



DC^{TO} RICHMOND

SOUTHEAST HIGH SPEED RAIL

RECORD OF DECISION

September 5, 2019

Prepared by
U.S. Department of Transportation
Federal Railroad Administration
and
Virginia Department of Rail and
Public Transportation

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TABLE OF CONTENTS

1	INTRODUCTION.....	1
1.1	NEPA Process and Project Background	2
1.2	Summary of Project Purpose and Need.....	3
1.3	Summary of Agency Coordination and Public Involvement.....	4
1.3.1	Cooperating and Participating Agencies.....	4
1.3.2	Summary of Meetings and Notifications.....	5
1.3.3	Summary of Section 106 Coordination	6
1.3.4	Summary of Section 4(f) Coordination	7
2	ALTERNATIVE SELECTION	8
2.1	Summary of Alternative Development Process	8
2.2	Summary of Alternatives Considered in the Tier II EIS Documents.....	10
2.3	Selected Alternative	13
2.3.1	Service Plan.....	15
2.3.2	Infrastructure Improvements.....	16
2.3.3	Basis for Decision.....	20
2.3.4	Incremental Implementation.....	22
2.3.4.1	Preliminary Engineering.....	23
2.3.4.2	Construction Approach	24
2.3.4.3	Atlantic Gateway Program in the DC2RVA Corridor.....	27
2.4	Environmentally Preferable Alternative	28
3	ENVIRONMENTAL CONSIDERATIONS	29
3.1	Summary of Potential Environmental Effects.....	29
3.2	Avoidance and Minimization Measures	33
3.3	Environmental Determinations	33
3.3.1	Section 106 of the National Historic Preservation Act Determination.....	33

3.3.2 Section 4(f) of the U.S. DOT Act Determination..... 34

3.3.3 Air Quality General Conformity Determination..... 39

3.3.4 Consistency with the Coastal Zone Management Program 39

3.4 Environmental Findings 40

3.4.1 Section 7 of the Endangered Species Act Finding 40

3.4.2 Wetlands Finding..... 40

3.4.3 Floodplains Finding..... 40

3.4.4 Environmental Justice Finding 41

3.5 Future Permits and Regulatory Approvals..... 45

4 PROJECT COMMITMENTS AND MITIGATION 46

5 SUMMARY OF COMMENTS ON THE TIER II FINAL EIS 48

5.1 Agency and Organization Comments on the Tier II EIS..... 48

5.2 General Public Comments on the Tier II EIS 52

6 DECISION..... 53

LIST OF FIGURES

Figure 1. Selected Alternative..... 14

Figure 2. Illustrative General Subproject Schedule 24

LIST OF TABLES

Table 1. Summary of Alternatives Evaluated in the Tier II EIS Documents.....11-13

Table 2. Illustrative General Subproject Schedule..... 24

Table 3. Summary of Impacts29-31

Table 4. Section 4(f) Uses – Selected Alternative 35

Table 5. Anticipated Future Necessary Permits and Approvals 45

LIST OF ATTACHMENTS

- A Final Section 106 Memorandum of Agreement
- B Department of Interior Final Section 4(f) Concurrence
- C DC2RVA Project Commitments
- D Comments on the Tier II Final EIS

Record of Decision

This document records the Federal Railroad Administration's (FRA) decision on the Tier II Environmental Impact Statement (EIS) for the proposed 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 (Project). The EIS was completed in partnership with the Virginia Department of Rail and Public Transportation (DRPT), the State lead agency for the Project.

1 INTRODUCTION

FRA has prepared this Record of Decision (ROD) in accordance with the Council on Environmental Quality (CEQ) regulations implementing the National Environmental Policy Act (NEPA) (40 Code of Federal Regulations (CFR) §1505.2) and FRA's Procedures for Considering Environmental Impacts (64 Federal Register (FR) 28545 (May 26, 1999)). Specifically, this document provides a concise public record of decision that:

- a) Provides background on the NEPA process leading to this ROD, including a summary of public involvement and agency coordination during the Tier II Draft and Final EIS documents (Section 1.1 through Section 1.5)
- b) Summarizes the alternatives development process that led to the identification of alternatives considered in the Tier II Draft and Final EIS documents (Section 2.1 and Section 2.2)
- c) Identifies FRA's decision, i.e., FRA's Selected Alternative, the incremental approach to implementing the infrastructure and service improvements of the Selected Alternative, including completing design, obtaining permits and regulatory approvals, and implementing mitigation on an incremental basis, and discusses all factors that were considered in making this decision, including the alternative which is environmentally preferable (Section 2.3 and Section 2.4)
- d) Summarizes the potential environmental effects and related determinations and findings, including all practicable measures to avoid or minimize environmental harm and identification of future permits and regulatory needs to be addressed through the incremental approach (Section 3)
- e) Details mitigation measures and commitments to be implemented through the incremental approach (Section 4 and Attachment C)

- f) Summarizes comments received during the 30-day waiting period following the publication of the Tier II Final EIS and provides responses to those comments (Section 5 and Attachment D)
- g) Presents the FRA decision (Section 6)

This ROD identifies the Selected Alternative for the DC2RVA Project, which is the Preferred Alternative as presented in the Tier II Final EIS (as described in Section 2). This ROD also includes the final executed Memorandum of Agreement (MOA) describing the resolution of adverse effects to historic resources associated with the Project (Attachment A). The MOA was prepared in accordance with Section 106 of the National Historic Preservation Act (NHPA) of 1966 (54 U.S.C. § 300101, et seq.).

In addition, this ROD includes the final Section 4(f) determination, based on the Section 4(f) Evaluation in the Final EIS, prepared in accordance with Section 4(f) of the Department of Transportation Act of 1966 (Section 4(f)) (49 U.S.C. § 303).

1.1 NEPA Process and Project Background

FRA, in partnership with DRPT, has prepared this ROD for the proposed development of the Project as required by NEPA and based on the findings in the DC2RVA Tier II Final EIS.¹ The final EIS was published on May 31, 2019 and is available on FRA's website and notice of the EIS was published by Environmental Protection Agency (EPA) in the Federal Register (84 FR 252570 (May 31, 2019)).²

The EIS is the second level of a tiered environmental process. In October 2002, FRA and the Federal Highway Administration (FHWA), in coordination with DRPT and the North Carolina Department of Transportation, completed a first-level Tier I EIS and 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").³

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 would define the specific alignment and infrastructure improvements and service plan details for an independent section within the larger corridor. Accordingly, this Tier II DC2RVA Project is focused on the northernmost portion of the SEHSR corridor. Specifically, the Tier II DC2RVA Project focuses on the 123-mile portion of the corridor between Washington D.C. (starting on the south bank of the Potomac River) and Richmond, VA (ending at Centralia, VA), operating on existing CSX Transportation (CSXT) right-of-way and in which existing freight, conventional passenger, and commuter trains operate.

The 2002 Tier I EIS also 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 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,

¹ The Final EIS and its technical appendices are available on the Project website: <http://dc2rvarail.com/final-eis/>

² <https://www.federalregister.gov/documents/2019/05/31/2019-11381/environmental-impact-statements-notice-of-availability> and <https://cdxnodengn.epa.gov/cdx-enepa-II/public/action/eis/details?eisId=273681>

³ <https://www.fra.dot.gov/Page/P0427>

the 2002 Tier I EIS did not specify the extent of additional track required or the possible higher speed that could be accommodated specifically between Alexandria and Richmond.

In the 2002 Tier I EIS, FRA and FHWA also made the following programmatic-level environmental decisions that are the basis of this Project: the use of existing fossil fuel locomotive technology; the use of existing rail corridors (in preference to new alignments); and applying an incremental approach of building the corridor in sections as funds become available. The approach described in the 2002 Tier I EIS sought to minimize cost and potential impacts to the environment by utilizing existing railroad tracks and rail rights-of-way as much as possible, and recognized it was unlikely that funding to build the SEHSR program would become available all at once due to the size of the project. The incremental approach described in the 2002 Tier I EIS is being applied to the DC2RVA Project; the process for building the Project in sections as funds become available is described in Section 2.3.4.

With regard to train service, the 2002 Tier I EIS proposed up to eight new roundtrips per day along portions of the corridor, and proposed that these trains would serve all stations where Amtrak already provided service (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, with four additional round trips per day between Raleigh and Charlotte in North Carolina only. Subsequent to the 2002 Tier I EIS, at the request of the Commonwealth of Virginia, FRA extended the SEHSR corridor south and east to Hampton Roads, VA (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 (R2HR) project⁴ to cover the SEHSR extension, which defined the route and proposed up to nine daily round trips, consisting of existing and new frequencies to and from Hampton Roads. The Project incorporates the proposed train service from both the 2002 Tier I EIS and the 2012 R2HR project, as described in Section 2.3.1 of this ROD.

The DC2RVA Tier II Draft and Final EIS documents provide an analysis and presentation of the benefits and adverse impacts related to the infrastructure needs, operating conditions, and proposed service for the Project, as an independent component of the larger SEHSR Corridor.

1.2 Summary of Project Purpose and Need

The 2002 Tier I EIS established the overall purpose 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, VA, Raleigh and Charlotte, NC travel corridor. The 2002 Tier I EIS also established the needs for the overall SEHSR program, which remain current for the SEHSR corridor, including the 123-mile DC2RVA Project corridor:

- Population Growth
- Freight Growth
- Congestion in the I-95 Corridor
- Air Travel Congestion
- Rail Capacity in the Corridor
- Reliable and Convenient Movement of People and Goods
- Air Quality
- Safety
- Energy Efficiency

The DC2RVA Tier II EIS carries forward the Purpose and Need of the 2002 Tier I EIS within the specific Washington, D.C. to Richmond, VA portion of the larger corridor. However, the Tier I

⁴ Project documents related to the R2HR project are available at: <https://www.fra.dot.gov/Page/P0481>

and Tier II documents, while similar, address different actions. The 2002 Tier I Purpose and Need addressed the larger corridor to inform associated program-level decisions, whereas the DC2RVA Tier II addresses the specific infrastructure improvements necessary for the specific Washington, D.C. to Richmond rail corridor. Accordingly, the Tier II Purpose and Need builds upon the Tier I Purpose and Need, taking into account several conditions that are unique to the DC2RVA corridor:

- The Project would use an existing corridor that is owned and operated by a private corporation, CSXT.
- The DC2RVA Project would accommodate the planned growth of CSXT's freight service in order to sustain the intercity passenger rail service planned for the SEHSR corridor.
- Intercity passenger rail service would share capacity on the CSXT corridor with Virginia Railway Express (VRE) commuter service.
- Intercity passenger rail service and VRE commuter service operate on CSXT property through a series of negotiated agreements.
- CSXT has established a 90 mph maximum authorized speed criteria for intercity passenger trains in the DC2RVA Project.

The DC2RVA Project will increase the capacity of the railroad between Washington, D.C. and Richmond, VA 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. The DC2RVA corridor is a critical link between Amtrak's heavily traveled Northeast Corridor (NEC) and the developing SEHSR corridor extending south of Richmond.

1.3 Summary of Agency Coordination and Public Involvement

1.3.1 Cooperating and Participating Agencies

The following Cooperating Agencies assisted FRA and DRPT in the development of the Tier II Final EIS for the Project, including the identification of the Preferred Alternative: the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), the Virginia Department of Transportation (VDOT), the U.S. Army Corps of Engineers (USACE), the U.S. Coast Guard (USCG), and the U.S. Environmental Protection Agency (EPA). There are 35 Participating Agencies, which include 1 federal agency, 2 state agencies, regional commissions, localities and organizations along/adjacent to the corridor, and operators along the railroad (as listed in Final EIS Section 2.2).

Additionally, because the Project involved rail infrastructure owned by CSXT, utilized by multiple operators, and crossed by roadway infrastructure owned by multiple jurisdictions, DRPT formed a task force of the transportation providers in the corridor to ensure effective coordination throughout the Project. DRPT hosted task force meetings quarterly, or as needed at Project milestones, beginning in August 2014 through November 2018. Participants at the task force meetings typically included FRA, DRPT, VDOT, CSXT, Amtrak, VRE, Virginia's Office of the Attorney General (OAG), and the Washington, D.C. District Department of Transportation (DDOT).

1.3.2 Summary of Meetings and Notifications

FRA issued a Notice of Intent (NOI) to prepare a Tier II Draft EIS for the portion of the Tier I SEHSR Corridor between Washington, D.C. to Richmond, VA on October 23, 2014 (79 FR 63483). Based on the geographic extent of the Project, FRA and DRPT implemented an extensive public involvement process to keep the public informed of the latest Project information and to provide opportunities to ask questions and inform the development of the Project, which is documented in Chapter 6 of the Tier II Draft EIS and Chapter 2 of the Tier II Final EIS. DRPT created a Project website to provide a way for interested parties to stay informed about the Project.⁵

During development of the Draft EIS, FRA and DRPT held three sets of public meetings at various locations along the corridor: four Scoping meetings (November 5, 6, 12, and 13, 2014); three Alternatives Development meetings (June 1, 2, and 3, 2015); and three Alternatives Review meetings (December 8, 9, and 10, 2015). Each round of public meetings also included a companion online public meeting on the Project website. Interested parties were invited to provide comments about the Project during and after each meeting through various formats: submitting a hardcopy comment form at the meetings; mailing the hardcopy comment form to the DRPT main office; submitting a comment form via the Project website; submitting a comment via the online meeting; emailing the Project email address; or calling the toll-free Project hotline.

On September 8, 2017, EPA published in the *Federal Register* a Notice of Availability (NOA) that included the DC2RVA Tier II Draft EIS (82 FR 42551). The NOA provided information on the dates and locations for the public hearings, information on availability of the Tier II Draft EIS for review, whom to contact with questions, and how to provide comments via multiple methods, as described above. FRA and DRPT provided a 60-day comment period on the Draft EIS from September 8, 2017 through November 7, 2017 and invited all interested agencies and the public to comment on the Tier II Draft EIS and attend the five public hearings (October 10, 11, 17, 18, and 19, 2017). FRA and DRPT distributed the Tier II Draft EIS to 325 federal, regional, state, and local agencies, elected officials, and other interested parties for their review and comments. The document was also made available for public viewing at more than 60 public libraries and government centers along the corridor, as well as on the Project website. The complete distribution list is documented in Chapter 8 of the Tier II Draft EIS. The Tier II Draft EIS identified recommended Preferred Alternatives in four of the six alternative areas for the Project, as described in Section 2.2 of this ROD: Area 2 (Northern Virginia), Area 3 (Fredericksburg), Area 4 (Central Virginia) and Area 6 (Richmond), and deferred recommendation of Preferred Alternatives for Areas 1 (Arlington) and 5 (Ashland) to the Tier II Final EIS.

Additionally, in response to a high level of local concerns from the Ashland community relating to many of the Tier II Draft EIS build alternatives, FRA and DRPT implemented a community-based effort for the Town of Ashland/Hanover County area to provide additional opportunities for public involvement to supplement the existing corridor-wide DC2RVA activities. DRPT established a Community Advisory Committee (CAC) to look at all previous options, identify any potential new options to meet the Purpose and Need of the DC2RVA Project, and suggest mitigation strategies to address Project impacts in the Ashland/Hanover County area. The CAC consisted of 14 members from: the Town of Ashland; Hanover County; Randolph-Macon College, CSXT; and the Richmond Regional Transportation Planning Organization. The CAC met monthly from May through September 2017 for a total of five meetings, all of which were open to the

⁵ <https://DC2RVARail.com>

public. The CAC process helped inform the recommendation of a Preferred Alternative through the Town of Ashland/Hanover County area. The CAC process is summarized in Section 2.1.4 and Section 3.3 of the Tier II Final EIS, and fully detailed in Appendix G of the Tier II Final EIS.

On May 31, 2019, EPA published in the *Federal Register* an NOA that included the Tier II Final EIS (84 FR 105). The document was made available on the Project website, and was provided to 67 Federal, state, and local governments and organizations. The Tier II Final EIS carried forward the recommended Preferred Alternative from the Tier II Draft EIS and added recommended Preferred Alternatives for Areas 1 (Arlington) and 5 (Ashland) to form a contiguous Preferred Alternative for the 123-mile DC2RVA Project; refer to Section 2.2 of this ROD for details on the alternative areas. Comments on the Tier II Final EIS received through July 1, 2019 are addressed in Section 5 of this ROD.

1.3.3 Summary of Section 106 Coordination

Section 106 of the National Historic Preservation Act (NHPA) (Section 106) and the Section 106 implementing regulations (36 CFR Part 800) require Federal agencies to consider the effects of their undertakings on historic properties and to afford various parties an opportunity to participate in the process if the undertaking could result in an adverse effect on a property listed in or eligible for the National Register of Historic Places (NRHP). Refer to Section 3.3.1 of this ROD for details on the Section 106 process and its determinations.

FRA and DRPT coordinated with numerous property owners and officials with jurisdiction over resources protected under Section 106, with particular focus on resources where the Project would likely result in an adverse effect to cultural or historic properties. Coordination has involved extensive dialogues with the Virginia Department of Historic Resources (DHR), the Advisory Council on Historic Preservation (ACHP), DRPT, FRA, and over 30 consulting parties, including Native American Tribes and localities and historical groups, as listed below.

- **Native American Tribes.** Chickahominy Indian Tribe, Eastern Chickahominy Indian Tribe, Monacan Indian Tribe, Nansemond Indian Tribe, Pamunkey Indian Tribe, Rappahannock Indian Tribe, and Upper Mattaponi Indian Tribe
- **Localities and historical groups.** Alexandria Archaeology, American Battlefield Protection Program, Arlington County, Ashland Museum, Caroline County, Central Virginia Battlefields Trust, City of Alexandria, City of Fredericksburg, City of Richmond, Civil War (now Battlefield) Preservation Trust, Hanover County, Historic Fredericksburg Foundation, Inc., Historic Richmond Foundation, Marine Corps Base Quantico, National Park Service—Captain John Smith Chesapeake National Heritage Trail, National Park Service—Fredericksburg, National Park Service—GW Memorial Parkway, National Park Service—National Capital Region, National Park Service—Northeast Regional Office, National Park Service—Potomac Heritage National Scenic Trail, National Park Service—Richmond, National Park Service—Washington-Rochambeau National Heritage Trail, National Trust for Historic Preservation, Preservation Virginia, Prince William County, and Town of Ashland

In total, DRPT and FRA held over 50 in-person meetings and conference calls and disseminated over 100 other forms of correspondence (emails and letters) to the consulting parties and general public to provide updates on the Project and to solicit feedback. Meetings were held at the project

initiation in 2014, determination of the Area of Potential Effects⁶ (APE) in 2015, completion of field results and publication of the Draft EIS in 2017, determining effects in 2018, and for the purpose of developing a draft Section 106 Memorandum of Agreement (MOA) in 2019, among others. FRA and DRPT assured that Native American tribes were included in all dialogues through telephone calls and emails. The goal of the consultation was to keep agencies, tribes, consulting parties, and the public updated on the Project throughout the duration of the studies. Comments received during all phases of communication were included in Chapter 6 and Appendix U of the Tier II Draft EIS and Appendix E of the Tier II Final EIS. FRA and DRPT considered the input from all groups during development of the MOA, which has been fully executed and is included in this document as Attachment A.

1.3.4 Summary of Section 4(f) Coordination

Section 4(f) of the Department of Transportation Act of 1966 (49 U.S.C. § 303) protects publicly owned parks, recreation areas, and wildlife/waterfowl refuges, as well as historic sites listed in or eligible for listing in the NRHP and archaeological sites that are listed in or eligible for inclusion in the NRHP. FRA may not approve a project that uses such resources unless it determines that there is no feasible and prudent avoidance alternative and the project incorporates all possible planning to minimize harm. Chapter 5 of the Tier II Draft EIS included a Draft Section 4(f) Evaluation of the potential impacts of the Build Alternatives. Chapter 6 of the Tier II Final EIS included a Final Section 4(f) evaluation of the Preferred Alternative, including whether the Project uses Section 4(f) resources, assessed whether there are feasible and prudent alternatives to such use, and, where appropriate, measures to minimize harm. Refer to Section 3.3.2 of this ROD for additional details on the Section 4(f) process and its determinations.

The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) of 2005 (23 U.S.C. § 101), amended existing Section 4(f) legislation to simplify the processing and approval of projects that have only *de minimis*⁷ impacts on Section 4(f) resources.

- For historic resources, a *de minimis* impact means that the Federal transportation agency has determined that, in accordance with 36 CFR 800, no historic property is affected by the project or the project will have no adverse effect on the property in question. If after consideration of any impact avoidance, minimization, and mitigation or enhancement measures, a transportation project results in a *de minimis* impact on a Section 4(f) property, an analysis of avoidance alternatives is not required and the Section 4(f) evaluation process is complete. For historic and cultural resources, the Federal agency must inform the State Historic Preservation Officer (SHPO)⁸ or Tribal Historic Preservation Officer (THPO), and ACHP (if participating in the consultation process) of the *de minimis* finding, based on their concurrence with the determination of effects.
- For other 4(f) resources, such as parks and wildlife refuges, the official with jurisdiction over the resource must concur with the *de minimis* determination.

⁶ The Area of Potential Effects is the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist.

⁷ A *de minimis* impact is one that, after taking into account avoidance, minimization, mitigation, and enhancement measures, results in no adverse effect to the activities, features, or attributes qualifying a resource for protection under Section 4(f). Criteria for *de minimis* determinations are documented in Section 6.2 of the Tier II Final EIS.

⁸ DHR is the SHPO for the Commonwealth of Virginia.

With regard to resources protected under Section 106, consistent with Section 106 coordination, DRPT identified 120 historic properties within the APE along the DC2RVA corridor, which are also subject to Section 4(f) evaluation. In accordance with Section 4(f), FRA and DRPT coordinated with officials with jurisdiction over these resources. As described in Section 1.3.3 above, most of the coordination was done as part of the Section 106 process, but, when relevant, Section 4(f) was also discussed. In addition, by letter dated December 4, 2018, DRPT notified DHR and ACHP of FRA's 4(f) determinations, including all *de minimis* determinations. By letter dated January 4, 2019, DHR acknowledged FRA's 4(f) determinations. ACHP did not issue a reply. This coordination is documented in Appendix U of the Tier II Draft EIS and Chapter 6 and Appendix E of the Tier II Final EIS.

In addition to cultural and historic resources protected under Section 106, Section 4(f) covers public parklands, recreation areas, and wildlife or waterfowl refuges. In accordance with Section 4(f), FRA and DRPT coordinated with the officials with jurisdiction over those resources. In 2017, DRPT sent letters to the officials with jurisdiction over the Section 4(f) resources that could potentially be used by any of the Build Alternatives for the Project (a total of 14 resources at that time). After identification of the Preferred Alternative in the Tier II Final EIS, in late 2018 after consultation with FRA, DRPT sent letters to the officials with jurisdiction over the Section 4(f) resources that were located within the permanent and/or temporary Limits of Disturbance (LOD)⁹ of the Project, which accounted for revised LOD and park boundaries since the publication of the Tier II Draft EIS. Specifically, there is 1 wildlife management area and 12 parkland resources, including 2 trails, within the LOD. DRPT communicated FRA's Section 4(f) determinations with regard to those resources and requested concurrence from the officials. DRPT received responses from all property owners with concurrence regarding the permanent incorporation and temporary occupancy of their resources, including *de minimis* determinations. This coordination is documented in Appendix U of the Tier II Draft EIS, and Chapter 6 and Appendix E of the Tier II Final EIS.

2 ALTERNATIVE SELECTION

This section presents the following information:

- Summary of alternative development process – Section 2.1
- Summary of alternatives considered in the Tier II EIS documents – Section 2.2
- Description of the Selected Alternative – Section 2.3, which includes description of: the service plan (Section 2.3.1), the physical infrastructure improvements (Section 2.3.2), the basis for decisions (Section 2.3.3), the incremental implementation approach including the Atlantic Gateway project (Section 2.3.4), and the environmentally preferable alternative (Section 2.3.5)

2.1 Summary of Alternative Development Process

FRA and DRPT developed Project alternatives using an iterative process. FRA and DRPT relied on previous studies, including the 2002 Tier I EIS, and public scoping comments as the starting point for developing potential rail alignments. In general, the DC2RVA Project will increase rail capacity by installing one additional main track along the length of the DC2RVA corridor. The

⁹ Permanent LOD include all areas where Project infrastructure will physically replace existing conditions. Temporary LOD are areas required for construction of the Preferred Alternative that will temporarily modify the existing conditions but will be restored after completion of construction.

recommended location of the new track on the east or west of existing trackage varied by location within the corridor based on physical constraints and minimization of impacts. For each alternative, FRA and DRPT also evaluated the potential to realign the tracks to improve speeds. The proposed infrastructure sought to avoid or minimize potential adverse effects on environmental resources and existing infrastructure, and to minimize the need for additional new infrastructure, while preserving the ability of that alignment to meet the Project's Purpose and Need.

The majority of the DC2RVA corridor follows the CSXT Richmond, Fredericksburg, and Potomac (RF&P) Subdivision, which extends from Washington, D.C. to Acca Yard in Richmond, VA. In Richmond, the DC2RVA corridor extends from the southern terminus of the RF&P Subdivision following both the CSXT A-Line to the west of downtown Richmond to Centralia, VA and the S-Line to the east through downtown Richmond to Centralia, VA. Most of the CSXT-owned corridor has sufficient existing right-of-way available to accommodate an additional main track with the exception of historically developed areas in Fredericksburg, Ashland and Richmond. 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. In Richmond, where there are multiple potential rail routes through the city, alternative development was driven by potential routing options through the surrounding area, which were based on combinations of service at four potential station locations: existing Staples Mill Road and Main Street Stations, and new stations at Boulevard Station and Broad Street Station.

FRA and DRPT focused the screening evaluation to determine the Build Alternatives to be carried forward for evaluation in the Tier II Draft EIS on each rail alignment's ability to meet the Project's Purpose and Need. As part of the Project's alternative development process, FRA and DRPT defined the DC2RVA Project in six alternative areas from north to south along the corridor, each with unique existing conditions, constraints, and/or operational needs, and evaluated specific alternatives within each area.

Alternative Area 1: Arlington. A 1-mile section in Arlington, VA (Arlington City and County) from the south side of the Potomac River to Crystal City that includes the approach to the existing two-track Long Bridge,¹⁰ which crosses the Potomac River between Washington, D.C. and Arlington, VA. There are no intercity passenger rail stations located in Area 1.

Alternative Area 2: Northern Virginia. A 47-mile section from Crystal City in Arlington to the Dahlgren Spur just north of the Rappahannock River at Fredericksburg extending through Arlington, Prince William and Stafford Counties. Area 2 is the most congested area in the Project corridor with intercity passenger trains, VRE commuter trains, and CSXT freight trains operating on the existing tracks. There are three intercity passenger rail stations in Area 2: Alexandria, Woodbridge, and Quantico. Amtrak and VRE commuter trains serve all three intercity passenger rail stations in Area 2. Additionally, VRE serves six stations in Area 2 that are not served by Amtrak, including Crystal City, Franconia/Springfield, Lorton, Rippon, Brooke and Leeland.

Alternative Area 3: Fredericksburg. A 14-mile section through Fredericksburg from the Dahlgren Spur to Crossroads, extending through Stafford County, the City of Fredericksburg, and Spotsylvania County. The Fredericksburg Station in the City is served by both Amtrak and VRE.

¹⁰ Reconstruction of the Long Bridge is the subject of a separate environmental study being led by DDOT: <https://ddot.dc.gov/page/long-bridge-project>

Additionally, VRE serves Spotsylvania Station at Crossroads in the southern end of Area 3, which is also the southern terminus of VRE commuter service in the DC2RVA corridor.

Alternative Area 4: Central Virginia. A 29-mile section from Crossroads to Doswell, through a largely rural area in Spotsylvania and Hanover Counties. There are no intercity passenger rail stations located in Area 4.

Alternative Area 5: Ashland. A 10-mile section including the Town of Ashland and rural portions of Hanover and Henrico Counties, extending from Doswell to I-295 north of Richmond. There is one intercity passenger rail station in Area 5 at Ashland. Near the mid-point of Area 5, the existing two-track main line runs at-grade for approximately two miles on narrow right-of-way through the center of Railroad Avenue/Center Street in the Town of Ashland.

Alternative Area 6: Richmond. A 23-mile section from I-295 to Centralia, including Henrico County, the City of Richmond, and Chesterfield County. There are two intercity passenger rail stations in Area 6 at Staples Mill Road Station (in Henrico County) and Main Street Station (in downtown Richmond). Area 6 includes the CSXT RF&P Subdivision from I-295 to Acca Yard in Henrico County, from which two rail routes extend south through Richmond to reconnect at Centralia in Chesterfield County (the southern terminus of the Project):

- The **A-Line** is the western rail line around Richmond, and is currently used by the majority of north-south passenger and freight trains. It is CSXT's principal freight route and is approximately 14.3 miles from the south end of Acca Yard to Centralia.
- The **S-Line** runs through the downtown center of Richmond, and is currently used primarily by local freight to serve industry and intercity passenger rail service to Newport News. It is approximately 15.6 miles from the south end of Acca Yard to Centralia.

2.2 Summary of Alternatives Considered in the Tier II EIS Documents

From a wide range of options considered during the Project's alternatives development process, FRA and DRPT documented and advanced 23 Build Alternatives, which vary within each of the alternative areas, for evaluation in the Tier II Draft EIS. Each of the Build Alternatives included build-alternative-specific improvements to features such as stations and at-grade roadway crossings.

In the Tier II Draft EIS, FRA and DRPT identified recommended Preferred Alternatives in four of the six alternative areas (Areas 2, 3, 4, and 6) and deferred recommendation of Preferred Alternatives for Areas 1 (Arlington) and 5 (Ashland) to the Tier II Final EIS. The recommended Preferred Alternatives for alternative Areas 2, 3, 4, and 6 are identified as the Preferred Alternatives in Table 1 below.

Based on comments received on the Tier II Draft EIS and additional information developed through continued analysis, FRA and DRPT further evaluated the recommended Preferred Alternatives in Areas 2, 3, 4, and 6 from the Tier II Draft EIS as well as the Build Alternatives considered for deferred Areas 1 and 5 in the Tier II Final EIS. Through the additional evaluation performed in the Tier II Final EIS, FRA and DRPT identified the Preferred Alternative, which connects a Build Alternative from each of the 6 alternative areas to form a contiguous 123-mile route through the Project corridor.

Table 1 summarizes the 23 Build Alternatives evaluated in the Tier II Draft EIS and identifies the Preferred Alternative that was advanced for further analysis in the Tier II Final EIS. The Preferred Alternative for each Area is noted in Table 1 and described further in the next section.

Table 1: Summary of Build Alternatives Evaluated in the Tier II EIS Documents

Alternative		Description
Area 1: Arlington: <i>Three Build Alternatives were evaluated in Area 1, the major difference among these was which side of the existing track the new track would be added (as indicated in the Build Alternative names). There are no intercity passenger rail stations in this area.</i>		
1A	Add Two Tracks on the East	Within the Long Bridge approach, two tracks would be added to the east side of the existing tracks.
1B	Add Two Tracks on the West	IDENTIFIED AS THE PREFERRED ALTERNATIVE. This alternative aligns with both alternatives identified in the Alternatives Development Report for the separate Long Bridge Study.
1C	Add One Track East and One Track West	Within the Long Bridge approach, one track would be added to the east side of the existing tracks and one track would be added to the west side of the existing tracks.
Area 2: Northern Virginia: <i>The sole Build Alternative evaluated in Area 2 adds one main track within the existing railroad right-of-way. There are three intercity passenger rail stations in this area: Alexandria, Woodbridge, and Quantico.</i>		
2A	Add One Track / Improve Existing Track	IDENTIFIED AS THE PREFERRED ALTERNATIVE. This alternative adds a third or fourth main track through the area, mostly within existing right-of-way.
Area 3: Fredericksburg: <i>Three Build Alternatives were evaluated in Area 3, including both two- and three-track options on the existing alignment through the city and a two-track bypass alignment around the city. The Fredericksburg Station is within this area.</i>		
3A	Maintain Two Tracks Through City	Within Fredericksburg, there would be no construction of new track / no additional rail capacity, and train operations would continue through the city similar to existing conditions, with station improvements. North and south of the city, one additional track would be constructed within the existing railroad right-of-way.
3B	Add One Track Through City East of Existing	IDENTIFIED AS THE PREFERRED ALTERNATIVE. This alternative adds a third main track through the city, and adds a third or fourth main track north and south of the city, mostly within existing right-of-way.
3C	Add Two-Track Bypass East of City	A new two-track bypass east of Fredericksburg would be constructed to serve freight and passenger trains that do not stop in the city, which would require additional right-of-way. The existing rail corridor would be maintained in the city and the station would be improved. North and south of the city, there would be construction of one additional track within the existing railroad right-of-way.
Area 4: Central Virginia: <i>The sole Build Alternative evaluated in Area 4 adds one main track within the existing railroad right-of-way. There are no intercity passenger rail stations in this area.</i>		
4A	Add One Track/Improve Existing Track	IDENTIFIED AS THE PREFERRED ALTERNATIVE. This alternative adds a third main track, mostly within existing right-of-way.
Area 5: Ashland: <i>Seven Build Alternatives were evaluated in Area 5, varying from track alignment options through town to a new bypass. The alternatives included two different location options for the Ashland Station: a Downtown Station (which would maintain the existing station location with improvements) and an Ashcake Station location (which would close the existing station location and relocate service to a new station south of Ashcake Road). North and south of the town, all Build Alternatives would include construction of one additional track within the existing railroad right-of-way. For Area 5, DRPT established a CAC to look at all previous options, identify any potential new options to meet the Purpose and Need of the DC2RVA Project, and suggest mitigation strategies to address Project impacts, as documented in Section 2.1.4, Section 3.3, and Appendix G of the Tier II Final EIS.</i>		
5A	Maintain Two Tracks Through Town	IDENTIFIED AS THE PREFERRED ALTERNATIVE. This alternative maintains the existing two-track corridor through downtown, with no improvements to the existing station location (between proposed grade separations at Vaughan Road and Ashcake Road) and adds a third main track north and south of town, mostly within existing right-of-way.

Table 1: Summary of Build Alternatives Evaluated in the Tier II EIS Documents

Alternative		Description
5A–Ashcake	Maintain Two Tracks Through Town (Relocate Station to Ashcake)	This alternative is the same as 5A (the Preferred Alternative) but would relocate the station to Ashcake Road.
5B	Add One Track Through Town East of Existing	Within town, one track would be added adjacent to the east side of the existing tracks, which would require additional right-of-way and closure of an existing at-grade crossing within town. The existing station would be improved.
5B–Ashcake	Add One Track Through Town East of Existing (Relocate Station to Ashcake)	This alternative is the same as 5B (as summarized above) but would relocate the station to Ashcake Road.
5C	Add Two-Track Western Bypass	A new two-track bypass west of Ashland would be constructed to serve freight and passenger trains that do not stop in town, which would require additional right-of-way. The existing rail corridor would be maintained in the city and the station would be improved.
5C–Ashcake	Add Two-Track Western Bypass (Relocate Station to Ashcake)	This alternative is the same as 5C (as summarized above) but would relocate the station to Ashcake Road.
5D–Ashcake	Three Tracks Centered Through Town (Add One Track, Relocate Station to Ashcake)	Within town, one track would be added with centering of all three tracks on the existing alignment. This would require additional right-of-way and preclude use of the existing station in town. The station would be relocated to Ashcake Road.
<p>Area 6: Richmond: Eight Build Alternatives were evaluated in Area 6: five single-station options (which would consolidate all service to a single station location) and three two-station options (which would divide service between two stations). Use of the A-Line or S-Line varied by alternative, based primarily on the ability to serve station locations and optimize passenger and freight routes.</p>		
6A	Staples Mill Road Station Only	The existing Staples Mill Road Station would be improved to become the single passenger station to serve Richmond, and existing Main Street Station would be closed to service. One main track would be added along the RF&P Line (north of the city) and the A-Line (through the city).
6B–A-Line	Boulevard Station Only, A-Line	A new Boulevard Station would be constructed to become the single passenger station to serve Richmond, and existing Staples Mill Road and Main Street Stations would be closed to service. One main track would be added along the RF&P Line (north of the city) and the A-Line (through the city).
6B–S-Line	Boulevard Station Only, S-Line	This alternative is similar to 6B–A-Line (as summarized above) but would add one main track on the S-Line (through the city).
6C	Broad Street Station Only	A new Broad Street Station would be constructed to become the single passenger station to serve Richmond, and existing Staples Mill Road and Main Street Stations would be closed to service. One main track would be added along the RF&P Line (north of the city) and the A-Line (through the city).
6D	Main Street Station Only	The existing Main Street Station would be improved to become the single passenger station to serve Richmond, and existing Staples Mill Road Station would be closed to service. One main track would be added along the RF&P Line (north of the city) and the S-Line (through the city).
6E	Split Service, Staples Mill Road/Main Street Stations	Both existing Staples Mill Road and Main Street Stations would be improved and remain operational, with the majority of intercity passenger trains stopping only at Staples Mill Road. One main track would be added along the RF&P Line (north of the city) and the A-Line (through the city).
6F	Full Service, Staples Mill Road/Main Street Stations	IDENTIFIED AS THE PREFERRED ALTERNATIVE. This alternative improves the S-Line through Richmond and allows for all intercity passenger trains that stop in Richmond to serve both stations.
6G	Shared Service, Staples Mill Road/Main Street Stations	Both existing Staples Mill Road and Main Street Stations would be improved and remain operational, with the majority of intercity passenger trains stopping at both stations, but some trains following the A-Line to bypass downtown Richmond and only serve Staples Mill Road Station. One main track would be added along the RF&P Line (north of the city) and the S-Line (through the city).

Additionally, while the No Build Alternative for the overall SEHSR corridor was evaluated and dismissed by FRA and FHWA for not meeting the Purpose and Need in the 2002 Tier I EIS, FRA and DRPT considered it as part of the Tier II EIS for the DC2RVA Project as required by NEPA. The No Build Alternative provided a basis for comparing the potential effects of different DC2RVA Build Alternatives. If a planned rail or transit improvement in the Project corridor was under construction, fully funded, or was the focus of advanced collaborative planning, FRA and DRPT assumed it would be complete by 2025 and included it in the No Build Alternative for the purposes of the Tier II evaluation. In the Tier II Draft EIS for the DC2RVA Project, FRA and DRPT confirmed the findings of the 2002 Tier I EIS that the No Build Alternative does not meet the Project's Purpose and Need.

2.3 Selected Alternative

The Preferred Alternative evaluated in the Tier II Draft EIS and advanced for further analysis in the Tier II Final EIS meets the Project's Purpose and Need. FRA and DRPT identified the Preferred Alternative as a combination of one Build Alternative from each of the six alternative areas to form a contiguous "best-fit" alternative for the 123-mile Project corridor, as shown in Figure 1 below. Full details of all elements of the Preferred Alternative are documented in Chapter 4 of the Tier II Final EIS.

The Preferred Alternative evaluated in the Tier II Draft EIS and advanced for further analysis in the Final EIS consists of Build Alternatives 1B, 2A, 3B, 4A, 5A, and 6F from each of the 6 alternative areas. Together this forms a contiguous 123-mile route through the Project corridor. This is FRA's Selected Alternative and is hereinafter referred to as such. The Selected Alternative is based on conceptual engineering design, which FRA and DRPT determined is sufficient to complete the required impact analysis in the draft and final EIS, and to make decisions as part of the NEPA process.

The Selected Alternative for the DC2RVA Project includes these three elements:

- **Service Plan.** An intercity passenger rail service plan with increased passenger train frequency (i.e., more trains) and improved on-time performance of existing intercity passenger service. The service plan is described in Section 2.3.1.
- **Infrastructure Improvements.** A physical infrastructure modification plan to provide an additional track (i.e., to provide more capacity for more trains) as well as station area and roadway crossing improvements to provide better train performance. The infrastructure improvements are described in Section 2.3.2 and FRA's basis of decision is described in Section 2.3.3.
- **Incremental Implementation Approach.** FRA and DRPT have assumed the Selected Alternative would be in place by 2025 for purposes of the NEPA evaluations and planning; however, the full implementation of the Selected Alternative, i.e., the funding, design, and construction of the infrastructure improvements and increased passenger train frequency identified in the Service Plan, will occur incrementally over the 20-year horizon from 2025 to 2045, as described in more detail in Section 2.3.4.

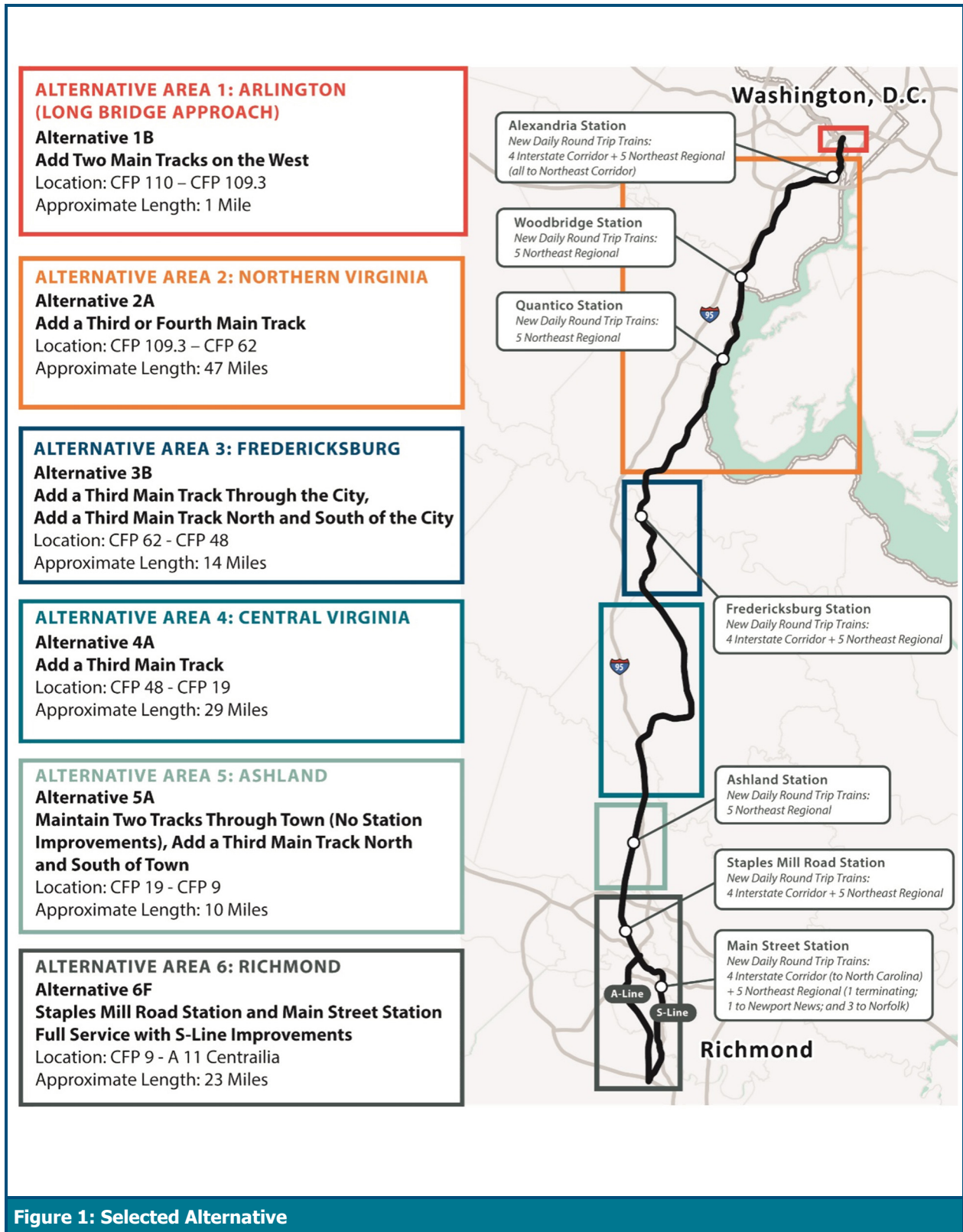


Figure 1: Selected Alternative

2.3.1 Service Plan

The Selected Alternative will include 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), which will be incorporated into Amtrak's existing intercity passenger network, subject to available capacity and future operating schedule. As detailed below, the Project service plan will expand on the eight new daily intercity passenger round trips recommended in the 2002 Tier I EIS and the 2012 R2HR Tier I EIS documents by adding a ninth train originating in Richmond at Main Street Station. FRA and DRPT added this ninth train to the Project to provide an early morning departure north to Washington, D.C. and the NEC, and a corresponding late evening return trip. Under the proposed service plan, intercity passenger trains will operate between Washington, D.C. and Richmond every 1 to 2 hours in each direction during the day and early evening.

From Washington, D.C. to the north, FRA and DRPT assume 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 Project will increase passenger train speeds, where practicable, up to 90 mph, with improved trip reliability and improved on-time performance of the intercity passenger train service.

Interstate Corridor (Carolinian) service currently operates one daily round trip intercity passenger train between New York and North Carolina through Virginia. The Project will accommodate the expansion of Interstate Corridor service from the once daily Carolinian by adding 4 new daily Interstate Corridor (SEHSR) round trips (8 total trains per day) to/from North Carolina. All Interstate Corridor trains will continue to make station stops in the DC2RVA corridor in Alexandria, Fredericksburg, and Richmond (both Staples Mill Road and Main Street Station). The new service will align with proposed intercity passenger train service between Washington, D.C. and Charlotte, NC from the 2002 Tier I EIS, and will extend from North Carolina north into Amtrak's Northeast Corridor.

Northeast Regional (Virginia) service currently provides regional passenger rail service from Boston and New York to serve routes in Virginia with 5 daily round trip trains that operate between Washington, D.C. and Richmond, VA. The Project will add 5 new daily Northeast Regional (SEHSR) round trips (10 total trains per day) to/from Virginia for a total of 10 daily round-trip Northeast Regional (Virginia and SEHSR) trains per day (20 total trains per day). Of the new service frequencies, 3 new daily round trips will start/end in Norfolk, 1 new daily round trip will start/end in Newport News, and 1 new daily round trip will start/end in Richmond. All Northeast Regional (Virginia and SEHSR) trains will continue to make station stops in the DC2RVA corridor in Alexandria, Woodbridge, Quantico, Fredericksburg, Ashland, and Richmond (both Staples Mill Road and Main Street Stations). The new service will complete the service plan defined in the 2012 R2HR EIS, and will add 1 daily round trip to/from Main Street Station in Richmond, which was added to the Project to provide early morning/late evening service from/to Richmond connecting to Washington D.C. and Amtrak's Northeast Corridor.

Long Distance service operates from New York and continues through Washington, D.C. and Virginia to other out-of-state locations, with limited station stops within the Project corridor. The Project will not affect the frequency (i.e., number) of Long Distance trains in service, but will modify routing/scheduling of those trains within the corridor and improve their operating reliability within the corridor to meet Project goals. The Project will add a second stop for these trains in Richmond at Main Street Station.

Auto Train service operates as a daily nonstop, overnight train between dedicated station facilities in Lorton, VA and Sanford, FL, and carries passengers and their automobiles. The Project will not affect the frequency, routing, or scheduling of the Auto Train within the corridor, but will improve operating reliability within the corridor to meet Project goals.

Independent of the Project, existing intercity passenger, commuter, and freight trains will continue to operate in the Project corridor. The Project does not add commuter or freight train frequencies but does accommodate their planned future growth. Neither FRA nor DRPT anticipates 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 is based on economic demands created by commercial activities and independent market forces, which are not dictated by this Project.

Coordination with Adjacent Projects. Additionally, FRA and DRPT acknowledge that the full benefits of the proposed DC2RVA service are dependent upon completion of intercity passenger rail infrastructure projects outside the DC2RVA corridor in the SEHSR corridor:

- A four-track Long Bridge with a four-track route north of Long Bridge through L'Enfant Plaza to CP Virginia in Washington, D.C. is required to connect the DC2RVA service to Union Station in Washington, D.C. and Amtrak's Northeast Corridor (NEC).
- The SEHSR Richmond to Raleigh (R2R) project included improvements/service between Raleigh, NC and Richmond, VA, and overlaps the DC2RVA Project between Main Street Station and Centralia, VA. The SEHSR R2R project infrastructure improvements south of the overlap area are required to implement the four additional Interstate Corridor SEHSR trains originating in North Carolina and traveling through the DC2RVA corridor.
- The SEHSR Richmond to Hampton Roads (R2HR) project included improvements/service between Norfolk/Newport News, VA and Richmond, VA, and overlaps the DC2RVA Project between Main Street Station and Centralia, VA. The SEHSR R2HR project infrastructure improvements south of the overlap area are required to support the four additional Northeast Regional (SEHSR) trains originating in Newport News and Norfolk and also traveling through the DC2RVA corridor to the Northeast Corridor.

2.3.2 Infrastructure Improvements

Track and related improvements of the Selected Alternative will be located within existing CSXT right-of-way, although some construction activity and other types of improvements may be located outside of the CSXT right-of-way, as documented in Chapter 4 of the Final EIS. All impacts, either temporary or permanent, that are associated with specific activities located outside of the CSXT right-of-way are documented in Chapter 5 of the Final EIS.

The Selected Alternative meets the Project's Purpose and Need by including the following proposed improvements, by area.

Selected Alternative 1B: Add Two Tracks on the West. Beginning south of the George Washington Memorial Parkway, Alternative 1B will install two additional main line tracks west of the existing tracks in Arlington to Crystal City, staying within the existing railroad right-of-way. Alternative 1B will consist of:

- Constructing two main tracks on the west side of existing tracks, with minor track shifts to improve speed through some curves

- Track alignment to connect with the candidate build alternative of the separate Long Bridge project by DDOT, which proposes to increase railroad capacity across the Potomac River by adding two tracks upstream (west) of existing rail bridge
- Track improvements within the existing right-of-way
- No intercity passenger stations in the area
- No changes to existing public roadway crossings

Note the U.S. DOT has selected the Commonwealth of Virginia to receive \$45 million from the Nationally Significant Freight and Highway Projects (NSFHP)¹¹ grant program for Federal fiscal year (FY) 2016 to support the construction of approximately six miles of fourth track between CSXT Control Point Rosslyn (CFP RO) and CFP Alexandria (CFP AF), the “AF to RO Fourth Track Project,” as part of the Commonwealth’s Atlantic Gateway Program. The AF to RO Fourth Track Project is planned to begin construction in 2020 and encompasses the full 0.7 mile length of the Area 1 and extends approximately 5 miles into Area 2. Refer to Section 2.3.4.3 for details on the Atlantic Gateway program in context to the DC2RVA Project.

Selected Alternative 2A: Add a Third or Fourth Main Track. Alternative 2A in Northern Virginia will install one additional main line track and realign existing tracks in some curves to improve speed. The additional track will be located on either the east or west side of the existing tracks, based on rail operations, site constraints, and potential impacts. Alternative 2A will consist of:

- Constructing one main track, with realignment of some curves to improve speed, to create:
 - A fourth track from Crystal City in Arlington to Alexandria
 - A third track from Alexandria to north of Fredericksburg
 - Work completed by others in this area includes the prior or planned installation of a third track in the following sections: Alexandria to Franconia (completed in 2011); Franconia to Occoquan (planned for completion by 2025); and Powells Creek to Arkendale (design and construction ongoing, scheduled for completion in 2021)
- Track improvements within the existing railroad right-of-way
- Intercity Passenger Stations:
 - Station improvements at Alexandria (parking improvements) and Woodbridge (platform improvements)
 - Expansion of intercity passenger rail service at Alexandria, Woodbridge, and Quantico
 - Track alignments to accommodate platform and other improvements planned by VRE at stations shared with intercity passenger rail service in Alexandria and Woodbridge, as well as other commuter stations served only by VRE
- Public At-Grade Crossings:
 - Close one existing crossing in Stafford (Mount Hope Church Road), with alternate access provided

¹¹ The USDOT generally refers to NSFHP grants made with FY 2016 funding as Fostering Advancements in Shipping and Transportation for the Long-term Achievement of National Efficiencies (FASTLANE) grants.

- No new grade separations proposed
- Three public at-grade crossings remain with safety improvements, as needed
- Reconstructing seven existing grade separations to allow for the addition of a third main line track under roadway bridges with limited horizontal or vertical clearance
- Constructing four new major bridge crossings:
 - Occoquan River: new bridge structure added east of the existing railroad bridge
 - Neabsco Creek: new bridge structure added west of the existing railroad bridge
 - Powells Creek: new bridge structure added west of the existing railroad bridge
 - Aquia Creek: new bridge structure added east of the existing railroad bridge

As mentioned in Area 1, the U.S. DOT has selected the Commonwealth of Virginia to receive \$45 million from the FY 2016 FASTLANE program to support the construction the AF to RO Fourth Track Project, which encompasses the full 0.7 mile length of the Area 1 and extends approximately 5 miles into the northern end of Area 2. Construction is planned to begin on the AF to RO Fourth Track Project in 2020. Refer to Section 2.3.4.3 for details on the Atlantic Gateway program in context to the DC2RVA Project.

Selected Alternative 3B: Add Third Main Track Through the City, Add a Third Main Track North and South of the City. Alternative 3B at Fredericksburg will install one additional main line track in areas with only two existing tracks and realign existing tracks to improve speed, while remaining within the existing railroad right-of-way. The additional track will be located on either the east or west side of existing tracks, based on rail operations, site constraints, and potential impacts. Alternative 3B will consist of:

- Constructing one main track, with realignment of some curves to improve speed
- Within Fredericksburg, the additional track will be added to the east of the existing tracks with a new elevated railway at the station
- Constructing a fourth track (siding) on the west side of the existing tracks south of Fredericksburg
- Track improvements within the existing railroad right-of-way
- Intercity Passenger Stations:
 - Station improvements at Fredericksburg (including building, platform, and parking improvements)
 - Expansion of intercity passenger rail service at Fredericksburg
- Public At-Grade Crossings:
 - No closures proposed
 - Grade separate one crossing (Lansdowne Road)
 - Three public at-grade crossings remain with safety improvements
- Reconstructing six existing grade separations to allow for the addition of a third main line track under roadway bridges with limited horizontal or vertical clearance
- Constructing a new major bridge crossing the Rappahannock River: new bridge structure added east of the existing railroad bridge

Selected Alternative 4A: Add a Third Main Track. Alternative 4A in Central Virginia will install one additional main line track and realign existing tracks in some curves to improve speed. The additional track will be located on either the east or west side of the existing tracks based on rail operations, site constraints, and potential impacts. Alternative 4A will consist of:

- Constructing one main track with realignment of some curves to improve speed
- Track improvements within the existing railroad right-of-way
- No intercity passenger stations in the area
- Public At-Grade Crossings:
 - Close one existing crossing (Colemans Mill Road)
 - No new grade separations proposed
 - Six public at-grade crossings remain with safety improvements
- Reconstructing one existing grade separation to allow for the addition of a third main line track under a roadway bridge with limited horizontal or vertical clearance
- Constructing or modifying multiple bridges or culverts crossing small waterways and wetlands

Selected Alternative 5A: Maintain Two Tracks Through Town (No Station Improvements), Add a Third Main Track North and South of Town. Through the Town of Ashland, Alternative 5A will maintain the existing two tracks, which will be used by freight and passenger trains similar to current conditions, and does not include any station improvements at the existing Ashland Station. One new track will be constructed north and south of town, where there will be some shifts to improve speed throughout the area. Alternative 5A will consist of:

- Constructing one main track north and south of town, with track shifts to improve speed through some curves
- Maintaining two existing tracks (no construction of new track/no additional capacity) through town
- Track improvements within the existing railroad right-of-way
- No station improvements at the existing Ashland Station
- Public At-Grade Crossings:
 - No closures proposed
 - Two grade separations proposed (Vaughan Road/ Archie Cannon Drive and Ashcake Road)
 - No improvements to five at-grade road, or pedestrian, crossings within town
 - Four public at-grade crossings north and south of town remain with safety improvements
- Reconstructing one existing grade separation to allow for the addition of a third main line track under a roadway bridge with limited horizontal or vertical clearance

Ashland Station improvements, including new low-level side platforms, are part of a separate plan by Amtrak to comply with the Americans with Disabilities Act (ADA).

Selected Alternative 6F: Staples Mill Road Station and Main Street Station Full Service with S-Line Improvements. Alternative 6F will install one additional main track through the area via the CSXT RF&P Subdivision and S-Line to provide improved service at Staples Mill Road Station and Main Street Station in Richmond, where both stations remain operational (full service). The additional track will be located on either the east or west side of the existing tracks based on rail operation considerations, site constraints, and potential impacts. Alternative 6F will consist of:

- Constructing one main track along portions of existing RF&P (north of Richmond) and S-Line (through Richmond), with track shifts to improve speed, within the existing railroad right-of-way
- Intercity Passenger Stations: Staples Mill Road Station and Main Street Station
 - All passenger trains that stop in Richmond will serve both stations
 - Improve both stations to include new/modified station buildings and platforms
- Public At-Grade Crossings:
 - Close five crossings (St. James Street,¹² N 2nd Street/Valley Road, Dale/Trenton Avenue, Brinkley Road, and Old Lane)
 - Grade separate four crossings (Hungary Road, Hermitage Road (RF&P), Hospital Street/N 7th Street, and E Commerce Road)
 - Eight public at-grade roadway crossings remain with safety improvements as needed (note this differs from R2R’s proposal to grade separate all crossings between the James River and Centralia)¹³
- Reconstructing two existing grade separations to allow for the addition of a third main line track under bridges with limited horizontal or vertical clearance
- Constructing a new major bridge crossing the James River: new bridge structure added east (downstream) of existing railroad bridge
- Constructing a new passenger train service facility at the Bellwood wye track
- No changes to CSXT freight service routes through Richmond

2.3.3 Basis for Decision

Basis for Selecting 1B. FRA and DRPT identified the approximately 1-mile Alternative Area 1, located immediately south of the Long Bridge across the Potomac River, to evaluate potential connections between the DC2RVA Project and a future recommendation from the separate Long Bridge project by DDOT. In the Tier II Draft EIS, DRPT assumed that an additional two tracks would be constructed across the Potomac River as part of the Long Bridge project and identified three DC2RVA Project Build Alternatives in Area 1 that added two tracks in various configurations to connect to potential future Long Bridge recommendation options. The Tier II

¹² As part of the Project, the existing St. James Street at-grade crossing will be closed to vehicular traffic and reconstructed as a pedestrian bridge over the railroad.

¹³ As documented in Section 4.3.6.3 of the Tier II EIS, Project improvements differ than those proposed in the separate Richmond to Raleigh Tier II EIS and ROD for the overlap area between the two projects in the Richmond area, extending from Main Street Station south to Centralia. The improvements proposed in the Tier II EIS and ROD for the R2R project remain unchanged from the Purpose and Need of that project, which would provide improvement upon the infrastructure planned in the DC2RVA Tier II EIS.

Draft EIS did not include a recommended Preferred Alternative for Area 1, subject to future development of the separate Long Bridge project.

Subsequent to the Tier II Draft EIS on June 19, 2018, DDOT released the Alternatives Development Report for the Long Bridge project that advanced two candidate build alternatives, both of which add two tracks upstream (west) of the existing two-track bridge.¹⁴ Both Long Bridge alternatives align with DC2RVA Alternative 1B, and do not align with DC2RVA Alternatives 1A or 1C. Reflecting the recommendations from the Alternatives Development Report for the separate Long Bridge project, FRA and DRPT identified Alternative 1B as the recommended Preferred Alternative for Area 1 in the Tier II Final EIS. Therefore, FRA and DRPT chose Alternative 1B as the Selected Alternative.

Basis for Selecting 2A. In the Tier II Draft EIS, DRPT considered and dismissed alternative alignments that increased speed and/or capacity but extended outside the railroad right-of-way in Area 2 in order to reduce impacts to property, wetlands, and existing infrastructure in this congested area. By adding a fourth track to the existing triple-track section from Crystal City in Arlington to Alexandria and adding a third track in locations that currently only have two tracks from Alexandria to Fredericksburg, where required, Alternative 2A will support expanded intercity passenger service, VRE commuter service, and CSXT freight service, improve reliability, add capacity, and increase passenger train speeds where practicable. New structures will carry the additional track across the river crossings adjacent to the existing rail bridges. Alternative 2A will also remain primarily within the existing railroad right-of-way. For these reasons, FRA and DRPT chose Alternative 2A as the Selected Alternative.

Basis for Selecting 3B. In the Draft Tier II EIS, DRPT screened multiple alignments and evaluated three Build Alternatives in detail. Maintaining two tracks through the City of Fredericksburg (i.e., Build Alternative 3A as evaluated in the Tier II Draft EIS) does not provide sufficient capacity to support the Project's Purpose and Need. Adding a two-track bypass to the east of the city (i.e., Build Alternative 3C as evaluated in the Tier II Draft EIS) provides sufficient capacity, but would incur substantial impacts to wetlands, historic and cultural resources, property, and infrastructure. In addition, there was strong local opposition to a bypass on new location. Therefore, FRA and DRPT chose Alternative 3B, which adds a third main track to link existing sections of three or more tracks and provides a continuous three track corridor through the city, as the Selected Alternative.

Basis for Selecting 4A. In the Tier II Draft EIS, DRPT screened multiple alignments to improve capacity and reach the 90 mph speed, while minimizing impacts to wetlands, waterways, and other resources, and carried one alternative forward for further evaluation in the Tier II Draft EIS: Alternative 4A, which adds a third main track to the west of the existing two tracks through most of Area 4. FRA and DRPT chose Alternative 4A as the Selected Alternative as it increases passenger train speed and will add Project improvements within the existing railroad right-of-way. It will support expanded intercity passenger service and CSXT freight service, while minimizing impacts to wetlands and property.

Basis for Selecting 5A. The Tier II Draft EIS did not include a recommended Preferred Alternative for Area 5, subject to the completion of additional railroad operations analyses and input from the Ashland/Hanover County Area CAC. DRPT established the Ashland/Hanover

¹⁴ http://longbridgeproject.com/wp-content/uploads/2018/06/LB_EIS_2018_0619_AltDevelopmentReport_FINAL-508compliant.pdf

County Area CAC to advise and inform the selection of a Preferred Alternative for Area 5 in the Tier II Final EIS. Based on the information and analyses of the seven Build Alternatives presented for Area 5 in the Tier II Draft EIS, public comments on the Tier II Draft EIS, information and comments developed through the CAC process, and subsequent refined railroad operations analyses, FRA and DRPT chose Alternative 5A as the Selected Alternative. It provides sufficient railroad capacity to support the Purpose and Need of the Project while having the least impact on property, wetlands and other natural resources, historic and cultural resources, and the built environment. Alternative 5A also best addresses the community's concerns, including strong opposition to a bypass from Hanover County residents, and strong opposition to adding a track through Ashland from Town residents and Randolph-Macon College. Additionally, by retaining the existing double-track railroad through the Town of Ashland, Alternative 5A met the Purpose and Need of the Project while avoiding impacts to multiple properties with historic designation under Section 106 and Section 4(f).

Basis for Selecting 6F. In the Tier II Draft EIS, FRA and DRPT identified eight alternatives in the Richmond area, as summarized in Table 1. The five Build Alternatives that would rely on the A-Line to carry additional passenger service (Alternatives 6A, 6B-A-Line, 6C, 6E, and 6G from the Tier II Draft EIS) were not considered feasible to meet the Project's Purpose and Need, but were advanced for further analysis in the Tier II Draft EIS for comparison to the S-Line alternatives. The five A-Line Build Alternatives required substantial modifications to the existing railroad and highway infrastructure, constrained the ability for CSXT to grow freight service in the future, and incurred extensive environmental impacts.

The three Build Alternatives that rely on the S-Line (Alternatives 6B-S-Line, 6D, and 6F) were considered feasible and were advanced for further consideration in the Tier II Draft EIS. Alternative 6B-S-Line is feasible and could meet the Project's service performance goals, but the Boulevard Station location would not be consistent with prior FRA and Commonwealth decisions and does not meet FRA and Amtrak guidance for intercity passenger trains to serve the city center. Alternative 6D: Main Street Station Only (S-Line) would not meet the Project's Purpose and Need due to insufficient track and platform capacity at Main Street Station.

Alternative 6F is feasible and supports passenger service and freight service to meet the Purpose and Need. Alternative 6F is also consistent with prior FRA and Commonwealth decisions regarding the SEHSR program and Main Street Station as Richmond's downtown intercity passenger station, including decisions documented in the 2002 Tier I ROD, Richmond to Hampton Roads Tier I ROD (2012), and Richmond to Raleigh Tier II ROD (2016). Accordingly, FRA and DRPT chose Alternative 6F as the Selected Alternative.

2.3.4 Incremental Implementation

Actual dates for future Project development and implementation are dependent on the completion of this ROD, identifying and securing funding, completing Project design, and finalizing all necessary approvals and permits, including agreements with Amtrak and CSXT. Construction of the infrastructure improvements that are part of the DC2RVA Selected Alternative are not currently funded (other than the Atlantic Gateway improvements, as described in Section 2.3.4.3 below), and it is unlikely that funding for full construction will be available all at once. Further, FRA and DRPT understand that funding for construction—as well as the timelines of separate but related projects—will require that the DC2RVA Project be constructed incrementally over the 20-year planning horizon from 2025 to 2045.

Therefore, in keeping with the decisions in the 2002 Tier I EIS and ROD, FRA and DRPT have developed an approach to implement the DC2RVA Project in increments as funding becomes available. FRA and DRPT have prioritized the six areas for construction as shown below, with higher priority given to areas with greater rail corridor congestion:

- Priority 1 - Areas 1, 2, and 3 – Arlington through Fredericksburg
- Priority 2 - Area 6 – Richmond
- Priority 3 - Area 4 – Central Virginia
- Priority 4 - Area 5 – Ashland

FRA and DRPT's first priority for DC2RVA is to address the northern areas of the corridor where the demand for rail traffic and intercity passenger, commuter, and freight rail congestion is the greatest. Refer to Section 2.3.4.3 below for details on the currently-funded Atlantic Gateway Program in this area.

The second priority is Area 6: Richmond, where infrastructure improvements can streamline intercity passenger rail movements through the city while also providing passenger service to Richmond's central business district at Main Street Station. The third priority, Area 4: Central Virginia, provides the greatest opportunity in the corridor to improve speeds and reduce overall travel time. The final phase, Area 5: Ashland, would complete the corridor.

DRPT also will evaluate advancing individual DC2RVA corridor infrastructure components – such as highway-rail grade separations, grade crossing upgrades, or station improvements – outside of this sequence if funding should become available and if supported by a project partner or local jurisdiction.

The remainder of this section identifies anticipated incremental implementation steps and describes how the incremental approach would apply to those steps, including future phases of engineering, construction, and permitting, including the Atlantic Gateway Program.

2.3.4.1 Preliminary Engineering

Each of the Build Alternatives presented in the DC2RVA Draft and Final EIS were developed by DRPT to an approximately 10 percent level of design (conceptual design), using readily available data from existing sources. These conceptual designs were sufficient to determine infrastructure requirements to meet operational needs as well as to perform the comparative impact analyses for NEPA assessments and to support the ultimate decision-making for the Selected Alternative.

To advance the Project to the next phase of project development, DRPT is progressing the conceptual designs for the Selected Alternative along the entire corridor to a 30 percent level of design (preliminary engineering). The 30 percent infrastructure design plans take into consideration the railroad and service operational requirements, adequacy of the infrastructure (including reliability and resiliency), and environmental mitigations and commitments.

2.3.4.2 Construction Approach

A key goal in implementing the DC2RVA Project is to avoid disruptions to existing intercity passenger, commuter, and freight rail service. Therefore, DRPT will implement an incremental construction approach to building the infrastructure improvements. Under the incremental

construction approach, the Project would be constructed in logical subprojects,¹⁵ generally following the priorities identified above. Some subprojects may vary in length, depending on available funding, complexity of construction, identification of logical endpoints for the infrastructure improvements, and rail operations.

The illustrative incremental implementation plan that follows is based on funding being available for each subproject in advance of the next phase of design. The Project’s Corridor Service Development Plan (SDP), which FRA and DRPT will publish after conclusion of this ROD, will provide additional detail on DRPT’s anticipated approach to delivering the DC2RVA Project. A general subproject schedule showing the beginning and ending months of the task may include, but not be limited to, the following (Table 2 and Figure 2). Based on a four- to five-year process to complete a subproject from preliminary engineering to construction and commissioning, subprojects will need to occur concurrently in order to complete the full corridor build-out during the 20-year planning horizon. Subprojects will need to be staggered by location and schedule such that construction phases do not pose a disruption to existing rail service.

Table 2: Illustrative General Subproject Schedule

Project Step	Schedule Period (Start to Finish)
Pre-design Data Collection (Surveys, geotechnical, etc.)	0–6 months
Final Design to Construction Documents	6–18 months
Permitting	12–24 months
Bid Process	18–24 months
Construction	21–60 months
Commissioning	48–66 months

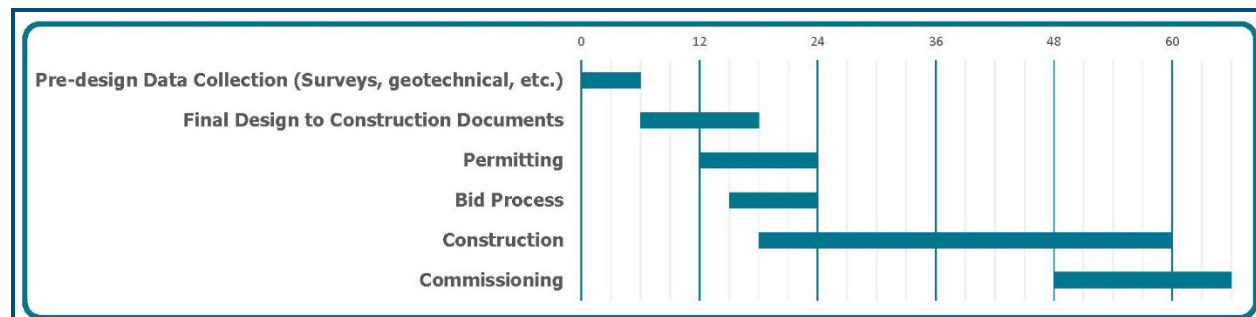


Figure 2: Illustrative General Subproject Schedule

¹⁵ DRPT and CSXT previously completed segments of track construction within the DC2RVA corridor (AF to Franconia, and Possum Point to Arkendale) with minimal impacts to existing freight and/or passenger rail service.

The remainder of this section details the incremental approach to specific steps that would occur including: pre-design data collection; permitting; right-of-way acquisition; utility relocations; construction sequencing; and post-construction.

Pre-Design Data Collection. As funding becomes available for each incremental subproject, DRPT will initiate additional data collection and design for that subproject. Advanced subproject designs will build from the conceptual (10%) designs provided within the Final EIS, and incorporate any additional preliminary engineering or other information developed to assist the advanced design, such as detailed survey data or geotechnical data. During this stage, DRPT will review the conditions in the subproject segment of the corridor, including the built environment, the natural environment, and the human environment. Although DRPT developed much of this information during the preparation of the Draft and Final EIS, conditions can change over time. Updated information is necessary, especially when progressing to a more detailed level of design, seeking permits and regulatory approvals, and carrying out mitigation commitments. DRPT will review and update as necessary corridor conditions and environmental consequences involving:

- Water Resources, including:
 - Surface waters, rivers, streams and floodplains
 - Coastal Zone Management
 - Wetlands
 - Water quality
 - Drinking Water/ Aquifers/Water Supply
 - Permits
- Agricultural Lands
- Solid Waste and Hazardous Materials
- Air Quality
- Noise and Vibration
- Aesthetic and Visual Environment
- Biological Resources, including:
 - Habitat and Natural Communities
 - Wildlife
 - Threatened and Endangered Species
- Community Resources
- Title VI and Environmental Justice
- Archaeological and Above Ground Cultural and Historic Resources
- Parklands, Recreational Areas, and Wildlife Refuges
- Transportation Infrastructure and Traffic
- Utilities
- Construction Impacts

DRPT will then apply the updated information on corridor conditions and environmental consequences to the subproject design, along with detailed survey and other data. As part of the future phases of design for each subproject, DRPT will avoid or minimize impacts to these resources to the extent practicable. Where impacts cannot be avoided or minimized, DRPT will work with the regulatory agencies, permit authorities, project stakeholders and the local communities to develop appropriate mitigation measures as part of the subproject design, and in accordance with Project Commitments identified in this ROD (Attachment C). Mitigation measures will be implemented for each subproject as they are constructed and become operational.

Final Design to Construction Documents. Future phases of design will progress the design of each subproject from preliminary engineering through the preparation of construction documents. Design progress will be guided by commitments in this ROD, the Basis of Design, and the Service Development Plan.

Construction documents provide the foundation and framework for the construction activities. These documents may include, but are not limited to:

- Construction plans
- Project specifications
- Estimate of probable construction costs
- Project manual
- Project schedule

Permitting. Permitting will be required to progress a subproject from design to construction and will be completed prior to advertising for bids or any construction activities. The specific permits required will vary based on the proposed infrastructure, construction activity, and jurisdiction(s) through which the subproject passes. Permit submittal and approval processes will also vary based on the same factors.

Throughout each subproject development, final design, and construction, DRPT will continue to coordinate with appropriate regulatory agencies to obtain the necessary permits and approvals pertinent to that subproject, including providing all necessary mitigation and/or consultation. For example, DRPT will submit a Joint Permit Application to federal and state authorities for wetland permits and provide related mitigation on a subproject basis. Other permits and approvals will also be obtained on a subproject by subproject basis. Section 3.5 provides additional details about anticipated permitting and regulatory approvals for the Project.

Right-of-way Acquisition. Although most of the DC2RVA infrastructure improvements occur within existing VDOT and CSXT right-of-way, some subprojects will require additional right-of-way, including temporary access for construction. Right-of-way acquisition will be a major factor in determining the overall subproject construction packaging and scheduling. DRPT assumes that all rights-of-way for a particular subproject will be acquired before construction activities (including advertising for bids) commence for that segment.

Utility Relocations. Utility relocations also will be a major factor in construction packaging and scheduling. Existing agreements between CSXT and utilities within or crossing CSXT rights-of-way will apply to the relocation of those utilities. Utilities across private properties or highway rights-of-way will follow the VDOT process for relocating utilities.

Construction Sequencing. DRPT anticipates that the subprojects would be divided into construction packages, and the construction packages would be further divided based on the types of infrastructure improvements. Construction contracts would be let to meet project schedules as developed during the incremental phases of the overall DC2RVA project. A key goal of the construction sequencing is to maintain existing passenger and freight operations. Where three tracks are proposed, there should be at least two main tracks in operation while one track is out of service or under construction, except during brief (i.e., a few hours) cutover periods. Where two tracks are proposed, there should be at least one main track in operation while one track is out of

service or under construction. Station improvements for platform additions and pedestrian access will be advanced early to support the new track when placed in operation.

Additional early construction activities may include, but not be limited to:

- Major bridges which have an extended lead time for fabrication and/or construction
- Special trackwork which has an extended lead time for fabrication and/or construction
- Earthwork
- Culverts and drainage
- Retaining walls due to estimated duration of construction

Final construction sequencing will be developed during the final design for each of the subproject construction packages.

Post-Construction. Post-construction activities will consist of testing new signal components and adjusting rail operations to utilize the new infrastructure. Areas temporarily disturbed during construction would be restored in accordance with project commitments and permits.

2.3.4.3 Atlantic Gateway Program in the DC2RVA Corridor

The Commonwealth of Virginia received a \$165 million FASTLANE grant award in 2016, leveraging additional public and private funding to implement a \$1.4 billion program of highway and rail projects along the I-95 corridor (the Atlantic Gateway program). As part of this program, and in keeping with FRA and DRPT's priority for the DC2RVA corridor, DRPT proposes expediting design, funding, and construction of approximately six miles of fourth main track between Rosslyn (RO - CFP 110.1) and Alexandria (AF - CFP 104.3), referred to as the AF to RO Fourth Track project. As of the publication of the Tier II Final EIS, DRPT had confirmed funding for the AF to RO project through Areas 1 and 2, with construction planned to commence in 2020.

These projects are part of the DC2RVA Selected Alternative, and address FRA's and DRPT's first priority. DRPT is conducting preliminary engineering for the six miles of fourth track between AF to RO and developing plans for collecting additional survey data. With the issuance of this ROD, DRPT will advance additional data collection and design, followed by permitting and developing construction documents as summarized in the steps above. During the advanced design, DRPT will work to avoid or minimize impacts in accordance with project commitments, regulatory requirements and project permits, and input from stakeholders and the local communities. Where impacts cannot practicably be avoided or minimized, DRPT will work with the regulatory agencies, permit authorities, stakeholders and the local community to develop and implement mitigation measures as defined in the project commitments and AF to RO subproject permits.

2.4 Environmentally Preferable Alternative

CEQ regulations implementing NEPA require that an agency identify the alternative or alternatives considered to be environmentally preferable, which is defined as “the alternative that will promote the national environmental policy as expressed in the NEPA, Section 101” (40 C.F.R. 1505.2). This means the alternative that causes the least damage to the physical environment; it also means the alternative that best protects, preserves, and enhances historic, cultural, and natural resources.

Considering these factors, FRA identified Build Alternatives 1B, 2A, 3B, 4A, 5A, and 6F from each of the six alternative areas to form a contiguous 123-mile route through the Project corridor, which is also the Selected Alternative – as environmentally preferable. FRA considered all Build Alternatives, as well as the No Build alternative, and weighed and balanced the physical environmental effects associated with the Build Alternatives as well as those associated with the No Build alternative. Based on the analyses in the Tier II Draft and Final EIS, FRA determined that the adverse environmental effects associated with the Selected Alternative would be less substantial than the consequences associated with the No Build alternative in terms of air quality, energy, and traffic.

The full range of Build Alternatives considered in the Tier II Draft EIS had a wide variance of impacts on environmental resources, especially for natural resources along the Ashland and Fredericksburg bypass alternatives. The Selected Alternative would result in lower community, farmland, and biological impacts, including lower impacts to jurisdictional wetlands, when compared to the other Build Alternatives. The Selected Alternative would result in fewer impacts on historic properties and parkland resources than the other Build Alternatives. It would also affect fewer key community and religious facilities, and would displace fewer residential units and commercial and industrial businesses than the other Build Alternatives. However, for aspects of the physical environment such as noise, regional traffic, and air quality, the construction and operation of the Selected Alternative would have similar impacts as other Build Alternatives. The comparison of the environmental consequences of all Build Alternatives is documented in Chapter 4 of the Tier II Draft EIS, and the environmental consequences of the Selected Alternative with a comparison to other Build Alternatives are documented in Chapter 5 of the Tier II Final EIS.

The construction and operation of the Selected Alternative will remain with the CSXT right-of-way (as documented in Section 2.3 above). Therefore, in balancing the impacts on natural and community resources, FRA has determined that the Selected Alternative would result in the least overall impacts to the human and natural environment while meeting the Purpose and Need of the Project and is therefore environmentally preferable.

3 ENVIRONMENTAL CONSIDERATIONS

3.1 Summary of Potential Environmental Effects

Table 3 provides a summary of the potential quantitative impacts of the Selected Alternative upon the built and natural environments; additional qualitative assessments are discussed after the table. All impacts shown are permanent impacts (i.e., not temporary disturbances due to construction activities). Temporary impacts are documented in Chapter 5 of the Tier II Final EIS.

Table 3: Summary of Impacts

Environmental Resource		Selected Alternative						Total for the Selected Alternative	
		1B	2A	3B	4A	5A	6F		
Additional ROW (Acres)		0.03	53.77	14.02	1.27	23.45	56.58	149.12	
Natural Resources	Wetlands (Acres)	0	5.94	4.2	8.8	0.98	4.27	24.19	
	100-Year Floodplains (Acres)	0.1	16.1	9.9	17.2	6.6	44.1	94.0	
	Streams & River Crossings (Linear Feet)	0	8,031	1,271	3,616	6,978	10,061	29,957	
	Threatened & Endangered Species and Habitat	No	Yes	Yes	Yes	Yes	Yes	–	
Geologic Resources	Construction-Limiting Soils	Unknown / Not Rated	Yes	Yes	Yes	Yes	Yes	–	
	Prime Farmland	Prime Soils (Acres)	0	27.65	24.62	56.93	15.8	25.4	150.4
		NRCS Form 106 Score (Points) ¹	0	66	80	93	51	19	–
	Agricultural & Forestal Districts (Acres)	0	0	0	0	0	0	0	
Hazardous Materials	Superfund / CERCLA Sites	0	0	0	0	0	0	0	
	Recorded Release & Potential Contamination Sites	0	5	3	0	2	25	35	
	HAZMAT Facilities	0	5	4	0	0	6	15	
	Petroleum Storage Tanks	0	1	3	0	3	7	14	
Air Quality ²	CO ₂ Emissions (Tons per Year) Change Compared to No Build	-6,518						-6,518	
Noise ³	Impacted Noise Receptors	Category 1 Moderate	0	0	0	0	0	1	1
		Category 1 Severe	0	0	0	0	0	0	0
		Category 2 Moderate	0	548	67	51	135	416	1,217
		Category 2 Severe	0	99	8	18	14	15	154
		Category 3 Moderate	0	6	1	1	1	7	16

Table 3: Summary of Impacts

Environmental Resource		Selected Alternative						Total for the Selected Alternative	
		1B	2A	3B	4A	5A	6F		
	Category 3 Severe	0	0	0	0	4	0	4	
	Total	0	653	76	70	154	439	1,392	
Vibration ³	Impacted Vibration Receptors	Category 1	0	0	0	0	0	0	0
		Category 2	0	15	0	2	25	8	50
		Category 3	0	0	0	0	1	0	1
		Total	0	15	0	2	26	8	51
Energy ²	Energy Consumption (Billions of BTUs) Change Compared to No Build	-293						-293	
Aesthetics & Visual Environment	Visual Impact Rating (Low, Moderate, or High)	Low	Low – Moderate	High	Low	Low	Low – High	–	
Community & Environmental Justice	Commercial Relocations	0	0	1	0	2	11	14	
	Residential Relocations	0	2	0	0	0	3	5	
	Compatible with Comprehensive Land Use Plans (Yes / No)	Yes	Yes	Yes	Yes	Yes	Yes	–	
	Environmental Justice Census Tracts with Residential Relocations	0	0	0	0	0	0	0	
Park Resources	Number / Acres	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	1 / 0.21	1 / 0.21	
Cultural Resources	Effects on Archaeological Sites	Adverse Effect	0	1	4	0	0	3	8
		No Adverse Effect	0	0	2	0	0	3	5 ⁴
		No Effect	0	0	0	0	0	0	0
	Effects on Buildings, Districts, Structures, & Objects	Adverse Effect	0	2	2	2	3	3	13 ⁵
		No Adverse Effect	2	5	8	8	2	29	54 ⁴
		No Effect	0	3	4	3	11	9	30
	Effects on Battlefields	Adverse Effect	0	0	0	0	0	0	0
		No Adverse Effect	0	0	4	1	0	5	10
		No Effect	0	0	0	0	0	0	0

Table 3: Summary of Impacts

Environmental Resource			Selected Alternative					Total for the Selected Alternative	
			1B	2A	3B	4A	5A		6F
Transportation	Proposed Public At-Grade Crossing Improvements	Grade Separate ⁶	0	0	1	0	2	4	7
		Closure	0	1	0	1	0	5	7
		Four-Quad Gates	0	1	2	4	3	3	13
		Median Treatment	0	0	1	2	1	4	8
		No Action	0	2	0	0	5	1	8
	New Public Crossings		0	0	0	0	0	0	0
	Proposed Private At-Grade Crossing Improvements	Closure	0	0	0	0	0	0	0
		Four-Quad Gates	0	0	0	0	0	2	2
		Locking Gate	0	0	0	10	0	2	12
		No Action	0	5	0	0	0	0	5
	New Private Crossings		0	0	0	0	0	0	0
	Roadway Travel Patterns: % Change in Daily Traffic, Adjacent Roadways at Stations ⁷		-	<1%	7-8%	-	<1%	1-2%	-
	Total Daily Delay (hours) / % Intercity Passenger Trains of Total		-	23.01 / 13%	6.59 / 13%	3.35 / 13%	56.33 / 11%	64.22 / 10%	153.50 / 11%

Notes: Permanent effects are summarized in this table. Appendix L of the Tier II Final EIS provides for detailed mapbooks of the Preferred Alternative, which show the permanent and temporary limits of disturbance throughout the 123-mile Project corridor.

Acronyms used in this table include: Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and Hazardous Materials (HAZMAT)

1. Natural Resources Conservation Service (NRCS) treated each alternative area separately; therefore, there is no “cumulative” corridor assessment score.
2. "Change" shown compares 2045 Preferred Alternative to 2045 No Build conditions. Air Quality and Energy are analyzed corridor-wide based on the station alternative as selected in Richmond (6F), so only a single value is shown in this table.
3. Noise and Vibration categories defined in Section 5.7 of the Final EIS.
4. Fredericksburg & Spotsylvania Co. Battlefields National Military Park & Cemetery, Lee Drive (111-0147) is both an above and below ground resource, and it is counted in the table twice in the “No Adverse Effect” column, as both an Archaeological Resource and a Historic Resource.
5. The historic RF&P Railroad (500-0001) traverses the Project corridor from the Potomac River on the north to Main Street Station in Richmond on the south; therefore, one resource has been added to the “Adverse Effect” column for “Effects on Buildings, Districts, Structures, & Objects” since it does not fall in a single Alternative Area.
6. Some existing grade-separated crossings will be widened/replaced as part of the Project; these crossings are separate from the proposed new grade separations of existing at-grade crossings that are quantified in this table. Additionally, the existing at-grade closure of St. James Street is quantified in this table as a “Closure”, as it will be closed to vehicular traffic and replaced with a pedestrian-only bridge.
7. "Change" shown compares 2025 Preferred Alternative to 2025 No Build conditions.

Qualitative Assessments. The following resources are addressed in qualitative discussions in the Tier II Draft and Final EIS documents:

- **Safety and Security.** Safety considerations along the corridor include the operations of the freight, commuter and intercity passenger services operating on the corridor. Security considerations include existing stations and rail yards, as well as along the railroad right-of-way, including at-grade roadway crossings. FRA's Track Safety Standards (49 CFR 213) are based on classifications of track that determine maximum operating speed limits, inspection frequencies, and standards of maintenance. The infrastructure proposed in the Selected Alternative is designed to meet the appropriate FRA regulations, industry standards and CSXT requirements. Changes in rail operations, including increased passenger train frequency and speed, proposed in the Selected Alternative will be implemented to meet appropriate FRA regulations, industry standards, and Amtrak and CSXT requirements.
- **Public Health and Safety.** FRA is the primary Federal agency authorized to oversee railway safety in the United States. FRA administers safety regulations over all aspects of rail operations along the existing corridor. The Selected Alternative is designed in accordance with FRA regulations, industry standards, and CSXT requirements. FRA and DRPT expect that the proposed upgrades to facilities and added rail capacity associated with the Selected Alternative will increase safety of all train traffic through the DC2RVA corridor by decreasing congestion, replacing older infrastructure, and constructing grade separations or improvements at existing at-grade crossings. The modern infrastructure and new technologies that will be applied will provide a greater level of safety for all rail traffic, including transportation of hazardous materials.
- **Construction Impacts.** Construction impacts associated with the proposed action are generally impacts that are temporary or short-term in nature and that occur only during the period of construction. FRA and DRPT anticipate that best management practices and other measures that are documented in the Tier II Final EIS can be appropriately used to mitigate any temporary construction impacts.
- **Indirect and Cumulative Effects.** The corridor connects several of the most rapidly developing regions in Virginia – where residential, commercial, industrial, and other transportation projects are constantly emerging. FRA and DRPT anticipate that the nature and magnitude of the indirect and cumulative effects of the Selected Alternative are small in the context of the effects of past, present, and reasonably foreseeable future actions. FRA and DRPT expect that the consequences of indirect effects of the Selected Alternative will be limited because the proposed improvements will modify an existing rail facility within which the locations of potential induced development are limited to station areas where development already is prevalent, and any induced development would be consistent with local planning goals and land use plans. Additionally, the narrow linear nature of the Selected Alternative presents a limited footprint of direct impacts and, therefore, a limited potential for expansive indirect impacts attributable to encroachment and alteration. Overall, considerable adverse impacts to sensitive and vulnerable resources have occurred over time, first due to agricultural uses of the land and then to residential, commercial, industrial, institutional, and public infrastructure development; however, current regulatory requirements and planning practices are helping avoid or minimize the contribution of present and future actions to adverse cumulative effects. When considered in that context, the magnitude and intensity of the impacts of the Selected Alternative will not have substantial indirect and cumulative effects, particularly considering the efforts to minimize adverse impacts of the Selected Alternative and other mitigation measures to be implemented.

3.2 Avoidance and Minimization Measures

The DC2RVA Project design attempted to maximize use of the existing rail right-of-way in order to avoid new impacts to resources. However, due to the need to straighten curves (to meet operational needs as dictated by Purpose and Need and the Project Basis of Design) or provide station improvements, there were areas where Project impacts extended outside the existing right-of-way. FRA and DRPT identified measures to avoid or minimize impacts to the natural and built environments, where feasible, as part of the conceptual engineering and included such measures in the Project, as described in the Final EIS. Avoiding and minimizing environmental impacts was a key step of the alternatives development process for the Tier II Draft EIS, as described in Section 2.1. Between the Tier II Draft and Final EIS, FRA and DRPT completed further refinements to the conceptual engineering for the Preferred Alternative, which resulted in both design changes to the proposed Project infrastructure as well as changes to the anticipated environmental impacts. Examples of refinements include: selecting an alternative alignment that avoids impacts to resources; locating new track on either the east or west side of the CSX right-of-way to avoid impacts to adjacent resources; or use of retaining walls to avoid physical disturbance to adjacent resources. Refinements were based on comments from the public and review agencies, as well as new data either provided or discovered during the Tier II Draft EIS review period, and resulted in further minimization of potential impacts. These changes to the Preferred Alternative between the Tier II Draft and Final EIS are documented for each alternative area in Chapter 4 of the Tier II Final EIS. Avoidance alternatives and measures to minimize harm specific to the Section 4(f) process are documented in Chapter 6 of the Tier II Final EIS, and all measures to minimize harm for resources that could not be avoided are included in the design of the Selected Alternative, documented in the Final Section 4(f) evaluation (see Section 3.3.2), or as all resources with Section 4(f) use are historic properties, agreed to in the conditions set forth in the Section 106 MOA (see Section 3.3.1).

Where negative effects cannot be avoided or minimized, or when no other reasonable or feasible alternative is available, FRA or DRPT, as appropriate, have identified additional measures to mitigate the potential impacts. Refer to Section 4 for details on the mitigation measures described in Appendix C with which DRPT must comply as a condition of FRA's approval. FRA recognizes that DRPT's compliance with the mitigation measures described in Appendix C will occur incrementally, as subprojects are funded and advanced through design and construction. In the event that the Project or incremental subproject is turned over to another sponsor during construction, DRPT will continue to coordinate the following commitments with that sponsor and the appropriate federal, state, and local regulatory and managing agencies.

3.3 Environmental Determinations

3.3.1 Section 106 of the National Historic Preservation Act Determination

As previously stated, Section 106 of the NHPA and Section 106 implementing regulations (36 CFR Part 800) require Federal agencies to consider the effects of their undertakings on historic properties and to afford various parties an opportunity to participate in the process if the undertaking could result in an adverse effect on a property listed in or eligible for the NRHP.

After extensive identification and evaluation studies, FRA and DRPT determined that there are 120 cultural or historic properties located in the Project APE, as documented in Chapter 5 and Appendix D of the Tier II Final EIS. In accordance with 36 CFR 800.5(a) FRA determined, and DHR concurred, that the Project will have no effect on 30 of the historic properties and no adverse

effect on 69 of the historic properties, and will have an adverse effect on 21 of the historic properties (8 archaeological and 13 architectural resources). DHR has concurred with these determinations. Detailed information on SHPO consultation is documented in Appendix E of the Tier II Final EIS.

Per 36 CFR 800.6, FRA and DRPT have prepared a Section 106 MOA to outline stipulations that will be taken to mitigate the adverse effects to the 21 historic properties. These stipulated mitigation measures will be implemented on an incremental basis as funding becomes available to advance project improvements and subprojects in the area of each historic property. FRA and DRPT developed the Section 106 MOA based on feedback from consulting parties, DHR, and ACHP and includes mitigation measures to address the impacts of the Project on all adversely affected resources, such as public interpretation, additional research, NRHP documentation, and archaeological data recovery. Appendix E of the Tier II Final EIS includes all Section 106 documentation, including determinations of effects, correspondence, and meeting summaries.¹⁶ A draft of the MOA as agreed to by all signatories and inclusive of comments from consulting parties and property owners was included in the Final EIS. The MOA was signed and filed with ACHP on July 16, 2019, and is provided as **Appendix A** to this ROD.

3.3.2 Section 4(f) of the U.S. DOT Act Determination

As previously stated, Section 4(f) protects publicly owned parks, recreation areas, and wildlife/waterfowl refuges, as well as historic sites listed in or eligible for listing in the NRHP and archaeological sites that are listed in or eligible for inclusion in the NRHP and warrant preservation in place. Section 4(f) use occurs if there is permanent incorporation, temporary occupancy, or constructive use of a protected property. Additionally, a *de minimis* impact is one that will not adversely affect the activities, features, or attributes of the Section 4(f) property or, for historic properties, that either no historic property is affected by the project or that the project is determined to have "no adverse effect" on the historic property, as part of the separate Section 106 process. FRA may not approve a Project using a Section 4(f) resource unless it determines there is no other feasible and prudent alternative and the project incorporates all possible planning to minimize harm.

The Section 4(f) process is documented in Chapter 6 of the Tier II Final EIS, with concurrence of all property owners documented in Appendix E of the Tier II Final EIS. As documented therein:

- Of the 12 public parks/recreation areas and 1 wildlife refuge located within the limits of disturbance of the Preferred Alternative, all are located within the temporary limits of disturbance and 1 is also located in the permanent limits of disturbance (Walker's Creek Retention Basin Park in Richmond, south of the James River). FRA has determined that all permanent impacts to parks will be *de minimis* and all temporary impacts to parks, recreation areas, and wildlife refuges will not result in a Section 4(f) use.
- Of the 21 historic properties determined to be adversely affected by the Project as part of the Section 106 process, FRA determined that the Preferred Alternative will result in a Section 4(f) use of 17 resources (permanent incorporation), which are listed in Table 4 below, and a *de minimis* use or no use of 4 resources. For the remaining Section 106 resources in the Project APE that would not be adversely affected by the Project, FRA determined that the Preferred Alternative will have no use or a *de minimis* use.

¹⁶ FRA and DRPT included the unsigned MOA in the Final EIS, but received no comments on it.

Table 4: Section 4(f) Uses – Selected Alternative

DHR ID	Name/Description
500-0001	Richmond, Fredericksburg, and Potomac Railroad
500-0001-0022	RF&P Bridge over Occoquan River
44ST1223	Civil War Campsite
111-0132-0025	Rappahannock River Railroad Bridge and Associated Structures/Platform
44SP0187	Bridge/Marye’s Mill
111-0132	Fredericksburg Historic District
44SP0688	Block 49
44SP0687	Block 48
44SP0468	Earthwork/Jackson's Earthwork
042-5448	Doswell Historic District
042-0093	Doswell Depot and Tower, 10577 Doswell Rd
166-5073	Berkleytown Historic District
043-0292	Laurel Industrial School Historic District, Hungary Road
043-0292-0001	Main Building/Robert Stiles Building/Bluford Office Building, 2900 Hungary Road
127-0344	Shockoe Valley & Tobacco Row Historic District
127-0172	Main Street Station and Trainshed, New Union Station, Seaboard Airline & Chesapeake & Ohio Railroad Depot
127-6271	Seaboard Air Line Railroad Corridor

Where FRA determines that there is no feasible and prudent avoidance alternative, the alternative that causes the least overall harm to Section 4(f) resources must be selected. This determination is made by balancing the following seven factors as identified in 23 CFR 774.3(c):

- (1) the ability to mitigate adverse impacts of each Section 4(f) property;
- (2) the relative severity of the remaining harm, after mitigation, to the protected activities, attributes, or features that qualify each Section 4(f) property for protection;
- (3) the relative significance of each Section 4(f) property;
- (4) the views of the official(s) with jurisdiction over each Section 4(f) property;
- (5) the degree to which each alternative meets the purpose and need for the project;
- (6) after reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f); and
- (7) substantial differences in costs among the alternatives.

As documented in Section 6.6 of the Tier II Final EIS, FRA and DRPT determined through an avoidance alternatives analysis that there are no feasible and prudent alternatives to the Selected Alternative that meet the Purpose and Need of the Project, and that the Selected Alternative incorporates all measures to mitigate harm.¹⁷ As noted therein, avoidance alternatives are not

¹⁷ Measures to mitigate harm included minimizing the Project footprint, altering the height and width of any newly required structures, assuring that modifications matched the historic character of the surrounding area, and removing excessive signage or other visual elements to maintain the viewshed, as detailed in Section 6.6 of the Tier II Final EIS.

required when a finding of *de minimis* use is made for Section 4(f) resources. Additionally, the least harm analyses on the Section 4(f) resources meet the requirements of 23 CFR 774.3(c) and confirm that there are no feasible and prudent alternatives to the use of land from the 17 historic properties with Section 4(f) use, and that the proposed action – i.e., the Selected Alternative – includes all possible planning to minimize harm to these resources resulting from such use, as summarized below.

- In Area 1: FRA determined that Selected Alternative in Area 1 will not result in a Section 4(f) use for any resources.
- In Area 2: FRA determined that the Selected Alternative in Area 2 will result in a Section 4(f) use of two resources: the RF&P Bridge over the Occoquan River (500-0001-0022) and archaeological site 44ST1223, a Civil War campsite that abuts the railroad tracks. The only alternative that avoids these resources is the No Build, which does not meet the Project Purpose and Need.
- In Area 3: FRA determined that the Selected Alternative in Area 3 will result in a Section 4(f) use of six historic resources. Four of the six resources with a Section 4(f) use are archaeological sites that straddle the rail line: site 44SP0187 (Marye’s Mill), site 44SP0688 (Block 49), site 44SP0687 (Block 48), and site 44SP0468 (Jackson’s Earthwork). Because the archaeological sites straddle the extant rail corridor and the bridge/structures comprise the physical fabric of the elevated rail system in this area, there is no prudent and feasible avoidance to these resources except for the No Build Alternative. The remaining two historic resources are the Rappahannock River Railroad Bridge and Associated Structures/Platform (111-0132-0025) and the Fredericksburg Historic District (111- 0132). Impacts to both resources are the result of physical modifications to the built environment. Use of both areas is required to achieve the Project goals, and reuse of the historic rail structural system rather than building a new system limit impacts on surrounding historic properties as compared to other Build Alternatives considered. The only alternative that avoids all impacts in this area is the No Build Alternative, which does not meet the Project Purpose and Need. Alternative 3C, the Fredericksburg Bypass, would avoid these six resources but would adversely impact at least 10 other historic properties in a manner that diminishes their significance and integrity. As such, the Selected Alternative will cause harm to the least quantity of historic properties in the Fredericksburg area.
- In Area 4: FRA determined that the Selected Alternative in Area 4 will result in a Section 4(f) use of two historic resources along the existing tracks: the Doswell Depot and Tower (042-0093) and the Doswell Historic District (042-5448). The depot and tower are located on opposite sides of the tracks. With the addition of a third track, the depot will remain, but the tower will be moved to the east. This action will result in a 4(f) use of this resource. The only prudent and feasible alternative is the No Build Alternative, which would leave the extant track system intact. This does not meet the Project Purpose and Need. The Doswell Historic District is located on both sides of the existing tracks; as such there is no avoidance alternative other than the No Build Alternative which does not meet the Purpose and Need of the Project.

- In Area 5: FRA determined that the Selected Alternative in Area 5 will result in a Section 4(f) use of three historic resources along the existing tracks. Although the Selected Alternative in Area 5 avoids the addition of a third track through the Town of Ashland in this area, work requires the construction of road overpasses at Vaughan Road (Archie Cannon Drive) and Ashcake Road north and south of town, which will result in a 4(f) use of the Berkleytown Historic District (166-5073). The only avoidance alternative to all of these resources is to not construct the improvements, which are part of the No Build, which does not meet the Project Purpose and Need. Alternative 5C, the bypass around Ashland, was the subject of a Phase IA reconnaissance study to identify areas with the potential for historic properties. Through this study, it was determined that over 20 above-ground resources had the potential to be eligible for the NRHP along this corridor and over 100 acres required archaeological survey to identify eligible sites. As such, the impacts to historic properties would be greater along the bypass alternative than the Selected Alternative, thus the Selected Alternative causes the least harm to historic resources.
- In Area 6: FRA determined that the Selected Alternative in Area 6 will result in a Section 4(f) use of three historic resources: one historic district, one above ground resource, and one linear district. The Selected Alternative includes several modifications in Shockoe Bottom in Richmond, including the construction of new passenger platforms on new piers, installation of a new rail on existing viaducts on both the east and west sides of Main Street Station, and construction of a new rail maintenance access platform southwest of the station. FRA has determined that the Selected Alternative in Area 6 will result in a Section 4(f) use of Main Street Station and Trainshed (127-0172) and the surrounding Shockoe Valley and Tobacco Row Historic District (127-0344) due to these physical alterations. There is no prudent and feasible avoidance alternative for these resources with the exception of the No Build Alternative, which would not meet the Purpose and Need of the Project. The Station is also a contributing element to the Seaboard Air Line (SAL) Railroad Corridor (127-6271); thus, impacts to the station, the structures, and the rail line itself will result in a Section 4(f) use of the associated rail line as a historic property. The Selected Alternative also includes grade-separating (i.e., raising) Hungary Road over the rail corridor in Henrico County, which will result in a Section 4(f) use of the Laurel Industrial School Historic District (043-0292) and Main Building/Robert Stiles Building within the Laurel District (043-0292-0001). There is no avoidance alternative. The Richmond area alternatives that would rely on the A-Line to carry additional passenger service (Alternatives 6A, 6B-A-Line, 6C, 6E, and 6G) were eliminated from further consideration in the Tier II Draft EIS as being unable to meet the Project's Purpose and Need, as documented in Section 4.3.3.6 of the Tier II Draft EIS.
- For the entire Project corridor, one historic property is located throughout the majority of the Project corridor. Given that the historic RF&P Railroad (500-0001) traverses the Project corridor from the Potomac River on the north to Main Street Station on the south, FRA has determined that there is a permanent Section 4(f) use with the Preferred Alternative in all six of the alternative areas. The No Build is the only alternative that would avoid all Section 4(f) uses within the corridor, and this would not meet the Project Purpose and Need.
- Through extensive coordination with various agencies, localities and other invested groups, impacts to the 17 properties with a 4(f) use were minimized to the greatest degree

possible through design changes. Any impacts that could not be avoided will be mitigated through commitments made as part of the Section 106 process. Each of the 17 resources was individually assessed for potential mitigation options, and a roster of tasks was created and modified through consultation with consulting parties and others and include: two NRHP nominations, 11 public interpretive signage clusters, one intensive architectural studies, two Cultural Landscape Reports (CLR), five GIS mapping & overlay studies, three Historic American Building Survey (HABS)/Historic American Engineering Record (HAER) analyses, five archaeological data recoveries, three historical webpages, five public talks, three oral history projects, six scholarly articles, nine structural treatment consultation, five historic contexts, three artifact displays, one public walking tour, and a web-based StoryMap on historic properties throughout the corridor. In addition, one resource – the Doswell Railroad Tower – will be moved.

- The final mitigations were detailed in the Project Section 106 MOA, which was ratified on July 16, 2019. This final Section 106 MOA was reviewed and approved by all consulting parties and by officials within each jurisdiction through the Section 106 consultation process. A copy of the signed Section 106 MOA is Attachment A of this ROD. Details on the Section 106 consultation including summary tables and copies of all correspondence and minutes can be found in Appendix E of the Tier II Final EIS.

The Selected Alternative was identified as such because it has the least overall harm of all Build Alternatives under consideration while meeting the Purpose and Need. There were no substantial differences between the approximate costs of the Build Alternatives in Areas 1, 2, and 4; however, the proposed bypass alternative in Area 3, the proposed bypass and tunnel alternatives in Area 5, and alternatives using the A-Line in Area 6, were more costly than other alternatives in those areas. As previously stated, in addition to fewer impacts on historic properties and parkland resources than the other Build Alternatives, the Selected Alternative would also result in lower community, farmland, and biological impacts, including lower impacts to jurisdictional wetlands, when compared to the other Build Alternatives, as well as fewer key community and religious facilities and fewer residential, commercial, and industrial business displacements.

As documented in Chapter 6 and Appendix E of the Tier II Final EIS, FRA notified DHR and ACHP of FRA's Section 4(f) determinations by letter dated December 4, 2018. By letter dated March 27, 2019, FRA informed the U.S. Department of the Interior (DOI) of FRA's Section 4(f) determinations.

By letter dated June 18, 2019, DOI stated that the descriptions of each resource and the Section 4(t) use are "very thoroughly documented" in the Tier II Final EIS documentation, and concurred with FRA's determinations that:

- There is no prudent and feasible alternative to the use of Section 4(f) lands by the Project, which consist of 17 historic properties as listed above in Table 4
- All possible planning to minimize harm has occurred
- The mitigation measures outlined in the Tier II documentation adequately addresses Section 4(f) use

The concurrence of DOI for the Final Section 4(f) Evaluation is provided as Attachment B of this ROD.

3.3.3 Air Quality General Conformity Determination

As part of the environmental review of the proposed Project, FRA conducted a general conformity evaluation for air quality pursuant to 40 C.F.R. Part 51, Subpart W and 40 C.F.R. Part 93 Subpart B. FRA has determined that Project-generated predicted annual pollutant emissions in nonattainment and maintenance areas are all below general conformity *de minimis* threshold values required and that no conformity determination is required.

3.3.3.4 Consistency with Coastal Zone Management Program

The entire Project corridor occurs within Virginia's coastal zone management area, designated in accordance with the Coastal Zone Management Act (CZMA) of 1972. The CZMA requires federal activities which are reasonably likely to affect any land or water use or natural resource within the coastal management area to be consistent with the enforceable policies of a coastal state's federally approved coastal management program before they can occur. In Virginia, the Department of Environmental Quality (VDEQ) is the lead agency responsible for coordinating the Commonwealth's review of federal consistency determinations. The Virginia Coastal Zone Management Program includes several agencies administering the enforceable policies addressing:

- Fisheries Management
- Subaqueous Lands Management
- Tidal and Non-Tidal Wetlands Management
- Dunes Management
- Non-point Source Pollutions Control
- Point Source Pollution Control
- Shoreline Sanitation
- Air Pollution Control
- Coastal Lands Management

The Selected Alternative will be designed and constructed in accordance with the Virginia Erosion and Sediment Control Law and the terms and conditions of water quality permits required by USACE, Virginia DEQ, and VMRC, and an erosion and sediment control plan and a stormwater management plan approved by Virginia DEQ. Implementation of proposed mitigation measures and any required permits will ensure consistency with the enforceable policies of the Virginia CZMP.

FRA and DRPT will submit a Federal Consistency Determination for the Preferred Alternative that analyzes the coastal effects of the Project in light of the enforceable and advisory policies of the Virginia Coastal Zone Management Program and provide commitment(s) to comply with those policies prior to construction. FRA and DRPT will develop details on compliance activities during the incremental design and permitting and approvals process for each segment or incremental project as funding becomes available and they are advanced to construction.

3.4 Environmental Findings

3.4.1 Section 7 of the Endangered Species Act Finding

Section 7 of the Federal Endangered Species Act (ESA) requires federal agencies to consult with the US Fish and Wildlife Services (USFWS) to ensure that actions are not likely to jeopardize the continued existence of threatened or endangered fish, wildlife, or plant species or result in the destruction or adverse modification of designated critical habitat for any such species. Based on updated research through regulatory agency online databases, agency input regarding threatened and endangered species that may be present along the Project corridor, and field surveys of potentially suitable habitat, as well as obtaining the current list of federally threatened and endangered species from USFWS, FRA and DRPT determined that the Selected Alternative could potentially impact eight federally endangered and/or threatened species, one proposed federally threatened species, and eight state-listed endangered and/or threatened species, as documented in Chapter 5 of the Tier II Final EIS.

FRA and DRPT will continue to coordinate with USFWS, Virginia Department of Game and Inland Fisheries, and National Marine Fisheries Service and complete any consultations required by Section 7 of the Endangered Species Act of 1973, as amended (Section 7) and, consistent with the proposed incremental approach to Project implementation described above, will complete a programmatic consultation under Section 7 with the applicable Federal permitting agencies.

3.4.2 Wetlands Finding

FRA is required to make findings pursuant to Executive Order 11990, Protection of Wetlands, and the U.S. Department of Transportation Wetlands Order, DOT Order 5660.1A. DRPT has made efforts throughout the planning and conceptual design process, and will continue to do so during future phases of final design, to further avoid and minimize impacts to wetlands to the extent practicable. Impacts to wetlands and Waters of the US (WOUS) will require submittal of a Joint Permit Application to USACE, Virginia Department of Environmental Quality (DEQ), and Virginia Marine Resources Commission (VMRC). Mitigation for unavoidable impacts will be developed in coordination with these agencies during the permitting process and incorporated into final design for both temporary and permanent impacts. Permanent impacts to wetlands and other WOUS from construction activities will require compensatory mitigation. The final compensatory mitigation plan will be determined during the permitting process, in coordination with the regulatory agencies. Permitting and mitigation for wetlands will occur incrementally as the Project is advanced through smaller subprojects and is the responsibility of DRPT; in the event that the Project or subproject is turned over to another sponsor during construction, DRPT will continue to coordinate permitting commitments with that sponsor and the appropriate federal, state, and local regulatory and managing agencies. Based upon these efforts and future mitigations, FRA determines that the Project is consistent with the requirements of Executive Order 11990 and DOT Order 5660.1A.

3.4.3 Floodplains Finding

U.S. DOT Order 5620.2 implements Executive Order 11988, Floodplain Management. These orders state that FRA may not approve an alternative involving a significant encroachment unless FRA can make a finding that the proposed encroachment is the only practicable alternative. The Selected Alternative will permanently affect 94.0 acres of Federal Emergency Management Agency (FEMA)-designated 100-year floodplains. However, FRA and DRPT have determined that none of the floodplain encroachments represent a significant encroachment because:

- The Selected Alternative would pose no significant potential for interruption or termination of a transportation facility that is needed for emergency vehicles or provides a community's only evacuation route;
- The rail lines upon which the Selected Alternative would run are not considered the only emergency evacuation route, nor do they support emergency vehicles;
- The Selected Alternative would not pose a significant flooding risk, nor will it increase flood height elevations or the probability of flooding, or the potential for property loss and hazard to life; and
- The Selected Alternative would not have significant adverse effects on natural and beneficial floodplain values.

Avoidance and minimization efforts, including spanning floodplains where practicable and minimizing wetland impacts, will be incorporated during future phases of design to avoid or minimize impacts on natural and beneficial floodplain values. The Project will be designed and constructed in accordance with Executive Orders 11988-Floodplain Management; the Virginia Erosion and Sediment Control Regulations; and the Virginia Stormwater Management Law and regulations. The Project will include an erosion and sediment control plan and a stormwater management plan approved by the Virginia DEQ, or local water quality protection criteria at least as stringent as the above state requirements. DRPT will implement these floodplain avoidance and minimization efforts, including compliance with Executive Order 11988, erosion and sediment control, and stormwater management requirements, on an incremental basis as specific subprojects are funded and advanced through final design and construction. Based upon these findings, FRA determines that the Project is consistent with the requirements of Executive Order 11988.

3.4.4 Environmental Justice Finding

FRA and DRPT conducted data collection and analysis to determine the presence of and effects of the DC2RVA Project upon any Environmental Justice populations in the Tier II Draft and Final EIS in accordance with Title VI of the Civil Rights Act of 1964,¹⁸ Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*,¹⁹ and U.S. DOT Order 5610.2.²⁰ As a result of this analysis as detailed below, FRA and DRPT have determined that the Selected Alternative does not have disproportionate adverse effects on Environmental Justice populations in comparison to other Build Alternatives under

¹⁸ Title VI states that “No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.”

¹⁹ EO 12898 requires that each federal agency “shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.”

²⁰ As defined by “Actions to Address Environmental Justice in Minority Populations and Low-Income Populations”, minority populations are citizens or lawful permanent residents of the United States who are African-American, Hispanic or Latino, Asian-American, American Indian, or Native Alaskan. Low-income persons are defined as those whose median household income is below the United States Department of Health and Human Services (HHS) poverty guidelines. For the DC2RVA project, FRA and DRPT identified these populations through the use of US Census data, National Center for Education Statistics data, and information from public involvement and outreach activities.

consideration. EPA concurred with the analysis approach, as described below, on September 16, 2015.

There are four key measures “to identify and avoid discrimination and avoid disproportionately high and adverse effects” (U.S. DOT Order 5610.2a) on environmental justice populations:

- Identifying and evaluating environmental, public health, and interrelated social and economic effects of DOT programs, policies, and activities,
- Proposing measures to avoid, minimize and/or mitigate disproportionately high and adverse environmental and public health effects and interrelated social and economic effects, and providing offsetting benefits and opportunities to enhance communities, neighborhoods, and individuals affected by DOT programs, policies, and activities, where permitted by law and consistent with the Executive Order [EO 12898],
- Considering alternatives to proposed programs, policies, and activities, where such alternatives would result in avoiding and/or minimizing disproportionately high and adverse human health or environmental impacts, consistent with the EO 12898, and
- Eliciting public involvement opportunities and considering the results thereof, including soliciting input from affected minority and low-income populations in considering alternatives.

FRA and DRPT applied all four of these measures in the Title VI and Environmental Justice analysis of the DC2RVA Project in the Tier II Draft and Final EIS documents, as summarized separately below.

Identifying Effects. The Tier II EIS for the Project included and documented “explicit consideration of the effects on minority population and low-income populations” (U.S. DOT Order 5610.2a). FRA and DRPT analyzed all Build Alternatives, including the Selected Alternative, to determine whether the Project will result in any disproportionate and adverse effects to minority and low-income populations and community resources including: relocations, changes in community cohesion, relocations of community facilities, changes of access to these facilities, changes in response times for emergency services, and noise and vibration effects (Draft EIS Sections 4.11 and 4.12).

Measures to Avoid, Minimize, and/or Mitigate Effects/Considering Alternatives. Measures to “avoid, minimize, and/or mitigate” effects were considered and documented by FRA and DRPT in the Tier II Draft and Final EIS for the Project. Consideration of alternatives to avoid or minimize effects also occurred. Analyzed across all of the potential environmental effects to Environmental Justice populations (residential relocations, community cohesion, relocations of community facilities, access to community facilities, changes in response times for emergency services, and noise and vibration impacts) as reported in the Tier II Draft and Final EIS, FRA and DRPT have determined that the Selected Alternative does not have disproportionate adverse effects on Environmental Justice populations in comparison to other Build Alternatives under consideration, as described below.

Residential Relocations. The Selected Alternative avoids the most severe disproportionate and adverse impacts (residential relocations) to potential Environmental Justice populations. As shown in Table 5.12-1 in the Tier II Final EIS, the Selected Alternative avoids any impacts (i.e., no residential relocations) in census tracts with a high proportion of minority and low-income populations. For comparison, as analyzed in the Tier II Draft EIS, one of the Build Alternatives in

Fredericksburg, (3C) two in Ashland (5C, 5C-Ashcake) and four in Richmond (6A, 6B-A-Line, 6C, and 6E) had the potential for between 7 and 105 residential relocations in census tracts with a high proportion of minority and low-income populations (as documented in Table 4.12-1 of the Draft EIS). The Selected Alternative avoids these impacts.

Community Cohesion. One of the Build Alternatives in Fredericksburg (3C) and two in Ashland (5C, and 5C-Ashcake) had the potential for community cohesion impacts (as documented in Section 4.11.2 of the Draft EIS). The Selected Alternative avoids these impacts.

Relocation of Community Facilities. Two of the Build Alternatives in Ashland (5C, 5C-Ashcake) and four in Richmond (6A, 6B-A-Line, 6C, and 6E) had the potential for relocating community facilities. The Selected Alternative avoids these impacts (as documented in Section 4.11.3 of the Draft EIS).

Access to Community Facilities/Changes in Response Times for Emergency Services. The Build Alternatives did not have the potential to change access to community facilities or to change response times for emergency services.

Noise and Vibration Impacts. There are operational noise impacts (i.e., locomotive horn noise, stationary horn noise, or wayside noise) along the entire Project corridor, so the Selected Alternative would have adverse noise effects in census tracts with a high proportion of minority and low-income populations, – however these adverse noise impacts are not disproportionate to other areas of the corridor. The Selected Alternative minimized adverse noise effects in comparison to other Build Alternatives screened in the Draft EIS, in particular, more severe effects in greater magnitude in Areas 3 and 5 on which new rail alignments were proposed (as documented in Section 4.12.2.2 of the Draft EIS).

In Area 3, less than 100 noise receptors were affected by Build Alternatives 3A and 3B, which pass through Downtown Fredericksburg, with 88 percent of these occurring in census tracts with a high proportion of minority and low-income populations. Almost 4,000 noise receptors were affected by Alternative 3C, in the Fredericksburg bypass alternative, where 45 percent of these occurred in census tracts with a high proportion of minority and low-income populations. The Selected Alternative (3B) would have a less total adverse effect on census tracts with a high proportion of minority and low-income populations and Alternative 3C would have impacts that are more severe.

In Area 5, through Ashland, the Build Alternatives that pass through Ashland affected almost 160 noise receptors; 80 percent of these occur in census tracts with a high proportion of minority and low-income populations. The Ashland Bypass (Alternative 5C) affected more than 300 noise receptors; 46 percent of these occurred in census tracts with a high proportion of minority and low-income populations. The Selected Alternative would have a less adverse effect on census tracts with a high proportion of minority and low-income populations and the Ashland Bypass would have impacts that are more severe. Notwithstanding, as previously described in Section 2.4.3, the Project will be developed as a series of incremental subprojects as funding becomes available and DRPT will review and update as necessary, corridor conditions and environmental consequences including presence of and impacts to Environmental Justice populations as well as the need for noise and vibration mitigation as part of each subproject section. Noise and vibration mitigation will be addressed during future incremental phases of design using FRA's High-Speed Ground Transportation Noise and Vibration Impact Assessment (September 2012) procedures, which could potentially include installation of wayside horns at crossings and noise walls

between track and receptors. In addition, public involvement and outreach within Area 5 was a determining factor in the Selected Alternative, as summarized in the following section.

Eliciting Public Involvement. The public involvement program included meaningful opportunities for public involvement by members of minority and low-income populations throughout the corridor and consideration of input from these populations. Public outreach has been integral to the project since the Project kick-off in the Fall of 2014 and has been documented in the Tier II Draft EIS and Final EIS. In particular, as a part of the public involvement process, the Ashland/Hanover Area Community Advisory Committee (CAC) was established to advise and inform DRPT on DC2RVA Build Alternatives and issues in the Ashland/Hanover County area. Based on the information and analyses of the seven Build Alternatives presented for Area 5 in the Draft EIS, public comments on the Draft EIS, information and comments developed through coordination with the CAC, and subsequent refined rail operations analyses, Alternative 5A was identified by FRA and DRPT as the Selected Alternative.

As documented in Section 4.12 of the Draft EIS, the environmental justice analysis is based on whether the percentage of minority or low-income populations within a census tract impacted by an alternative is greater than the percentage of minority or low-income populations within that census tract's county. For example, Fairfax County has a minority population of 46.11 percent. If the percentage of minority population in a census tract in Fairfax County is higher than 46.11 percent, the tract has the potential to contain an environmental justice population. Instead of a regional population across the entire corridor, this method provides a more accurate representation of potential environmental justice populations in diverse areas such as the DC2RVA corridor. EPA concurred with this analysis approach on September 16, 2015.

The trigger for an Environmental Justice effect is defined as "disproportionately high and adverse human health or environmental effects" (EO 12898). These effects are then compared to impacts in those census tracts that do not meet the thresholds for environmental justice populations. Specific residences or businesses were not examined for the presence of minority or low-income populations. Therefore, the exact impact on a specific residence through either relocation or a noise effect may not be on a minority or low-income person(s). The analysis focused on census tracts with a high proportion of minority and low-income populations. American Community Survey Census data is updated every year and changes over time. In addition, the 2020 Decennial Census will include additional race categories not previously included on the census form. Latino/Hispanic will be its own race category, not an ethnicity, and Middle Eastern will be a new race category. These new additions to the Decennial Census are expected to result in changes in minority populations. As the project progresses through the funding process and more refined design, new Census data will be able to provide a more updated analysis. As stated in the Project Commitments, DRPT will develop a communication liaison plan for each subproject that would notify affected and/or sensitive receptors of noise and vibration impacts, mitigation strategies, and construction schedules.

Based upon these findings, FRA determines that the Project is consistent with the requirements of Executive Order 12898.

3.5 Future Permits and Regulatory Approvals

As detailed in the incremental approach Section 2.3.4, the specific permits required, as well as permit submittal and approval processes, will vary based on the proposed infrastructure and jurisdiction(s) through which the future funded improvement passes. Throughout future Project development, design, and construction, DRPT will continue to coordinate with appropriate federal, state, and local regulatory agencies to obtain the necessary permits and approvals, including the potential use of nationwide and/or regional permits, as presented in Table 5 below.

Table 5: Anticipated Future Necessary Permits and Approvals

Permit	Authorizing Regulation	Regulatory Agency
Section 401 Water Quality Permit	Clean Water Act	Virginia Department of Environmental Quality
Section 402 Discharge Permit	Clean Water Act	Virginia Department of Environmental Quality
Section 404 Dredge and Fill Permit	Clean Water Act	U.S. Army Corps of Engineers
Section 408 Permission	Clean Water Act	U.S. Army Corps of Engineers
Subaqueous Bed Permit	Code of Virginia Chapter 2, Title 62.1	Virginia Marine Resources Commission
National Pollutant Discharge Elimination System Permit	Clean Water Act	U.S. Environmental Protection Agency
Municipal Separate Storm Sewer Systems (MS4) Permit	Virginia Stormwater Management Act	Virginia Department of Environmental Quality
Section 9 Bridge Permit	River and Harbors Act	U.S. Coast Guard
Section 10 Work in Navigable Waters Permit	River and Harbors Act	U.S. Army Corps of Engineers

There will be permit requirements for construction of the Preferred Alternative associated with the crossing and filling of water resources and wetlands.

Section 404 permits will be needed from the U.S. Army Corps of Engineers (USACE) for wetlands where filling occurs. In addition, the DC2RVA Project will require a Section 401 water quality certification and Section 402 discharge permit from the Virginia Department of Environmental Quality (Virginia DEQ).

A Subaqueous Bed permit will also be required from the Virginia Marine Resources Commission (VMRC). A Joint Permit Application (JPA) will be submitted to USACE, VMRC, Virginia DEQ, and Local Wetlands Board, and will combine several of the above permits. DRPT will submit a

JPA as required for each incremental subproject as the incremental improvements are funded and advanced into design and construction.

As part of the JPA review and approval process, a Section 408 permission will be required. Permission approval will be based on a letter of concurrence from the local sponsor, any real estate instruments needed for construction and/or operations, and final plans for construction. It is anticipated that a pre-application meeting will be held with USACE during the early stages of the next phase of design for each subproject and that a JPA pre-submittal meeting will be held with the USACE Section 408 team. Section 408 permission is separate from and concurrent with the JPA approval.

DRPT anticipates that the DC2RVA Project will result in the disturbance of more than five acres of total land area. Therefore, the Project will require a National Pollutant Discharge Elimination System (NPDES) permit for stormwater discharges from the construction sites. Permit coverage for the Project will be obtained either under the Virginia DEQ General Permit for Stormwater Discharges from Construction Site Activities or under an individual NPDES permit. A Municipal Separate Storm Sewer System (MS4) permit for small municipal separate storm sewer systems will be secured, as required by states and/or local authorities.

Work involving the spanning of navigable waterways will require a Section 10 permit from the USACE and a Section 9 Bridge permit from the U.S. Coast Guard. DRPT will seek these permits as each subproject involving a bridge over navigable waterways is funded and advanced into design and construction.

4 PROJECT COMMITMENTS AND MITIGATION

Project commitments to provide mitigation measures for the DC2RVA Project are the result of agency consultations, comments on the Tier II Draft and Final EIS, and regulatory requirements for the Project. Each commitment has been agreed to by the DRPT and will be implemented by DRPT, as appropriate, in the Project's design and construction phases.

As detailed in Section 2.3.4, the Project will be designed and constructed in increments as funding becomes available; as each Project increment is funded and moves forward through design and construction, the mitigations appropriate to that specific Project increment will also be implemented. DRPT will review the conditions in the subproject segment of the corridor, including the built environment, the natural environment, and the human environment. Although DRPT developed much of this information during the preparation of the Tier II Draft and Final EIS, FRA and DRPT acknowledge that conditions can change over time and that updated information is necessary, especially when progressing to a more detailed level of design. At that time, DRPT will review the conditions in the subproject segment of the corridor, including the built environment, the natural environment, and the human environment. DRPT will review and update as necessary, corridor conditions and environmental consequences and reconfirm potential impacts to environmental resources as identified in the Tier II Final EIS and ROD. If during future phases of design, the Project's or subproject's design or impacts exceed the NEPA commitments established in this ROD, then DRPT will re-evaluate the design and/or the NEPA documentation. In the event that the Project is turned over to another sponsor during construction, DRPT will continue to coordinate the following commitments with that sponsor and the appropriate federal, state, and local regulatory and managing agencies.

FRA and DRPT defined proposed commitments to mitigate the impact to applicable resources in the respective sections of the Tier II Final EIS and summarized the commitments in the Project Commitments section of the Tier II Final EIS. Since the publication of the Tier II Final EIS, FRA and DRPT have edited the Commitments text to specifically tie how the mitigations will be carried forward per the incremental approach for the Project, as described in Section 2.3.4. Additional details that were added to specific Commitments include: timing in the overall process of when a commitment will occur, particularly for those that are a specific permit or regulation; examples of activities that would occur; and examples of potential mitigations that could be implemented. Additionally, two commitments (F1 and F2) were combined into a single commitment (F1) to provide a continuous commitment on how DRPT will address any changes to the human and built environments during future phases of the Project.

Additionally, based on agency comments received on the Tier II Final EIS as documented in Section 5 below, FRA and DRPT revised six Project Commitments and introduced four new commitments, as follows. The remainder of the commitments remain unchanged as documented previously in the Tier II Final EIS.

- Four new commitments have been added subsequent to the Tier II Final EIS:
 - Commitment A12.7, new coordination commitment in regard to the Town of Ashland;
 - Commitments B24 and B25, in a new “Waters/Drinking Water” topic area in regard to Best Management Practices (BMPs) for wellhead protection, and minimizing impacts and increasing sustainability to surface waters, ground- and drinking water; and
 - Commitment D17, in a new “Long Bridge Design Coordination” topic area in regard to continuing coordination with the Long Bridge project.
- Six commitments have been revised:
 - A12.4 (Coordination with Localities);
 - B12 (Wildlife, Habitats, and Trees);
 - B20 (Noise and Vibration);
 - C1 and C2 (Cultural Resources and Section 106 introduction); and
 - D1 (Maintenance of Traffic/Grade Crossings).

These modifications did not affect the numbering of the primary commitments between the Tier II Final EIS and ROD; all numbering referenced herein is consistent between the two documents, with the addition of the four new commitments and one combined commitment noted above.

The Project Commitments, as revised and updated as described above, are provided in their entirety as Attachment C of this ROD.

5 SUMMARY OF COMMENTS ON THE TIER II FINAL EIS

In issuing this ROD, FRA and DRPT have considered all comments received on the Tier II Final EIS, as well as the comments previously received on the Tier II Draft EIS, from the Town of Ashland/Hanover County Community Advisory Committee (CAC), and from ongoing extensive coordination with agencies and outreach with the general public. FRA and DRPT received comments on the Tier II Final EIS from 7 agencies and organizations and 420 citizens, as detailed below.

5.1 Agency and Organization Comments on the Tier II Final EIS

Seven federal, state, and local agencies and/or organizations provided comments on the Tier II Final EIS, each of whom also provided comments on the Tier II Draft EIS.

- Two cooperating agencies: EPA and USACE
- Three participating agencies: City of Alexandria, Town of Ashland, and Hanover County
- Two other organizations: Southern Environmental Law Center (SELC) and the Ashland Museum

Summaries of their comments on the Tier II Final EIS and responses to each from FRA and DRPT are provided below. Copies of their comment letters on the Tier II Final EIS are provided in Attachment D of this ROD.

EPA. Comments from EPA were generally supportive of the Project and the level of analysis and commitments that were made in the Tier II Final EIS documentation. The EPA requested that FRA and DRPT continue to work with EPA and other stakeholders, including close coordination with the public, and suggested additional efforts to minimize potential impacts to the community and natural environment be included in the Project Commitments, including the following:

- Additional Best Management Practices (BMPs) for wellhead protection areas, including training of contractors to ensure practices are understood
- Additional resources for stormwater management efforts
- Additional minimization of construction dust
- Additional measures to support local communities in the plantings of trees, community gardens, and parks and walkways
- Additional communication and coordination methodologies and plans, for particularly sensitive resources (such as schools or daycare facilities) and Environmental Justice communities
- Ongoing coordination with the separate Long Bridge Project

In response to these comments, FRA and DRPT reconfirm their commitment to further avoiding, reducing, or mitigating impacts to resources during future phases of DC2RVA design and construction, and have revised the Project Commitments as requested by EPA, as documented in Attachment C of this ROD. FRA and DRPT are also committed to continue to coordinate with federal and state agencies, affected localities, the general public, and other stakeholders during future phases of design and permitting, in accordance with all applicable federal and state laws and regulations (Commitment A1 in the Project Commitments). DRPT has also committed to address stormwater management (Commitments A7, B3, B5, and B6) and construction dust

(Commitment B16) as required by the Virginia Stormwater Management Law and regulations and the Virginia Department of Transportation (VDOT) Road and Bridge Specifications. In response to EPA's comments on waters, FRA and DRPT have added two new commitments in regard to wellhead protection and surface, ground, and drinking water (Commitments B24 and B25).

Although supporting local communities in the planting of trees, community gardens, parks and walkways is beyond the scope of the DC2RVA Project, Project Commitments do focus on minimizing tree clearing (Commitments B12 and B22); DRPT will evaluate potential mitigation measures during future phases of design and construction and have edited the Project Commitments to state such (Commitment B12). Further, in keeping with the Project Commitments for continued coordination as enumerated in Section A of the Project Commitments, FRA and DRPT will include applicable measures for wellhead protection areas, stormwater management, and construction dust, support local communities, and address particularly sensitive resources and Environmental Justice communities during future design and construction phases. Both FRA and DRPT are directly involved in the Long Bridge Project; FRA and DRPT will continue to coordinate the progress and planned connection of DC2RVA and Long Bridge, and have added a new commitment to state such (Commitment D17).

USACE. Comments from USACE were in regard to specific permitting/application requirements and timing during future phases of the Project, with recommendations on specific coordination and additional potential mitigation measures to consider. USACE noted the quantified impacts to aquatic resources, and recommended additional evaluation of further measures to avoid and minimize impacts, particularly considering the limited availability of mitigation credits in some watersheds along the corridor. USACE reaffirmed that they can only authorize the least environmentally damaging practicable alternative (LEDPA) and will consider all environmental factors, inclusive of natural resources and social/economic resources, as part of their final permit evaluations.

In response to these comments, FRA and DRPT reconfirm their commitment to continued coordination with USACE on matters under their jurisdiction (Commitments A1 and A2) and to the commitments that USACE quoted in their comments and as stated in the Project Commitments. Specifically, FRA and DRPT will prepare and submit appropriate application(s), with current jurisdictional determination as noted by USACE (Commitments A3 and B2). FRA and DRPT will coordinate all wetland functions and values assessments and United Stream Methodology (USM) results with the USACE prior to permit applications and will continue to refine designs to avoid and minimize impacts to streams and wetlands to the extent practicable (Commitment B1). DRPT will remain informed about mitigation credit availability as the Project moves forward.

City of Alexandria. In their comments on the Tier II Final EIS, the City of Alexandria supported the inclusion of the Alexandria Union Station within the Project, but noted that their previous comments on the Tier II Draft EIS remain valid, particularly in regard to potential noise and vibration impacts during and after construction. The City also noted that any additional right-of-way impacts outside those identified in the Final EIS would be problematic, and stated that regular and meaningful coordination between the City, FRA, DRPT, WMATA, and VRE is integral to the future success of the Project.

In response to these comments, FRA and DRPT reconfirm their commitment to continued coordination with the City and other stakeholders listed by the City throughout future phases of

the Project (Section A of the Project Commitments), particularly in regard to any future design at Alexandria Union Station/King Street Station (Commitment A12.2), which is the Project's northernmost served station. FRA and DRPT will identify and implement appropriate noise and vibration mitigation during future phases of design, using FRA's noise and vibration impact assessment procedures at that time (Commitment B18). If during future phases of design, the Project's or subproject's design or impacts exceed those identified in the Tier II Final EIS documentation, FRA and DRPT will re-evaluate the design and documentation at that time, and FRA and DRPT will reconfirm potential impacts to environmental resources, including potential residential impacts, during future phases of the Project (Commitment F1).

Town of Ashland. In their comments on the Tier II Final EIS, the Town of Ashland reiterated their previous comment on the Tier II Draft EIS that the DC2RVA Project's reliance on diesel trains on shared track is short-sighted and does not meet the current and long term needs of the Commonwealth, and additionally stated concern that the Preferred Alternative (i.e., no additional track through the Town of Ashland) could "inevitably" lead to the addition of a third track through Town subsequent to the DC2RVA Project. The Town noted that they will rely on the language from the Commonwealth Transportation Board (CTB) resolution²¹ for the Project to protect their interests, and that they believe the only alternative that "would meet future capacity needs and would have received unanimous support of the CAC" is a deep bore tunnel option. The Town of Ashland also submitted a resolution passed unanimously and adopted by the Ashland Town Council on June 18, 2019, enumerating these specific concerns.

In response to these comments, FRA and DRPT refer to their response to the Town of Ashland's comments on the Tier II Draft EIS as documented in Appendix C of the Tier II Final EIS, and again note that the 2002 Tier I EIS for the Southeast High Speed Rail Corridor established the overall purpose and defined the route for providing a competitive transportation choice for travelers with the Washington, D.C. to Richmond, VA, Raleigh and Charlotte, NC travel corridor, including the use of diesel locomotives on the shared passenger-freight corridor. The Tier II EIS carries forward the purpose of the Tier I EIS within the Washington, D.C. to Richmond portion of the larger SEHSR corridor by identifying the infrastructure improvements necessary to provide a competitive transportation choice for current and future conditions. FRA estimated passenger, commuter, and freight train levels for 20 years (2045) to ensure the proposed infrastructure improvements will be sufficient to meet the Project's Purpose and Need. This includes a detailed review of projected train traffic through the Town of Ashland under the Preferred Alternative. The DC2RVA Project does not preclude adoption of, or adjustment for, future technological changes. Developing the corridor incrementally based on market demand and/or funding availability allows flexibility to accommodate future technological changes in future phases of design and construction.

Additionally, the Town of Ashland requested to participate as a partner in the future planning, design, and engineering of the grade-separated crossings at Vaughan and Ashcake Roads, and the planning and development of any future Ashland Station as part of the Project. In response to these comments, FRA and DRPT confirm their commitment to coordinate with the Town of Ashland, the general public, and other stakeholders during future phases of design and permitting of the grade-separated crossings at Vaughan and Ashcake Road, which has been

²¹ The CTB passed a resolution December 6, 2017 addressing the DC2RVA Project with the Town of Ashland. This resolution was provided as Appendix H to the Tier II Final EIS.

specifically added as a new commitment (Commitment A12.7) in Attachment C of this ROD. The DC2RVA Project does not include modifications to the Ashland Station.

Hanover County. Comments from Hanover County were supportive of the selection of Alternative 5A for the Ashland/Hanover Area (Area 5), as it was consistent with their comments on the Tier II Draft EIS and with the least objectionable alternatives adopted by the CAC. In response to these comments, and as stated throughout the Project Commitments, FRA and DRPT confirm their commitment to continue working forward with the County, the general public, and other stakeholders during future phases of design and permitting within the area. The DC2RVA Project will be implemented in increments or subprojects as funding becomes available. As part of the future phases of design for each subproject, DRPT will avoid or minimize impacts to the extent practicable. Where impacts cannot be avoided or minimized, DRPT will work with the regulatory agencies, permit authorities, project stakeholders and the local communities to develop appropriate mitigation measures as part of each subproject design, and in accordance with the specific Project Commitments in Attachment C.

SELC. Comments from SELC were generally supportive of the Project and the analysis and commitments made in the Tier II Final EIS, particularly in regard to not selecting any bypass alternatives, inclusion of cost information, and attention to cultural and historic properties as part of the Section 106 process, particularly in the Richmond area. SELC noted that the Commonwealth will need to be “vigilant and aggressive” to ensure that on-time performance targets are met, and encouraged consideration of electrification technology in the corridor. SELC stated that additional refinements and mitigation measures to further avoid and minimize potential impacts to resources, particularly noise impacts on environmental justice communities in the corridor, should be made. Finally, SELC continues to have concerns in regard to the Project’s shifting of passenger rail traffic to the S-Line in Richmond, particularly in regard to costs of train slots and infrastructure maintenance, and they suggest maintaining access to the A-Line and incrementally increasing routing via the S-Line.

In response to these comments, FRA and DRPT note that although the DC2RVA Tier II Final EIS considered diesel locomotives in the Washington, D.C. to Richmond segment in keeping with the determination made in the 2002 Tier I EIS for the SEHSR corridor, the DC2RVA Project does not preclude adoption of, or adjustment for, future technological changes which could include electrification. FRA and DRPT remain committed to further avoiding, reducing, or mitigating impacts to resources during future phases of design and construction, and have made specific commitments to address potential noise impacts and associated mitigation using FRA’s High-Speed Ground Transportation Noise and Vibration Impact Assessment, in accordance with the incremental approach of the Project (Commitments B18 – B20). DRPT will re-evaluate the need for noise and vibration mitigation within each subproject section as the subprojects are funded and move forward into final design and construction. SELC’s comments on the Preferred Alternative’s use of the S-Line versus the A-Line were previously addressed by FRA and DRPT in the Tier II Final EIS. As noted in Section 4.3.6.2 of the Tier II Final EIS, rail operations analyses show that passenger and freight rail performance goals cannot be met using the A-Line without additional track capacity; however, the existing A-Line through Richmond runs in a trench down the middle of I-195, which itself is within a trench, so options to expand rail capacity are limited or cost-prohibitive. These alternatives would also require a new third track on the A-Line on a bridge across the James River. An additional track cannot be added to the A-Line without expanding both the rail trench and the I-195 trench, creating extensive infrastructure and property impacts.

The Preferred Alternative routes all north-south passenger service onto the S-Line through Richmond, allowing passenger service to Richmond's downtown Main Street Station. The exception is Amtrak's Auto Train which would bypass Richmond using the A-Line. The Auto Train does not stop in Richmond, and would not fit through the historic Triple Crossing rail structure immediately south of Main Street Station. Passenger trains operating on the A-Line would not be able to serve Main Street Station and would be inconsistent with the Preferred Alternative. The Preferred Alternative would reduce the potential for conflicts between passenger and freight trains in the Richmond terminal area, since most north-south freight traffic through Richmond will continue to use the A-Line, while passenger trains will use the S-Line. Although the S-Line route from Centralia to Staples Mill Road Station is one mile longer than the A-Line and passes through the urbanized core of Richmond, there is more opportunity to construct necessary capacity improvements on the S-Line than on the A-Line.

Ashland Museum. Comments from the Ashland Museum stated their endorsement of the Town of Ashland comments, and generally encouraged solutions and technologies that will be practical beyond 2045. They state that the Project will affect the "economic vitality and quality of life" in Ashland immediately, and that the Town and surrounding areas are not sustainable with an at-grade third rail (track) nor a "wall of trains" stopping in Town. In response to these comments, FRA and DRPT will, in keeping with the Project Commitments, continue to coordinate with the Town of Ashland and local stakeholders during future phases of design and construction affecting Ashland. The DC2RVA Project will be implemented in increments or subprojects as funding becomes available. As part of the future phases of design for each subproject, DRPT will avoid or minimize impacts to the extent practicable; where impacts cannot be avoided or minimized, DRPT will work with local communities, including the Town and its stakeholders, to develop appropriate mitigation measures as part of each subproject design, and in accordance with specific Project Commitments in Attachment C.

5.2 General Public Comments on the Tier II Final EIS

During the 30-day review period for the Tier II Final EIS, a total of 420 citizens contacted FRA and DRPT regarding the Project via the Project email, hotline, and/or website. Of those:

- 413 citizens provided general statements in favor of the Project and its construction via form letters, comment postcards, and/or phone to DRPT. FRA and DRPT have recorded the general statements, but did not provide a formal response.
- Six citizens provided specific questions or comments on the Project. The questions and comments concerned topics that were asked by citizens during the comment period on the Tier II Draft EIS, with responses provided by FRA and DRPT in the Tier II Final EIS Appendix C - Detailed Responses to General Public Comments and Appendix L - Preferred Alternative Mapbook. FRA and DRPT responded directly to these six commenters by pointing them to the location(s) in the Tier II Final EIS that provided the information they were looking for. These six comments and their responses are also provided in Attachment D of this ROD.
- One citizen requested a point of contact related to a potential Freedom of Information Act (FOIA) request. DRPT provided contact information for DRPT's FOIA officer.

6 DECISION


FRA finds that the Selected Alternative consisting of Alternatives 1B, 2A, 3B, 4A, 5A, and 6F best fulfills the Purpose and Need and objectives for the Project while balancing impacts on the natural and human environment. In reaching this decision, FRA considered the physical and operational characteristics and potential environmental consequences associated with the DC2RVA alternatives. FRA, as lead federal agency, consulted with DRPT and Cooperating Agencies and considered the Tier II EIS documents, including the analysis of the No Build alternative, all Build Alternatives, and all public and agency comments received during the review periods, to identify the Selected Alternative.

FRA has reached a decision that most closely aligns with FRA's statutory mission and responsibilities, based on consideration of the information contained in the Tier II EIS documents. FRA approves the DC2RVA Project based on the Selected Alternative identified in the Tier II Final EIS and ROD. FRA has selected this alternative because it:

1. Best satisfies the Purpose and Need for the proposed action; and
2. Minimizes impacts to the human and natural environment by using existing active railroad corridors to the extent practicable and incorporating other mitigation measures.

Accordingly, this alternative has been selected based on processes in compliance with NEPA and other applicable requirements and may be advanced.

9/5/19
Date of Approval


Associate Administrator for Railroad Policy and Development
Federal Railroad Administration

ATTACHMENTS

- A. Final Section 106 Memorandum of Agreement
- B. Department of Interior Final Section 4(f) Concurrence
- C. DC2RVA Project Commitments
- D. Comments on the Tier II Final EIS



U.S. Department of Transportation
Federal Railroad Administration



Virginia Department of Rail and Public Transportation