.C. (i.e., the DC2RVA corridor is contained within the limits of this plan). The proposed projects described in the Plan are designed to improve passenger rail service and "…ensure the preservation of existing freight capacity, and to protect future capacity to allow the continued growth of freight traffic and operations in the corridor." The Plan is based on co-mingled freight, commuter, and intercity passenger operations, and envisions a program of infrastructure improvements to reliably accommodate the mix and volume of intercity passenger, commuter, and freight services projected through 2030. This Plan envisions incremental improvements to the corridor yielding improvements to reliability, on-time performance, and reductions in scheduled running times. New intercity service starts to Hampton Roads and Raleigh, NC would be implemented after completion of the off-corridor improvements. The Plan notes that CSXT, the owner and operator of the corridor, has concurred with the Commonwealth's approach to a 90 mph corridor with commingled freight, commuter, and intercity passenger rail operations. The 2009 Corridor & Service Development Plan provides an update and compilation of two previous reports submitted to FRA by DRPT: "Potential Improvements to the Washington, D.C.–Richmond Railroad Corridor," dated May 1999[11], and "Technical Monograph: Transportation Planning for the Richmond-Charlotte Railroad Corridor," dated January 2004[12].

1.2.5 2017 Virginia Statewide Rail Plan and Related Projects

Virginia's 2017 Statewide Rail Plan recognizes the rail network as an asset for the Commonwealth. The state rail network provides an efficient means of moving passengers and freight both within and through the state. The Commonwealth recognizes the privately-owned rail network as part of a multimodal system with public benefits and growing economic impacts. By diverting passenger and freight traffic from road to rail, Virginia's rail network relieves congestion, saves lives, improves air quality, helps grow the economy, and complements the Virginia highway network while reducing capital and maintenance expenditures. In addition, railroads provide a direct revenue benefit by contributing to the local tax base, creating jobs and supporting tourism. The Commonwealth also recognizes that the state rail network is a critical

[11] Copies of the 1999 report (Volumes I and II) are available at: https://www.fra.dot.gov/Elib/Document/17466 and https://www.fra.dot.gov/Elib/Document/2757.

[12] Copies of the 2004 report (Volumes I and II) are available at: http://www.fra.dot.gov/Elib/Document/1308 and https://www.fra.dot.gov/Elib/Document/2755.

link in a larger rail system within the eastern U.S.; it connects the state's ports, businesses, and communities to other major population centers, customers, and manufacturing regions throughout the nation and the world.

Virginia's 2017 Statewide Rail Plan supports FRA's initiative to improve passenger rail in the Southeast. As such, the Commonwealth plans to continue to engage in the following initiatives to advance passenger rail projects in this region and to supplement the DC2RVA Project:

- Virginia-North Carolina High Speed Rail Compact
- SEHSR Richmond to Raleigh (R2R) Final Design and Implementation
- SEHSR Richmond to Hampton Roads (R2HR) Tier II Study
- Atlantic Gateway Program
- Long Bridge Capacity Expansion

Virginia-North Carolina High Speed Rail Compact. The Virginia-North Carolina High Speed Rail Compact (Compact) was authorized by Congress[13] and established through legislation enacted by the Virginia and North Carolina General Assemblies in May 2010. The purpose of the Compact is to examine and discuss strategies to advance multi-state high-speed rail initiatives. Through the Atlantic Gateway Program, Virginia has also planned for the acquisition of CSXT's abandoned S-line between the Petersburg area and Norlina, NC, which is slated to be used for dedicated, higher speed (110 mph) intercity passenger rail service.

SEHSR Richmond to Raleigh (SEHSR R2R Project) Final Design and Implementation. In 2015, FRA and NCDOT completed a Tier II EIS, and in 2017 FRA signed a ROD for the SEHSR R2R project.[14] The study covered the 162-mile segment of the SEHSR corridor between Main Street Station in Richmond, VA and Raleigh, NC and called for reactivation of 76 miles of CSXT's abandoned S-line running southwest from Petersburg, VA to Norlina, NC. The SEHSR R2R project proposed operating four daily Interstate Corridor round trips between New York and Raleigh via Richmond and the DC2RVA corridor.

As part of the Atlantic Gateway suite of projects, the Commonwealth of Virginia and CSXT intend to enter into an agreement to 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. A similar agreement between the State of North Carolina and CSXT will be required for that portion of the S-Line in North Carolina. For the purposes of NEPA, the DC2RVA Project overlaps and supersedes the R2R SEHSR project for the segment between Main Street Station and Centralia, VA; all track and roadway improvements and the effects of additional train frequencies between Main Street Station and Centralia are evaluated as part of DC2RVA, which is detailed in Chapter 4 of this Final EIS.

SEHSR Richmond to Hampton Roads Tier II Study. DRPT is in the process of identifying funding sources to initiate a Tier II environmental study within the next six years for the Richmond-Hampton Roads segment of the SEHSR corridor. As described in Section 1.2.2 above, in 2012 FRA and DRPT completed a Tier I EIS and FRA signed a ROD for the R2HR project for the extension of the SEHSR corridor from Richmond south and east to Hampton Roads; the R2HR

[13] 49 U.S.C. § 24101, Interstate Compacts

[14] Project documents related to the R2R project are available at: https://www.fra.dot.gov/Page/P0482

project will expand upon existing passenger rail service to Hampton Roads at a maximum authorized speed of 79 mph and to Norfolk at a maximum authorized speed of 90 mph.

Atlantic Gateway Program. Virginia is also continuing to advance the Atlantic Gateway Program. In 2016, U.S. DOT selected Virginia to receive an award of $165 million from the FASTLANE grant program to expand rail and highway capacity in Northern Virginia as part of the Atlantic Gateway Program. The Atlantic Gateway suite of projects includes 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 I-95 corridor. The Atlantic Gateway Program contains five distinct rail capacity and engineering projects:

- Construct 6 miles of fourth mainline track from the bank of the Potomac River in Arlington to the AF interlocking in Alexandria, where passenger and commuter trains bound for Manassas diverge from the DC2RVA corridor.[15]
- Construct 8 miles of third mainline track from the Franconia-Springfield Virginia Railway Express (VRE) station to a location just north of the Occoquan River.
- Construct two interlockings south of Fredericksburg to improve operational flexibility and network fluidity just south of the VRE commuter territory.[16]
- Long Bridge development funding 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.
- S-Line transfer mechanism to allow for the transfer from CSXT to public ownership of an abandoned portion of the S-Line that runs from Petersburg, VA to Norlina, NC.

Long Bridge Capacity Expansion. The Long Bridge is a double-track railroad bridge built in 1904 and owned by CSXT, which crosses the Potomac River between Washington, D.C. and Arlington, VA. The bridge is used by all Amtrak intercity passenger trains, VRE commuter trains, and CSXT freight trains entering or passing through the Washington, D.C. area from Virginia. Intercity passenger and commuter trains now comprise more than two-thirds of the train traffic crossing Long Bridge. The increasing train traffic on the two-track bridge has created the most significant rail network bottleneck for Virginia.

The Washington, D.C. District Department of Transportation (DDOT) is studying the expansion of capacity on the Long Bridge in coordination with DRPT, VRE, CSXT, and FRA, which is a separate project from DC2RVA. In June 2018, DDOT and FRA released an Alternatives Report[17] identifying the two Long Bridge project build alternatives, each of which consists of a total of four tracks across the Potomac River composed of a new two-track bridge immediately upstream (west) of the existing bridge, and either a rehabilitated or new two-track bridge where the existing bridge stands. A Final EIS and ROD for the Long Bridge Capacity Expansion Study are anticipated in 2020.

[15] Note that these 6 miles of track are included as a component of the Preferred Alternative for the DC2RVA Project in Areas 1 and 2; refer to Chapter 4 of this Final EIS for details.

[16] Note that these two interlockings are components of the Preferred Alternative for the DC2RVA Project in Area 4; refer to Chapter 4 of this Final EIS for details.

[17] Study documents for the Long Bridge project are available at: http://longbridgeproject.com/study-documents/

1.3 PROJECT OVERVIEW

The purpose of this section is to provide the reader a concise synopsis of the basis of the DC2RVA Project's Purpose and Need and summary of the Project service plan, alternatives development process, and Draft EIS documentation.

1.3.1 Summary of Project Purpose & Need

This section summarizes the Purpose and Need of the DC2RVA Project—both of which are based upon the Purpose and Need of the 2002 Tier I EIS—and provides additional clarification on the unique needs of the DC2RVA corridor, as well as developments since the 2002 Tier I EIS. Refer to Draft EIS Section 1.4 and 1.5 for full details.

The DC2RVA Project will increase railroad capacity between Washington, D.C. and Richmond to deliver higher speed passenger rail service, while also supporting the planned expansion of VRE commuter rail service and accommodating the forecasted growth of freight rail service by developing an efficient and reliable multimodal rail corridor. This DC2RVA Tier II EIS carries forward the Purpose and Need of the 2002 Tier I EIS within the specific Washington, D.C. to Richmond segment of the larger corridor:

- The 2002 Tier I EIS established the overall Purpose and Need for the 500-mile SEHSR corridor between Washington, D.C. and Charlotte, NC: to provide a competitive transportation choice to travelers within the Washington, D.C. to Richmond, Raleigh, and Charlotte travel corridor.
- The 2002 Tier I EIS established the needs for the overall SEHSR program, including this Project. The following needs for the SEHSR program were identified in the 2002 Tier I EIS and remain current for the SEHSR corridor, including the 123-mile DC2RVA Project corridor: population growth; freight growth; congestion in the I-95 travel corridor; air travel congestion; rail capacity in the corridor; reliable and convenient movement of people and goods; air quality; safety; and energy efficiency.

However, the Purpose and Need of the Tier I and Tier II documents, while similar, address different actions: the 2002 Tier I Purpose and Need addressed the larger corridor and associated program-level decisions whereas the DC2RVA Tier II addresses the infrastructure improvements necessary to implement the Tier I decisions within the specific Washington, D.C. to Richmond rail corridor. Accordingly, the Tier II Purpose and Need builds upon the Tier I Purpose and Need by recognizing and incorporating several key items that are unique to the DC2RVA corridor:

- Existing rail infrastructure and right-of-way is privately owned by CSXT and serves CSXT's I-95 and National Gateway[18] freight rail corridors. CSXT's I-95 Corridor spans the entire Eastern U.S., linking cities, ports, and manufacturing regions. CSXT's National Gateway Corridor diverges from the I-95 Corridor in Washington, D.C. to link the Port of Virginia and other mid-Atlantic ports with cities and markets in the U.S. Midwest.
- Amtrak's intercity passenger rail service and VRE's commuter service operate on CSXT property through a series of negotiated agreements. The majority of Virginia's Amtrak intercity passenger services rely on CSXT's rail infrastructure in the DC2RVA corridor.

[18] Information on CSXT's National Freight Gateway is available at: https://www.csx.com/index.cfm/about-us/projects-and-partnerships/national-gateway/

- Several major studies of rail capacity improvements in the corridor have been conducted by FRA, DRPT, VRE, Amtrak, and CSXT all of which identified the need for additional track capacity to provide frequent and reliable passenger rail service.
- DRPT's 2009 Virginia I-95 High Speed Rail Corridor & Service Development Plan, with CSXT concurrence, establishes a service goal of 90-mph maximum achievable speed for intercity passenger service, plans for co-mingled freight, commuter and passenger service on the corridor, and proposes intercity and high speed rail improvements that would preserve existing freight capacity, and protect future capacity to allow the continued growth of freight traffic and operations in the corridor.
- The Passenger Rail Investment and Improvement Act of 2008 (PRIIA), which was enacted subsequent to the 2002 Tier I EIS, required the development of metrics for on-time performance of intercity passenger rail service. In response, FRA, working with Amtrak, the Surface Transportation Board, host railroads, and other stakeholders, developed on-time performance goals for most intercity passenger service of 90 percent or greater, with an 85 percent on-time performance goal for long-distance passenger service.[19] DRPT has applied these FRA on-time performance goals to the DC2RVA Project, in keeping with the Project's Purpose and Need to improve the reliability of passenger rail operation, and has applied a 90 percent on-time performance metric as the DC2RVA goal for all intercity passenger trains operating in the DC2RVA corridor. DRPT applied a higher standard of 95 percent for commuter trains to reflect VRE's service performance goal.
- The DC2RVA Purpose and Need also requires the Project to accommodate freight rail service operations, in accordance with PRIIA and the 2009 Corridor & Service Plan, including accommodation and allowance for future growth of existing and projected intercity, commuter, and freight rail service. Accommodation of existing and projected freight, commuter and intercity passenger service is critical to meet the needs of the corridor's owners and operator and support the Commonwealth's goals for its overall multimodal transportation system.

While the DC2RVA Project accommodates the future growth of these types of trains, the infrastructure and service proposed for the DC2RVA Project are not expected to create freight or VRE volume. Additionally, neither FRA nor DRPT anticipate that the addition of the 9 new daily intercity passenger round trips (18 total trains per day) proposed by the Project will change either the types or quantities of freight shipped on the corridor, which respond to economic demands created by commercial activities and independent market forces, separate from this Project.

In addition, in its 2017 Statewide Rail Plan, the Commonwealth of Virginia recognizes the privately-owned rail network as part of a multimodal system with public benefits and growing economic impacts. Since the 2000s, state investments have leveraged private and federal funds to improve freight and passenger rail transportation and support the overall transportation system.

1.3.2 Summary of Project Service Plan

The Project includes a service plan to improve the reliability of the intercity passenger service while adding 9 new daily intercity passenger round trips (18 total trains per day). As described in Section 1.2.1 and Section 1.2.2 above, the Project service plan expands on eight new daily

[19] FRA published proposed "Metrics and Standards for Intercity Passenger Rail Service" in the Federal Register on May 12, 2010, which is available at: https://www.fra.dot.gov/eLib/Details/L02875

intercity passenger round trips recommended in the 2002 Tier I EIS and the 2012 R2HR Tier I EIS by adding a ninth train originating in Richmond at Main Street Station. This ninth train was added to the Project to provide an early morning departure north to Washington, D.C. and the NEC and a corresponding late evening return trip.

From Washington, D.C. to the north, DRPT intends for all of the new trains to continue on to Philadelphia, New York, and Boston, subject to available capacity and future operating schedules on the NEC. The service plan also includes a maximum authorized passenger train speed for the corridor of 90 mph, with improved trip reliability and improved on-time performance of the intercity passenger train service.

Section 4.2 of this Final EIS provides full details of the service plan for the Preferred Alternative for the Project.

1.3.3 Summary of Project Alternatives Development Process

For evaluation in the Draft EIS for the DC2RVA Project, DRPT identified six alternative areas in the corridor, each with unique existing conditions, constraints, and/or needs. The Draft EIS evaluated 23 Build Alternatives within those six alternative areas, as well as the No Build Alternative throughout the corridor. In the course of preparing the 2002 Tier I EIS and ROD, FRA and FHWA determined that the No Build Alternative did not meet Purpose and Need but the No Build was carried forward in the Tier II DC2RVA Project for purposes of comparison.

Alternatives were designed to increase rail capacity, improve frequency of service and performance, and accommodate higher passenger train speeds where practical, while minimizing potential impacts to natural and cultural resources and preserving the ability to meet the DC2RVA Project's Purpose and Need. DRPT considered a wide range of options during the alternatives development process, which included the following elements:

- Addition of main track along most of the corridor, and additional controlled sidings, crossovers, yard bypasses and leads, and other improvements at certain locations.
- Upgrades to existing track and signal systems to achieve higher operating speeds, including curve realignments, higher-speed crossovers between tracks, passing sidings, and at-grade crossing improvements.
- Station, platform, and parking improvements for intercity passenger rail stations and rail alignments, including accommodation of additional and/or extended VRE platforms and/or other improvements.
- Improvements to highway and rail crossing infrastructure, including safety improvements to at-grade roadway crossings.

Developing the location and configuration of the main line track was an iterative process. DRPT relied on previous studies and public scoping comments as the initial starting point; modifications were made to avoid or minimize potential adverse effects on environmental resources and existing infrastructure and to minimize the need for additional new infrastructure.

Most of the CSXT-owned corridor has sufficient existing right-of-way available to accommodate an additional main track. In Fredericksburg and Ashland, right-of-way limitations and potential impacts to the local communities led to consideration of additional alternatives outside the existing right-of-way (however, DRPT did not select these alternatives as part of the Preferred Alternative; refer to Chapter 4 of this Final EIS for details).

In Richmond, where there are multiple potential rail routes through the city, alternative development was driven by potential routing options through the Richmond area, which were based on combinations of service at four potential station locations: Staples Mill Road Station, Boulevard Station, Broad Street Station, and Main Street Station as well as capacity limitations on the CSXT A-Line currently used by all through freight and passenger trains.

The final screening evaluation to determine the Build Alternatives to be carried forward for evaluation in the Draft EIS focused on each rail alignment's ability to meet the Project's Purpose and Need by increasing the frequency and reliability of intercity passenger rail operations based upon added capacity, with the least potential environmental impact and consideration of cost to construct.

Refer to Chapter 2 and Appendix A of the Draft EIS for full details on all Build Alternatives that were evaluated in the Draft EIS, including the process that was used to evaluate and dismiss the less feasible alternatives.

1.3.4 Summary of Tier II Draft EIS

FRA approved the Tier II Draft EIS for the Project on August 30, 2017, and it was subsequently published for public review on September 8, 2017. The Draft EIS for the DC2RVA Project:

- Established the Purpose and Need for the Project.
- Considered all significant issues related to the Project identified during scoping.
- Disclosed the alternatives considered but dismissed from consideration.
- Disclosed all environmental impacts potentially associated with the Project's 23 Build Alternatives, either adverse or beneficial, and evaluated those build alternatives against the Purpose and Need and in comparison to the No Build Alternative.
- Identified DRPT's Recommended Preferred Alternative for the corridor based on the Purpose and Need for the Project and with consideration for potential environmental impacts.
- Established a public and agency review and comment period on the document, including public hearings.

The appendices of the Draft EIS presented detailed technical documentation and relevant coordination materials that supported the information and findings presented in the Draft EIS chapters. Chapter 8 of the Draft EIS detailed the distribution of the document, including agency distribution and public review locations.

1.3.5 Project Roles and Responsibilities

As sponsoring agencies for the Project, FRA and DRPT have maintained close coordination with the major stakeholders in the corridor, including rail operators Amtrak, VRE, and CSXT. FRA and DRPT have engaged federal and state agencies that have jurisdiction by law and/or special expertise to serve as Cooperating Agencies, including FHWA, Federal Transit Administration (FTA), U.S. Army Corps of Engineers (USACE), U.S. Coast Guard (USCG), U.S. Environmental Protection Agency (EPA), and the Virginia Department of Transportation (VDOT). FRA and DRPT have also coordinated Project development with DDOT, NCDOT, and affected Virginia localities along the corridor.

1.3.6 Tier II EIS Planning Dates

For purposes of this Project, FRA and DRPT established two important planning dates. The first planning date is 2025, which is FRA and DRPT's current best estimate of when construction of the DC2RVA infrastructure could be completed and the new DC2RVA service would be placed in operation. FRA and DRPT's estimate of the year 2025 as the "opening day" is dependent on many factors, not the least of which is finalizing the NEPA process. The date also assumes that federal funding in addition to other funding sources will be available at the level required to build all the proposed infrastructure improvements and acquire the necessary equipment and train-sets. DRPT based this date on an aggressive but potentially achievable schedule assumption that all necessary permits, approvals, agreements, and funding could be finalized by 2020, final design would take one year (2021), right-of-way acquisition (if needed) would take one year (2022), and construction would take three years (2023–2025). FRA and DRPT also used 2025 as the latest date when the physical impacts associated with DC2RVA Project construction would take place. Thus, all the physical impact analyses presented in the Draft EIS on man-made and natural resources are estimated for 2025 and compared to the No Build Alternative conditions projected for that same year. The physical impacts reported for the Preferred Alternative in this Final EIS are also estimated for 2025.

The second key planning date established by FRA and DRPT is the planning horizon date of 2045, 20 years after the projected implementation of the new rail service in 2025. Both PRIIA and FRA guidance require that DRPT demonstrate that the proposed Project is sufficient to deliver the proposed passenger rail benefits and an efficient and reliable multimodal rail corridor over a 20-year time horizon following the completion of the Project's construction. DRPT uses operational simulations analysis, as discussed in Section 3.2 of this Final EIS, to test the proposed alternatives to determine if the rail capacity is adequate for both the opening day (2025) levels of projected passenger, commuter and freight rail traffic and to determine if the infrastructure remains adequate over the 20-year planning horizon of 2045. DRPT also used the 2045 planning horizon date to estimate the longer-term effects of the proposed service such as ridership, energy use, and effects on air quality, as well as indirect and cumulative effects.