

FEDERAL HIGHWAY ADMINISTRATION
FINDING OF NO SIGNIFICANT IMPACT

FOR

PROJECT: Interstate 66: Inside the Capital Beltway, Eastbound Widening

LOCATION: Fairfax County and Arlington County, Virginia

STATE PROJECT: 0066-96A-417 (UPC 108424)

FEDERAL PROJECT: NHPP-066-1(356)

The Federal Highway Administration (FHWA) has determined that this project, as described in the attached Revised Environmental Assessment, will have no significant impact on the human environment. This Finding of No Significant Impact is based on the Environmental Assessment, the Revised Environmental Assessment, and the Virginia Department of Transportation's letter requesting a Finding of No Significant Impact. These documents have been independently evaluated by FHWA and determined to adequately and accurately discuss the purpose and need, environmental issues, and impacts of the proposed project. They provide sufficient evidence and analysis for determining that an Environmental Impact Statement is not required. FHWA takes full responsibility for the accuracy, content, and scope of the Revised Environmental Assessment.

A Federal agency may publish a notice in the Federal Register, pursuant to 23 U.S.C 139(l), indicating that one or more Federal agencies have taken final action on permits, licenses, or approvals for a transportation project. If such notice is published, claims seeking judicial review of those Federal agency actions will be barred unless such claims are filed within 150 days after the date of publication of the notice, or within such shorter time period as is specified in the Federal laws pursuant to which judicial review of the Federal agency action is allowed. If no notice is published, then the periods of time that otherwise are provided by the Federal laws governing such claims will apply.

4/3/17

Date

John Dimkins

Federal Highway Administration

The Federal Highway Administration (FHWA) has reviewed the Virginia Department of Transportation's (VDOT) March 30, 2017 letter requesting a Finding of No Significant Impact, the Revised Environmental Assessment (Revised EA), the comments from the public hearings, and other supporting documentation.¹ In accordance with 40 CFR 1508.13, this Finding of No Significant Impact briefly presents the reasons why the project will not have a significant impact on the human environment.

Background

The Revised EA describes the history of Interstate 66 (I-66) inside the Capital Beltway as well as the recent studies to evaluate the congested travel conditions in the corridor. Using those studies as a foundation, VDOT initiated an Environmental Assessment (EA) to evaluate widening I-66 in the eastbound direction.

As described in chapter 4 of the Revised EA, VDOT coordinated with local, state, and Federal entities, and engaged in an extensive public involvement effort, throughout development of the EA in order to provide information to stakeholders and solicit feedback. The EA was developed in accordance with the environmental review process described in 23 U.S.C. §139.² A key component of that formal process was the development of a Coordination Plan that defined the approach for collaborative agency and public involvement in the development of the EA.

Agencies were contacted early in the study and asked to assist in determining and clarifying issues relative to the study. Agencies and the public were invited to provide comments about transportation needs, potential alternative solutions, and environmental issues within the study area. The agency and public feedback was used in the development of the purpose and need, the Build Alternative, and the environmental impact methodologies in the EA. VDOT also held citizen information meetings on May 9, 2016 and May 11, 2016 in the project area.

FHWA approved the EA on November 17, 2016 for public and agency review and comment. VDOT then held public hearings on December 5, 2016 and December 8, 2016 in order to solicit public input on the EA and the project itself. The Revised EA addresses substantive comments received on the EA. VDOT submitted the Revised EA along with a request for a Finding of No Significant Impact on March 30, 2017.

FHWA Decisions

There are two related but distinct decisions before FHWA with regard to the project. One decision is whether to agree with the Commonwealth of Virginia and approve the Build Alternative as presented in chapter 2 of the Revised EA. The other decision is determining whether the selected alternative would cause significant environmental impacts. Each of these decisions is addressed below.

¹ VDOT's letter and the Revised EA are hereby incorporated by reference into this Finding of No Significant Impact.

² The use of the environmental review process in 23 U.S.C. §139 is required for developing environmental impact statements and is optional for developing EAs.

Alternative Selection

Chapter 2 of the Revised EA describes the alternatives that were considered. VDOT evaluated the No Build Alternative and one Build Alternative in detail, which is allowable in accordance with FHWA's Technical Advisory T 6640.8A - Guidance For Preparing and Processing Environmental and Section 4(f) Documents.

No Build Alternative

The No Build Alternative would not address the need for additional capacity on eastbound I-66 in the study area and would not provide the vehicle throughput to meet demand as effectively as the Build Alternative. In fact, throughput under the No Build Alternative is anticipated to be below that of existing conditions. The Build Alternative would improve traffic operations, reduce congestion, and provide decreased travel times compared to the No Build Alternative. The No Build Alternative would also less effectively address safety in terms of reducing crashes. The No Build Alternative would not meet the purpose and need for the project and FHWA does not select the No Build Alternative.

Build Alternative

The Build Alternative would meet the purpose and need of the project. The additional lane would reduce congestion, improve travel speeds, and allow for greater throughput of vehicles. The Build Alternative also would more effectively address safety as compared to the No Build Alternative by providing a greater anticipated reduction in crashes. In addition, the inclusion of a bicycle/pedestrian overpass would improve safety for bicyclists and pedestrians at the intersection of Washington Boulevard/Lee Highway (Route 29) and Fairfax Drive. Of the eight crashes involving bicyclists or pedestrians at that location between 2011 and 2015, seven would not have occurred if there had been a bicycle/pedestrian overpass. FHWA selects the Build Alternative as described in chapter 2 of the Revised EA.

Environmental Impacts and Evaluation of Significance

VDOT analyzed the project's environmental impacts and, by recommending a FONSI, has concluded that the project would not have a significant impact on the environment. FHWA has independently evaluated the environmental impacts and likewise has determined that they are not significant. The following sections summarize the analysis of impact significance.

Right of Way and Relocations

To the extent practicable, the project improvements have been designed to be largely within the existing right of way, and no residential or commercial relocations would occur. The Build Alternative would require approximately 4.9 acres of temporary or permanent property easements or acquisition. The total permanent property conversion (via permanent property acquisition or permanent easements) would be approximately 0.16 acres. The remainder of the property impacts would be temporary in nature and primarily along the south side of I-66 in the study area.

The acquisition of property would be conducted in accordance with all applicable Federal laws, regulations, and requirements, including 23 CFR §710 and the *Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970*. All property owners affected by the project

will be treated fairly, consistently, and equitably so that they do not experience disproportionate effects.

FHWA finds that the right of way and relocation impacts are not significant.

Community Facilities

Washington and Old Dominion Trail. A grade-separated bicycle-pedestrian overpass of the Washington and Old Dominion (W&OD) Trail is included as part of the Build Alternative to alleviate pedestrian and traffic conflicts at the intersection of Washington Boulevard/Lee Highway (Route 29) and Fairfax Drive. The current at-grade crossing has been previously identified by the Northern Virginia Regional Park Authority (NVRPA) as a dangerous intersection and VDOT and NVRPA have worked closely to develop a trail crossing that would meet NVRPA's bridge guidelines. The new structure would provide safer access across the roadway for bicycle and pedestrian users of the W&OD Trail. In order to accommodate the implementation of the grade-separated overpass, approximately 1.2 acres of property owned by NVRPA are anticipated to be temporarily impacted. NVRPA indicated that removing the at-grade crossing will be beneficial for the trail by enhancing safety for all trail users. Short-term impacts to the trail could include temporary detours during construction; however, the overall function of the facility is not anticipated to be affected.

Bon Air Park including Custis Trail. In order to provide adequate and safe sight distance along the mainline of eastbound I-66 just east of Patrick Henry Drive, the widening would occur along the outside shoulder and would require minor right of way acquisition and temporary construction easements from Bon Air Park. As a result, Custis Trail would need to be slightly realigned. The preliminary design for the trail realignment has been developed to improve sight lines for bicyclists and pedestrians utilizing Custis Trail and crossing underneath I-66 at Bon Air Park. The right of way required to accommodate the widening and trail enhancements would be minimal and is not anticipated to affect the function or access of the park or trail. Approximately 0.07 acres of right of way and approximately 1.22 acres of temporary easement for construction would be required from Bon Air Park. On the north side of I-66, across from Bon Air Park, temporary construction impacts may occur as a result of the installation of noise barriers. During construction, short-term impacts to the Custis Trail could include temporary detours; however, the overall function of the facility is not anticipated to be affected. In Bon Air Park and along Custis Trail, areas affected by temporary construction activities would be revegetated and returned to similar existing conditions.

FHWA finds that the impacts to community facilities are not significant.

Economic

The Build Alternative would not have a major effect on income or the distribution of the business establishments and industries located within the study area. No business or commercial property relocations would occur as a result of the project. The reduced congestion expected as a result of the Build Alternative could improve access to businesses within the study area, improve commute times of study area residents, and improve business delivery times. The potential for temporary jobs during construction would increase for the duration of construction, with the

extent and duration of increases being generally proportional to the project construction cost. Impacts to businesses during construction would be minimized through careful planning during future phases of the study. Ongoing coordination with area businesses, particularly those located adjacent to proposed improvements or detour routes, would occur to prevent or minimize any short-term and long-term disruptions.

FHWA finds that the economic impacts are not significant.

Environmental Justice

All of the study area census block groups meet the established thresholds for minority environmental justice (EJ) populations. There are no low-income EJ populations. No relocations would occur under the Build Alternative and, therefore, and no physical impacts to EJ populations are anticipated to occur. The transportation benefits of the Build Alternative, including improved transportation mobility and reduced congestion, would be experienced by all users of I-66, including EJ populations. Temporary easements for construction are anticipated to be short-term and would not preclude access to, or impact the use of, properties. Property effects during construction are not considered disproportionately high and adverse to minority populations.

FHWA finds that the Build Alternative would not have disproportionately high and adverse effects on minority and low income populations, and finds that the impacts to such populations are not significant.

Cultural Resources

The Virginia State Historic Preservation Officer (SHPO) has concurred that the preliminary design of the Build Alternative will have no adverse effect on historic properties, including the Dominion Hills Historic District and the Washington and Old Dominion (W&OD) Railroad Historic District. Based upon the preliminary design, modifications to existing noise barriers and construction of new barriers would be included as part of the project. The limits of disturbance associated with noise barrier construction are anticipated to be located within the existing right of way. Additional coordination with SHPO will be conducted as the project progresses and additional information is known about the specifics of the design of the noise barriers; however, the noise barrier construction is not anticipated to adversely affect any historic resources.

FHWA finds that the impacts to cultural resources are not significant.

Section 4(f)

Two Section 4(f) resources would be used by the Build Alternative: the Washington and Old Dominion (W&OD) Trail and Bon Air Park.

Washington and Old Dominion Trail. In order to accommodate the grade-separated bicycle-pedestrian overpass, approximately 1.2 acres of property owned by the Northern Virginia Regional Park Authority (NVRPA) are anticipated to be temporarily impacted. The new structure at Washington Boulevard/Lee Highway (Route 29), in the vicinity of the Arlington-

East Falls Church community, would provide safer access across the roadway for bicycle and pedestrian users of the Washington and Old Dominion (W&OD) Trail. This improvement is not anticipated to affect the function of the recreational facility, and the NVRPA indicated that removing the at-grade crossing will be beneficial by enhancing safety for all trail users. Short-term impacts could include temporary detours during construction; however, the overall function of the facility is not anticipated to be affected. The officials with jurisdiction over the W&OD trail have concurred that the project will not adversely affect the activities, features, or attributes that make the property eligible for Section 4(f) protection.

FHWA hereby makes a Section 4(f) finding of de minimis impact for the W&OD Trail.

Bon Air Park including Custis Trail. In order to accommodate for adequate and safe sight distance along the mainline of eastbound I-66 just east of Patrick Henry Drive, the widening would occur along the outside shoulder and would require minor right of way acquisition and temporary construction easements from Bon Air Park. As a result, Custis Trail would need to be slightly realigned. The preliminary design for the trail realignment has been developed to improve sight lines for bicyclists and pedestrians utilizing the Custis Trail and crossing underneath I-66 at Bon Air Park. The right of way required to accommodate the widening and trail enhancements would be minimal and is not anticipated to affect the function of the park or trail within the park. Approximately 0.07 acres of permanent right of way and approximately 1.22 acres of temporary easement for construction would be required from Bon Air Park. The officials with jurisdiction over the W&OD trail have concurred that the project will not adversely affect the activities, features, or attributes that make the property eligible for Section 4(f) protection.

FHWA hereby makes a Section 4(f) finding of de minimis impact for Bon Air Park including Custis Trail.

Air Quality

The project was included in Transportation Planning Board's air quality conformity analysis for the Constrained Long Range Plan (CLRP), and the CLRP has been found to conform with all applicable air quality standards.

Particulate Matter (PM)_{2.5} Analysis. For PM_{2.5}, U.S. Environmental Protection Agency (EPA) regulations and guidance, as well as the technical criterion specified in the VDOT Resource Document, which was subjected to interagency consultation for conformity in December 2015, were followed to determine that the Build Alternative does not represent a project of air quality concern. Notwithstanding the fact that interagency consultation for conformity purposes was already conducted on the VDOT Resource Document, on which the models, methods and assumptions were based, interagency consultation was conducted for this project in September 2016. No comments were received that would suggest the project should be considered one of regional air quality concern.

Carbon Monoxide Analysis. Using EPA's MOVES2014a and CAL3AHC dispersion model, a quantitative carbon monoxide (CO) hot-spot screening analysis was performed for the Build Alternative. A CO screening analysis was performed using worst-case traffic and meteorological inputs in order to determine if exceedances of the CO NAAQS could occur as a result of the

Build Alternative. The results of the analysis show that the worst-case CO concentrations for the Build Alternative are predicted to be well below the CO National Ambient Air Quality Standard in both the Interim/Opening Year Build (2025) and Design Year Build (2040) scenarios for each of the worst-case locations analyzed along the project corridor. This screening analysis included the worst-case signalized intersections and the worst-case interchange. Therefore, it is expected that all other locations within the project corridor will remain well below the CO NAAQS.

Mobile Source Air Toxics Analysis. The Revised EA indicates that mobile source air toxics (MSAT) emissions are expected to increase slightly for both the 2025 and 2040 Build scenarios when compared to the corresponding No Build scenario. However, when compared to the 2016 existing conditions, emissions of all pollutants under the Build Alternative show substantial decreases. These reductions occur despite projected increases in vehicle miles traveled from 2016 to the 2025 and 2040 Build scenarios of 10% and 17%, respectively. The results of the quantitative MSAT analysis demonstrate that there would be no long-term adverse impacts associated with the Build Alternative, and that future MSAT emissions across the entire study area are expected to be substantially below existing conditions.

Impacts During Construction. The temporary air quality impacts during construction are not expected to be substantial. Emissions will be produced during the construction of this project by heavy equipment and vehicle travel to and from the site. Earthmoving and ground-disturbing operations will generate airborne dust. Construction emissions are short term or temporary in nature. In order to mitigate these emissions, all construction activities are to be performed in accordance with VDOT *Road and Bridge Specifications*. These Specifications require compliance with all applicable local, state, and federal regulations.

FHWA finds that the air quality impacts are not significant.

Noise

As described in the Revised EA and the Preliminary Design Noise Analysis, a total of 150 residential and 61 recreational receptors are predicted to have noise levels above the noise abatement criteria under the Build Alternative in 2040. The predicted 2040 Build Alternative's exterior noise levels are slightly higher than the existing noise levels, and range from 35 to 79 A-weighted decibels (dB(A)). On average for all receptors, sound levels are predicted to increase by approximately one dB(A). This increase is due primarily to the roadway improvements allowing slightly higher traffic volumes in the loudest-hour periods. An increase in three dB(A) is considered to be barely perceptible to the human ear; therefore, an increase of one dB(A) is minor.

In order to mitigate for the predicted increases in noise under the Build Alternative scenario, the preliminary feasibility and reasonableness of noise barriers were evaluated as an abatement measure in locations where noise impact is predicted to occur. As part of the barrier analysis, 15 common noise environments (CNE) where noise impacts were predicted were evaluated to determine if noise barriers were preliminarily feasible or reasonable to provide acoustical abatement. A total of approximately 231,707 square feet of noise barrier was preliminarily determined to be feasible and reasonable over the extent of the study area. Existing concrete noise barriers were evaluated and determined to be feasible and reasonable for CNE F. The existing concrete noise barrier for CNE E was evaluated and will be replaced using VDOT's *Highway Traffic Noise Impact Analysis Guidance Manual* "in-kind" replacement. Existing metal noise barriers were evaluated and determined to be preliminarily feasible and reasonable for

CNE L and CNE M. The existing metal noise barrier for CNE C was determined to be in disrepair and was removed from all future noise level predictions. A new preliminarily feasible and reasonable noise barrier was identified for CNE C. New noise barriers were evaluated and determined to be preliminarily both feasible and reasonable for CNE C (Barrier C1), CNE D (Barrier System D1-D2), CNE H (Barrier H1 Extension East), CNE N (Barrier N1), CNE O (Barrier O Extension West) and CNE O (Barrier O Extension East). Further study will occur during the project's final design to refine the noise abatement options.

FHWA finds that the noise impacts are not significant.

Streams and Wetlands

Approximately 96.7 linear feet of perennial stream are located within the existing right of way within the limits of disturbance (LOD). In addition, 4.6 linear feet of perennial stream would potentially be impacted within the LOD in new right of way, and 36.2 linear feet of stream are located within the area of temporary easements that would be required during the construction phase of the project. The 0.36 acres of palustrine open water located within the Fairfax Drive (Route 237) / Glebe Road (Route 120) interchange area would also be impacted by the Build Alternative. There are no impacts to wetlands in areas of new right of way under the Build Alternative.

The preliminary design for the Build Alternative was developed largely within the existing right of way in order to minimize impacts to resources. To the greatest extent practicable, opportunities to avoid and minimize potential impacts would be identified as the proposed limits of grading for the Build Alternative are refined during detailed project design. Mitigation for unavoidable wetland and stream impacts would be provided, typically based on standard mitigation ratios within the same eight-digit hydrologic unit code watershed. Any impacts to wetlands and streams will require submittal of a Joint Permit Application for permitting from the U.S. Army Corps of Engineers and the Virginia Department of Environmental Quality. Use of credits from an approved mitigation bank or payments to the Virginia Aquatic Resources Trust Fund is the anticipated form of mitigation for the project.

FHWA finds that the impacts to streams and wetlands are not significant.

Water Quality

The implementation of the Build Alternative could increase impervious surface area within the limits of disturbance, potentially resulting in increased stormwater runoff volumes and roadway contaminants received by impaired waters. Short-term impacts include increased sedimentation, increased turbidity from potential in-stream work, and possible spills or non-point source pollutants entering groundwater or surface water from storm runoff. However, there are no waters impaired for aquatic life, for which increased sedimentation and turbidity are of particular water quality concern, within one mile of the project corridor that are downstream of the existing and proposed right of way areas. Of the three impaired waters within one mile of the corridor, only Tripps Run is impaired for aquatic life. Tripps Run is part of the Cameron Run Watershed, which is adjacent to the environmental study area; however, the existing and proposed right of way areas do not drain into this subwatershed and therefore Tripps Run would be unaffected by the Build Alternative. The Build Alternative also is not expected to increase bacteria levels

within Pimmit Run or Four Mile Run. The sources of bacterial contamination for these waters are permitted point sources, sanitary sewer and septic systems, wildlife, and pets. The Build Alternative would not introduce or cause an increase in any of these sources.

During construction, the contractor would adhere to standard erosion and sediment control measures outlined in the Virginia Erosion and Sediment Control Regulations, the Virginia Stormwater Management Law and regulations, and VDOT's *Road and Bridge Standards and Road and Bridge Specifications*. This project was approved by the Virginia Department of Environmental Quality for stormwater grandfathering under the Part C II technical criteria of 9VAC25-870-93. Stormwater management measures, such as detention basins, vegetative controls, and other measures, including underground best management practices, will be implemented in accordance with Federal, state, and local regulations to minimize potential water quality impacts. These measures will reduce or detain discharge volumes and remove sediments and other pollutants, thus avoiding substantial further degradation of water bodies in the project vicinity.

Chesapeake Bay Total Maximum Daily Load. Although the Build Alternative would increase impervious surface area and traffic volumes, the project's contribution to the total impervious surface area within the Chesapeake Bay watershed, as well as the project's pollutant contributions to the total pollutant load in the Chesapeake Bay, are anticipated to be minimal. Stormwater management and mitigation pre- and post-construction would minimize potential downstream water quality impacts. The project would be constructed under the Virginia Department of Environmental Quality Construction General Permit (VAR10). It would also become a part of VDOT's Municipal Separate Storm Sewer System (MS4) permit. Both the Construction General Permit and the MS4 permit take into consideration total maximum daily load requirements, and the project will also be required to comply with the applicable water quality requirements contained in the Virginia Stormwater Management Program regulations.

Public Drinking Water. Construction of the proposed project is not expected to impact public drinking water supplies, and the Virginia Department of Health confirmed that there are no apparent impacts to public drinking water sources due to this project. As noted above, potential short-term and long-term water quality impacts from release of sediments and other pollutants into surface and groundwater within the project vicinity will be minimized with implementation of appropriate erosion, sediment, and pollutant control practices during project construction and through incorporation of stormwater management best management practices in project design.

FHWA finds that the impacts to water quality are not significant.

Floodplains

The Build Alternative's potential impact to floodplains is 0.39 acres. These potential impacts primarily correspond to the acreage of 100-year floodplains associated with Four Mile Run within the existing right of way. Based on the preliminary design limits of disturbance, encroachment on the Lubber Run 100-year floodplain is not anticipated. There are no 100-year floodplains within the new right of way.

The project design for the Build Alternative will be consistent with Federal policies and procedures for the location and hydraulic design of highway encroachments on floodplains contained in 23 CFR 650 Subpart A. The proposed project would not, therefore, increase flood

levels and would not increase the probability of flooding or the potential for property loss and hazard to life. Further, the proposed project would not be expected to have substantial effects on natural and beneficial floodplain values. The proposed project will be designed so as not to encourage, induce, allow, serve, support, or otherwise facilitate incompatible base floodplain development. It is anticipated that the potential floodplain encroachments would not be a “significant encroachment” (as defined in 23 CFR 650.105(q)) because:

- it would pose no significant potential for interruption or termination of a transportation facility that is needed for emergency vehicles or that provides a community's only evacuation route;
- it would not pose significant flooding risks; and
- it would not have significant adverse impacts on natural and beneficial floodplain values.

VDOT’s *Road and Bridge Specifications* require the use of stormwater management practices to address concerns such as post-development storm flows and downstream channel capacity. These standards require that stormwater management be designed to reduce stormwater flows to preconstruction conditions for up to a 10-year storm event. As a part of the procedures, the capture and treatment of the first half inch of runoff in a storm event is required, and all stormwater management facilities must be maintained in perpetuity. During project design, a detailed hydraulic survey and study would evaluate specific effects on stormwater discharges. This evaluation would adhere to the aforementioned specifications to prevent substantial increases of flood levels.

FHWA finds that the impacts to floodplains are not significant.

Coastal Zone

The project is located in both Fairfax County and Arlington County, which are within Virginia’s Coastal Zone, regulated by Section 307 of the Federal Coastal Zone Management Act of 1972, as amended, and the National Oceanic and Atmospheric Administration regulations for ensuring consistency with the state’s federally approved Coastal Zone Management Program (CZMP), promulgated under 15 CFR §930. With implementation of appropriate mitigation measures, the Build Alternative would not impair resources protected by the Virginia Coastal Zone law and regulations, and is anticipated to be consistent with the state CZMP. The project would 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 the U.S. Army Corps of Engineers, the Virginia Department of Environmental Quality, the Virginia Marine Resources Commission, and the Virginia Department of Conservation and Recreation.

FHWA finds that the coastal zone impacts are not significant.

Wildlife and Habitat

The Build Alternative would result in the removal of wildlife habitat, including wooded areas. The potential permanent conversion of wooded areas within the new right of way for the Build Alternative is 0.06 acre. In addition, there are 11.49 acres of wooded and semi-wooded areas within the existing right of way and 0.84 acre within areas of temporary easements that may

potentially be impacted by the Build Alternative. Habitat loss would generally occur within small isolated habitat patches or along edges of habitats that are already considerably fragmented. No potential corridors for wildlife movement would be substantially disrupted because impacts would take place along the existing I-66 roadway. Within the anticipated limits of disturbance for the Build Alternative, temporary construction impacts to wooded areas would be revegetated, according to VDOT's *Road and Bridge Standards*.

The Build Alternative is not anticipated to adversely impact natural heritage resources due to the scope of the project and the distance to the resources.

In accordance with Executive Order 13112, *Invasive Species*, the potential for the establishment of invasive animal or plant species during construction of the proposed project would be minimized by following provisions in VDOT's *Road and Bridge Standards*. These provisions require prompt seeding of disturbed areas with seeds that are tested in accordance with the Virginia Seed Law and VDOT's standards and specifications to ensure that seed mixes are free of noxious species. In addition, in order to prevent the introduction of new invasive species and to prevent the spread of existing populations, best management practices would be followed, including washing machinery before it enters the area, minimizing ground disturbance, and reseeded of disturbed areas. While the right of way is vulnerable to colonization by invasive plant species from adjacent properties, implementation of the stated provisions would reduce the potential for the establishment and proliferation of invasive species within the right of way. Consistent with input provided by Virginia Department of Conservation's (VDCR) Division of Natural Heritage, species used for revegetation will not include crown vetch (*Securigera varia*), tall fescue (*Festuca arundinacea*), autumn olive (*Elaeagnus umbellata*), or other plants listed on VDCR's *Virginia Invasive Plant Species List*.

FHWA finds that the impacts to wildlife and habitat are not significant.

Threatened and Endangered Species

The northern long-eared bat (NLEB) is the only federally threatened or endangered species that could be present in the study area. However, there are no known NLEB hibernacula, and no known occurrences of summer roosting or foraging NLEBs, in the vicinity of the project. While wooded areas near the project corridor could potentially provide summer roosting and foraging habitat for the NLEB, the quality of such habitat is poor due to fragmentation from urban development. Tree removal associated with the implementation of the Build Alternative would directly disturb forested habitat within the highly-developed urban areas that characterize the project study area. The U.S. Fish and Wildlife Service (USFWS) issued a 4(d) Rule for the NLEB (50 CFR Part 17) on January 14, 2016, which prohibits incidental take resulting from tree removal if it 1) occurs within 0.25 mile radius of known NLEB hibernacula; or 2) cuts or destroys known occupied maternity roost trees, or any other trees within a 150-foot radius from the known maternity tree during the pup season (June 1 through July 31). Incidental take of NLEBs from activities not prohibited by the 4(d) Rule were evaluated within the USFWS' Programmatic Biological Opinion for the Final 4(d) Rule for the NLEB and Activities Excepted from Take Prohibitions. Programmatic The Biological Opinion concluded that such activities are not likely to jeopardize the continued existence of the NLEB. Federal agencies may rely on the Biological Opinion to fulfill their project-specific Endangered Species Act Section 7 consultation responsibilities. On August 8, 2016, the USFWS concurred with a "may affect"

determination for the NLEB, while relying on the findings of the Programmatic Biological Opinion for the Final 4(d) Rule. As a result, VDOT, on behalf of FHWA, has completed the appropriate coordination and due diligence under Section 7 of the Endangered Species Act and no further action or coordination is required.

The state-listed wood turtle also may occur in the study area. Roadway widening at stream crossings under the Build Alternative would directly disturb aquatic habitat that may potentially support wood turtles. The widening of I-66 could potentially result in short-term and long-term water quality effects including increased sedimentation and turbidity from in-stream work and from additional impervious surfaces. Potential short-term impacts of the proposed project will be minimized with implementation of appropriate erosion and sediment control practices in accordance with the Virginia Erosion and Sediment Control Regulations, the Virginia Stormwater Management Law and regulations, and VDOT's *Road and Bridge Specifications*. Potential long-term impacts will be minimized via stormwater management measures, such as detention basins, vegetative controls, and other measures, in accordance with Federal, state, and local regulations. These measures will reduce or detain discharge volumes and remove sediments and other pollutants, thus avoiding substantial further degradation of aquatic habitats.

Fragmentation of terrestrial habitats and vehicle collisions are additional concerns for the wood turtle. The proposed project would result in a minor loss of wooded and stream habitats, which are currently fragmented by the existing I-66 facility. Impacts from additional habitat loss adjacent to the existing roadway would be incremental and would not newly fragment blocks of habitat. The existing I-66 facility represents a collision hazard for turtles that would not be noticeably worsened with implementation of the Build Alternative. The Virginia Department of Game and Inland Fisheries and the Virginia Department of Conservation and Recreation will be consulted during project design and permitting to identify avoidance and minimization measures to incorporate into project design for state-listed species.

The Build Alternative is not expected to affect bald eagles because there are no bald eagle concentration areas along the project corridor and the nearest nest is well over 660 feet from the project.

FHWA finds that the impacts to threatened and endangered species are not significant.

Hazardous Materials

There are no hazardous materials sites or facilities that have been identified within the preliminary limits of disturbance of the Build Alternative. Of the sites in close proximity to the project, all of the listed sites have either been remediated or are closed cases. While it is difficult to determine based on available database records the extent of substances released and whether hazardous materials have been completely removed or remediated to the satisfaction of jurisdictional agencies, any potential for impact of the Build Alternative related to hazardous material sites or facilities is anticipated to be minimal.

Any additional hazardous materials discovered during construction of the Build Alternative would be characterized and the site remediated in compliance with all applicable Federal, state, and local regulations. Prior to or during right of way acquisition, a Phase I environmental site assessment consistent with the American Society for Testing and Materials (ASTM) method E1527-13 will be performed. Findings from ASTM Phase I will be used to determine the

applicability of ASTM Phase II, or method E1903-11. All necessary remediation would be conducted in compliance with applicable Federal, state, and local environmental laws and would be coordinated with the U.S. Environmental Protection Agency, the Virginia Department of Environmental Quality, and other Federal, state, or local agencies as necessary. Prior to, during, and after construction, the contractor would be required to comply with all applicable Federal, state, and local regulations.

FHWA finds that the hazardous materials impacts are not significant.

Indirect Effects

Socioeconomics. The Build Alternative would improve traffic congestion along the I-66 study corridor that should result in moderate increases in productivity due to congestion reduction. The Build Alternative would not result in residential, business, or community facility relocations. Therefore, any indirect effects to community cohesion under the Build Alternative are not anticipated to be substantial. Temporary indirect effects to socioeconomic resources from temporary road closures, detours, and loss of parking during construction would be minimized by informing the affected communities and businesses in advance of when such circumstances would occur, and working with stakeholders and the community to potentially adjust schedules and identify alternative access.

Natural Resources. The study area was sized to match the extent of potentially impacted watersheds or habitat features. Modern temporary and permanent stormwater management measures, including stormwater management ponds, sediment basins, vegetative controls, and other measures would be implemented to minimize potential degradation of water quality due to increased impervious surface, drainage alteration, and soil disturbance. These measures would reduce or detain discharge volumes and remove many pollutants before discharging into receiving bodies of water. The project would comply with the Virginia Erosion and Sediment Control Law and regulations, the Virginia Stormwater Management Law and regulations, the most current version of the VDOT Annual Erosion and Sediment Control and Stormwater Management Specifications and Standards, and the project-specific erosion and sediment control and stormwater management plans. VDOT's practice is generally to maintain both water quality and quantity post-development equal to or better than pre-development. Indirect impacts to water quality from contaminant loadings would be reduced through highway design that incorporates runoff pre-treatment, including vegetated medians and swales, and stormwater best management practices.

All roadway crossings would utilize culverts and structures designed to adequately pass design floods and accommodate passage of aquatic organisms. Realignment, re-sizing, and replacement of existing culverts can reduce overall current stream quality degradation. Potential indirect effects to wetlands, streams, and floodplains would be minimized by local, state, and Federal regulations governing construction impacts in these areas. These regulations require avoidance, minimization, and compensatory mitigation. Implementation of strict erosion and sediment control measures during construction should minimize temporary, indirect effects to wetlands and waters.

The indirect effects to wildlife from habitat loss, fragmentation, and degradation due to reduced water quality or altered hydrology under the Build Alternative should be minimized and

mitigated by the measures discussed above for water resources. Design modifications to culverts and bridges, mindful of maintaining natural stream bottoms and natural shoreline preservation, would be incorporated to reduce adverse indirect effects to aquatic wildlife. Restoration of wetland and riparian vegetation would reduce potential indirect effects to aquatic and terrestrial wildlife from loss of habitat, habitat fragmentation, and potentially reduced water quality.

Invasive plant species management techniques as previously described would minimize the indirect effects to wildlife and wildlife habitat from the introduction and spread of invasive species posed by construction of the Build Alternative. VDOT's Roadside Development Specification 244 and Roadside Vegetation Management Policy include measures to manage invasive plant species. These provisions require prompt seeding of disturbed areas with mixes that are tested in accordance with the Virginia Seed Law and VDOT's standards and specifications to ensure that seed mixes are free of noxious species.

The potential indirect effects to threatened and endangered species under the Build Alternative could be reduced using the same measures as discussed above for wildlife habitat. Mitigation measures would be further developed as necessary following additional coordination with the Virginia Department of Game and Inland Fisheries and the U.S. Fish and Wildlife Service prior to construction. Consultation would occur before the permit decision, and any mitigation measures, conditions, or restrictions determined necessary by the U.S. Fish and Wildlife Service would be conditions of the permit. Mitigation measures may include use of time-of-year restrictions on construction, contractor training in recognizing and avoiding threatened and endangered species and their habitats, and restoration of habitat. Surveys for species may be required if potential habitat is identified. While many of these mitigation actions would be incorporated to offset direct impacts, they also would mitigate indirect effects.

Induced Growth. The Build Alternative has the potential to induce minimal growth or infill development around the existing interchanges and major feeder roads along the I-66 study corridor. Because induced growth would be anticipated to occur as infill or redevelopment around existing interchanges in previously developed areas, and such growth would occur primarily in areas allowing that type of development as identified in planning and zoning, it is anticipated that the indirect effects of induced growth to socioeconomic, natural, and historic resources would not be substantial.

FHWA finds that the indirect effects are not significant.

Cumulative Impacts

The Indirect Effects and Cumulative Impacts Technical Report describes in detail the cumulative impacts assessment methodology as well as the current state of land use and socioeconomic, natural, and historic resources within the cumulative impacts study area. The actions over time have been both beneficial and adverse to those resources. As described in the technical report, the Build Alternative's contribution to the cumulative impacts on the environmental resources in the area would be minor.

FHWA finds that the Build Alternative's contribution to cumulative impacts is not significant.

Council on Environmental Quality's Regulations

The Council on Environmental Quality's regulations implementing the National Environmental Policy Act require consideration of a project's context and intensity in determining whether the project would have a significant impact (40 C.F.R. 1508.27).

Context

The regulations state, "Context means that the significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality. Significance varies with the setting of the proposed action. For instance, in the case of a site-specific action, significance would usually depend upon the effects in the locale rather than in the world as a whole. Both short- and long-term effects are relevant." Since the construction of the project is a site-specific action, significance depends upon the effects on the project area. A description of the context of the I-66 corridor can be found in chapter 3 of the Revised EA.

Intensity

The regulations identify factors that should be considered in determining whether the intensity of a project's impacts is such that they result in a significant impact on the environment (40 C.F.R. 1508.27(b)(1-10)). FHWA has considered these factors as described below.

1. *Impacts that may be both beneficial and adverse.* Construction of the project would have some beneficial impacts, including reduced congestion, improved travel speeds, and improved safety.
2. *The degree to which the project affects public health or safety.*

Public Health

Air Quality. It is not anticipated that the project would adversely affect public health with respect to air quality. The national ambient air quality standards (NAAQS) were established by the U.S. Environmental Protection Agency with public health in mind. The air quality analyses discussed above demonstrate that the Build Alternative would not cause any exceedances of the NAAQS and, therefore, the project would not adversely affect public health as it relates to particulate matter, ozone, and carbon monoxide. A detailed analysis of Mobile Source Air Toxics (MSAT) demonstrates there would be no long-term adverse impacts associated with the Build Alternative, and that future MSAT emissions across the entire study area are expected to be substantially below existing conditions. Finally, the temporary air quality impacts during construction are not expected to be substantial. All construction activities are to be performed in accordance with VDOT's current *Road and Bridge Specifications*, which require compliance with all applicable local, state, and Federal regulations.

Drinking Water. Construction and implementation of the proposed project is not expected to impact public drinking water supplies, and the Virginia Department of Health confirmed that there are no apparent impacts to public drinking water sources due to this project.

Safety

The construction of the project is not anticipated to adversely affect safety. On the contrary, eastbound I-66 within the project limits would be an inherently safer roadway with a reduction in the number of crashes. Plus, the bicycle-pedestrian overpass for the Washington and Old Dominion Trail over Route 29 will produce notable safety benefits for bicyclists and pedestrians at that intersection.

FHWA finds that the degree to which the project would affect public health or safety does not represent a significant impact.

- 3. Unique characteristics of the geographical area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers or ecologically critical areas.* The Virginia State Historic Preservation Officer has concurred that the project would have no adverse effect on historic properties. The project's impacts on park lands would be de minimis, and there would be no impacts to prime farmlands, wild and scenic rivers, or ecologically critical areas. The project would impact 0.6 acres of wetlands. Mitigation for unavoidable wetland impacts would be provided, typically based on standard mitigation ratios within the same eight-digit hydrologic unit code watershed. Any impacts to wetlands and streams will require submittal of a Joint Permit Application for permitting from the U.S. Army Corps of Engineers and the Virginia Department of Environmental Quality. Use of credits from an approved mitigation bank or payments to the Virginia Aquatic Resources Trust Fund is the anticipated form of mitigation for the project.

FHWA finds that the project would not have a significant impact on historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.

- 4. The degree to which the effects on the environment are expected to be highly controversial.* The term "controversial" refers to cases where substantial dispute exists as to the size, nature, or effect of the action rather than to the existence of opposition to a use, the effect of which is relatively undisputed. There has been no substantial dispute regarding the size, nature, or effect of the project from the environmental resource agencies. No environmental resource agency has expressed opposition to the construction of the project, and the U.S. Environmental Protection Agency did not find that the project would be unsatisfactory from the standpoint of public health or welfare or environmental quality.

FHWA finds that the degree to which the effects on the environment are highly controversial does not require an Environmental Impact Statement.

- 5. The degree to which the effects on the quality of human environment are highly uncertain or involve unique or unknown risks.* There are no known effects on the quality of the human environment that can be considered highly uncertain or involve unique or unknown risks. Roadways such as I-66 have been widened around the country as well as within the Commonwealth of Virginia. The potential environmental impact areas from

roadways are described in FHWA's National Environmental Policy Act guidance documents. The impacts from the construction of this project have been identified using standard and accepted methods and approaches for assessing environmental impacts.

FHWA finds that the degree to which the effects on the quality of the human environment are highly uncertain or involve unique or unknown risks does not require the preparation of an Environmental Impact Statement.

6. *The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.* This action will not set a precedent for future roadway projects with significant effects or represent a decision in principle about a future project. The impacts associated with the construction of the project are not unique, and any future changes that are proposed to I-66 will be considered on their own merits and in accordance with environmental regulations. FHWA's regulations at 23 CFR 771.115(a) list the types of actions that normally have a significant effect on the environment thereby requiring the preparation of an Environmental Impact Statement. This project is not the type of action that is on that list.

FHWA finds that the degree to which the action may establish a precedent for future actions with significant effects, or represents a decision in principle about a future consideration, does not require the preparation of an Environmental Impact Statement.

7. *Whether the action is related to other actions with individually insignificant but cumulatively significant impacts.* As explained in VDOT's response to comment 466.1 in the Revised EA, this project has logical termini and independent utility and does not force additional transportation improvements to be made to the transportation system. The EA and Revised EA contain discussions of cumulative impacts. As stated previously, FHWA finds that the project's contribution to cumulative impacts is not significant.
8. *The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss of significant scientific, cultural, or historic resources.* The construction of the project would have no adverse effect on districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places.

FHWA finds that the degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places, or may cause a loss of significant scientific, cultural, or historic resources, does not require the preparation of an Environmental Impact Statement.

9. *The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act.* No critical habitat would be impacted. Only one endangered or threatened species could occur within the project area: the northern long-eared bat (NLEB). In August

2016, the U.S. Fish and Wildlife Service (USFWS) concurred with a “may affect” determination for the NLEB relying on the findings of the Programmatic Biological Opinion for the Final 4(d) Rule. The project is within a highly-developed urban area, which the USFWS indicates is extremely unlikely to contain suitable NLEB habitat.

FHWA finds that the degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act does not require the preparation of an Environmental Impact Statement.

10. *Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.* The project does not threaten a violation of any Federal, State, or local law for the protection of the environment. The construction of the project will comply with all applicable Federal, State, and local laws, and all applicable permits will be acquired prior to construction.

FHWA Finding

Based on the foregoing information as well as the EA, Revised EA, public hearing comments, and other project documentation, FHWA finds that the project will not have a significant environmental impact. Therefore, an Environmental Impact Statement is not warranted, and this Finding of No Significant Impact is being issued accordingly. The Finding of No Significant Impact will be reevaluated pursuant to 23 CFR 771.129(c) prior to FHWA granting any major approvals, and the reevaluation will take into account the conditions at that time.