

FEDERAL HIGHWAY ADMINISTRATION

FINDING OF NO SIGNIFICANT IMPACT

FOR

ROUTE: Interstate 64; Hampton Roads Crossing Study

LOCATION: Cities of Hampton and Norfolk

FEDERAL PROJECT: None assigned yet for construction

STATE PROJECT: 0064-965-081, PE-101; UPC 106724

FROM: Interstate 664 (Exit 264)

TO: Interstate 564 (Exit 276)

The FHWA has determined that the changes being proposed by VDOT to Alternative A from the Hampton Roads Crossing Study Final Supplemental Environmental Impact Statement (aka the Selected Action from the Environmental Assessment) will not have a significant impact on the environment not previously considered. Likewise, no new information or circumstances relevant to environmental concerns with significant environmental impacts not previously considered have been identified. This Finding of No Significant Impact is based on the attached Environmental Assessment and supporting documentation which has been independently evaluated by the FHWA and determined to adequately and accurately discuss the expected environmental issues and impacts of the proposed changes. All substantive environmental comments received as a result of the Citizen Information Meetings and associated public comment period have been considered and addressed as needed. This Environmental Assessment and supporting documentation provides sufficient evidence and analysis for determining that the existing Supplemental Environmental Impact Statement need not be supplemented. The FHWA takes full responsibility for the accuracy, scope, and content of the attached Environmental Assessment and supporting documentation.

10-23-18

Date



Division Administrator

Rationale for Finding of No Significant Impact

Hampton Roads Crossing Study

Cities of Hampton and Norfolk

Introduction

FHWA has reviewed VDOT's August 10, 2018 submittal of their Request for a Finding of No Significant Impact (FONSI) for the Hampton Roads Crossing Study (HRCS) Environmental Assessment (EA) Re-evaluation. VDOT's request included a summary of substantive comments received on the EA and VDOT's responses. The EA was prepared in accordance with 23 CFR 771.130 to address changes being proposed by VDOT to the Selected Action, which was documented in FHWA's Record of Decision (ROD) in June 2017. The purpose of the EA was to determine if the impacts resulting from the proposed changes or any other new information or circumstances relevant to environmental concerns would result in significant environmental impacts not previously considered. The EA does not open up for consideration other aspects of the previous environmental studies like purpose and need and alternatives carried forward for consideration. Likewise, the EA does not address resources in any detail where it has been determined the impacts to those resources will not substantially change or will be reduced.

Based upon our review and the information that follows, FHWA has determined that NEPA and all other applicable environmental requirements have been adequately addressed and have concluded that the proposed changes to the project will not have a significant impact on the environment requiring the HRCS Supplemental Environmental Impact Statement (SEIS) be supplemented.

Background:

FHWA issued a Final EIS and ROD in 2001 for the original HRCS. In the ensuing years, VDOT tried to advance the project as a P3 but cancelled the effort in 2006. In 2011, VDOT tried to advance a portion of the project and prepared an EA Re-evaluation. The EA was never completed because funding was not identified for construction. In early 2013, the General Assembly approved a transportation funding package which included an increase in the sales tax in the Hampton Roads region dedicated to transportation improvements. In late 2014, because of the additional revenue, the decision was made to revisit the HRCS and prepare a SEIS. The decision was also made to reconsider the three alternatives from the original EIS as well as a fourth alternative that included all of the improvements covered by the previous three alternatives. There were 11 cooperating agencies involved in the SEIS which included six federal agencies and five localities. The federal cooperating agencies either concurred or, while not concurring, did not disagree with the purpose and need, the alternatives carried forward and the Preferred Alternative. A Notice of Intent to prepare the SEIS was issued in June 2015. The Draft SEIS was issued in July 2016, the Final SEIS was issued in April 2017, and the ROD was issued in June 2017. Prior to the issuance of the Final SEIS, the Army Corps of Engineers (COE) made a preliminary Least Environmentally Damaging Practicable Alternative (LEDPA) determination on the Preferred Alternative.

Selected Action:

The project limits were identified in the SEIS and ROD as being from Interstate 664 to Interstate 564. Within these project limits, Interstate 64 is currently six lanes between Interstate 664 (Exit 264) and the Settlers Landing Road Interchange (Exit 267) where an eastbound lane drops. Eastbound Interstate 64 continues with two lanes across the Hampton Roads Bridge Tunnel (HRBT) to Interstate 564. In the westbound direction, Interstate 64 is two lanes from Interstate 564 across the HRBT to the South Mallory Street Interchange (Exit 268) where a third westbound lane begins. The Selected Action from the ROD will add a third lane in the eastbound direction (also known as the inner loop) beginning just west of the Settlers Landing Road Interchange. Over the water, a new three-lane bridge tunnel is proposed to be constructed west of the existing HRBT, which will serve eastbound traffic. This three-lane bridge structure will continue to Willoughby Spit, tie into the existing eastbound two-lane cross-section of Interstate 64 where a third lane will be added down to Interstate 564.

In the westbound direction (also known as the outer loop), a third lane will be added to Interstate 64 from Interstate 564 up to the four-lane cross-section of the existing HRBT on Willoughby Spit. As proposed, the existing two westbound lanes of the HRBT will be restriped for one lane and the existing two eastbound lanes of the HRBT will be converted to westbound lanes, providing a total of three lanes for westbound traffic. In the City of Hampton, this three-lane cross section will tie into the existing three-lane cross-section of Interstate 64 at the South Mallory Street Interchange.

There will be no construction work between the western project limit, Interstate 664, and the Settlers Landing Road Interchange in the eastbound direction (i.e., inner loop) as well as between the South Mallory Street Interchange and Interstate 664 in the westbound direction (i.e., outer loop).

As was documented in the ROD, an Inventory Corridor was established along the length of the existing HRBT and approaches, extending from the eastern edge of the existing bridge-tunnels to the west. The Inventory Corridor represents the area in which the bridge-tunnel will be located and constructed over water. While the Selected Action and Refined Selected Action have been laid out in a specific location within this corridor for purposes of assessing impacts, the final alignment of the bridge-tunnel within this Inventory Corridor will be determined during final design. This will allow greater flexibility when considering options to avoid permanent impacts to the different resources that may be located in the corridor.

Refined Selected Action (i.e., Proposed Changes to the Selected Action):

VDOT has proposed four changes to the action identified in the ROD:

- managing the new capacity as high occupancy toll (HOT) Lanes (the SEIS and ROD acknowledged and analyzed the potential for the third lane being added in each direction to be a managed lane, but the State (i.e., the Commonwealth Transportation Board) did not make a formal decision until after the ROD was issued);
- using the interior shoulder as a hard-running HOT Lane during rush hour as congestion warrants;
- providing direct connections between the general-purpose lanes and the HOT Lanes at the Interstate 64/Interstate 564 interchange; and

- purchasing undeveloped property for a construction staging area on Willoughby Spit.

The use of the shoulder as a hard-running HOT Lane during certain times of the day will create a situation where four lanes of traffic will transition to the existing three lane typical section in the vicinity of the Interstate 564 interchange in the eastbound direction (i.e., the inner loop) and transition to the existing three lane typical section in the vicinity of the Mallory Street interchange in the westbound direction (i.e., the outer loop). It is anticipated that the hard-running shoulder lane would extend the length of the project when in use. It is also anticipated that it would be the hard-running shoulder HOT Lane and the new capacity HOT Lane that will merge into a single lane at the transition to the existing three lane typical section at either end of the project while the two general purpose lanes will continue unaffected by the transition. While an operational analysis is being conducted to look at these transitions in greater detail, they are not expected to create significant issue for the traveling public when the hard-running shoulder is being utilized as a HOT Lane. Based on the traffic included in the EA (see Table 5 in Appendix B), the HOT Lanes would carry less than 13,000 vehicles per day in each direction. By comparison, the general purpose lanes would carry almost two and a half times more traffic per lane on a daily basis. Given the volume of traffic forecasted on the HOT Lane and the hard-running shoulder HOT Lane, the merge to a single lane at either end of the project is not expected to create issues for the general purpose lane users. In order for the HOT Lane and the hard-running shoulder HOT Lane to work effectively, the merge to a single lane will need to be seamless, and this will be addressed during the detailed design phases.

Summary of Environmental Impacts:

Resources that did not receive further consideration:

Impacts to the following environmental resources will not substantially change or will be reduced as a result of the changes to the Selected Action being proposed by VDOT or because of more refined information since the ROD was issued: right-of-way/relocations, air quality, noise, impaired waterways, potential hazardous materials, dredge material, farmland, navigable waters, navigable channels, resource protection areas, Hampton Roads aquatic habitat, essential fish habitat, submerged aquatic vegetation, and visual impacts.

*** Air Quality and Noise Impacts:**

For the Draft SEIS, the Hampton Roads Transportation Planning Organization's (TPO) 2034 travel demand model was used, and the outputs were post-processed to produce 2040 peak-hour traffic to coincide with the study's design year. This post-processed peak hour traffic was then used to prepare the air quality and noise analyses. Coinciding with the preparation of the Final SEIS, the Hampton Roads TPO released its 2040 travel demand model. For the Final SEIS, the traffic from the 2040 travel demand model was compared to the 2040 traffic grown from the TPO's 2034 travel demand model used in the Draft SEIS. Based on that comparison it was determined that the peak hour traffic used in the Draft SEIS were slightly higher than the peak hour traffic from the 2040 travel demand model, representing a slightly worst-case scenario. Accordingly, it was concluded that there would not be any substantial changes to the modeling results and conclusions for the air quality and noise analyses from the Draft SEIS, and the results were carried forward to the Final SEIS. A similar approach was used for the EA whereby the 2040 traffic used for the Draft SEIS was compared to the traffic from the 2040 travel demand model with the proposed Revised Selected Action included. While ADT is forecasted to increase at the interchanges in the Interstate 64 corridor (see Tables 1 and 5 in Appendix B), peak hour traffic upon which the air quality and noise analyses are based will vary only slightly (i.e., by hundreds of vehicles; see Tables 2 through

4 in of Appendix B with respect to the air quality analysis and Table 1 in Appendix C with respect to the noise analysis). This comparison of peak hour traffic demonstrates that the results from the air quality and noise analyses from the Draft SEIS adequately represent the impacts that can be expected if the changes to the Selected Action being proposed by VDOT are implemented. Therefore, the proposed changes are not expected to have new and adverse air quality and noise impacts not already considered let alone new impacts that are significant. During final design, traffic will be updated and a final design noise analysis prepared to support the final decisions on noise barriers.

Further reinforcing the conclusion that the air quality analysis (i.e., the carbon monoxide analysis, specifically) does not need to be updated is the fact that the air quality modeling done for the Draft SEIS used worst-case peak hour traffic volumes which significantly exceeded the forecasted peak hour traffic volumes. For example, as shown in Table 2 of Appendix B, peak hour traffic at the Interstate 64/Interstate 664 interchange in the eastbound direction was forecasted to be 4,570 vehicles in the Draft SEIS. The worst-case volume used for the carbon monoxide modeling in the Draft SEIS was 14,000 vehicles. No matter how much peak hour traffic increases under the Refined Selected Action (i.e., it increased to 5,025 vehicles in this case), it still falls significantly below what was modeled.

With respect to noise impacts, a loudest-period assessment was conducted for the Refined Selected Action as documented in Appendix C. This assessment found that the Refined Selected Action would increase noise levels on average by 0.2 dB(A) over noise levels associated with the Final SEIS Preferred Alternative (i.e., Alternative A), which was the Selected Alternative in the ROD.

Finally, in the Draft SEIS, the annual vehicle miles traveled (AVMT) was forecasted to be 3,236 million miles in 2040 for Alternative A (i.e., the alternative that eventually formed the basis for the Selected Action). For the Refined Selected Action, the AVMT was forecasted to be 3,608 million miles in 2040. This increase is not expected to alter the conclusions of the quantitative Mobile Source Air Toxics (MSAT) analysis that was conducted for the Draft SEIS. Specifically, those conclusions stated that in all cases (i.e., the analysis years for all build alternatives) the magnitude of MSAT emissions is small in the opening and design years and significantly lower than in the base year. While there is an observed increase in 2028 and 2040 from the No-Build to the Build scenarios for those years, they are not considered significant, especially when considering that emissions from all MSATs are expected to be significantly lower in future years compared to the base year.¹ Comparing the Refined Selected Action to the other three build alternatives in the quantitative MSAT analysis, those other build alternatives had forecasted AVMT in the design year between 4,860 and 6,386 million miles. Because the forecasted AVMT for the Refined Selected Action falls well below the AVMT for the other build alternatives considered in the SEIS, the previous conclusions regarding the build alternatives that there will be no meaningful increase in MSAT emissions and that the emission levels are not expected to cause an adverse effect on human health remains valid.

1. These conclusions are consistent with FHWA's December 2012 interim MSAT guidance, which itself was based on a forecasted VMT increase of over 100% between 2010 and 2050 resulting in over an 80% reduction in the total annual emissions for priority MSATs. In October 2016, FHWA issued updated interim guidance using EPA's MOVES2014 model. The updated guidance was based on a forecasted VMT increase of 45% between 2010 and 2050 resulting in a combined reduction of over 90% in the total annual emissions for priority MSATs. As stated in the Final SEIS, the quantitative MSAT analysis was not updated based on the 2016 guidance because the 2012 guidance yielded more conservative or lower estimates of MSAT reductions.

* Green House Gas (GHG) Impacts:

Despite the increase in AVMT associated with the Refined Selected Action documented above, it was stated in the Final SEIS, “VMT was not used to calculate GHG emissions for each Alternative because there is no context in which to evaluate the results. For example, there are no significance thresholds for mobile source GHG emissions nor has the EPA or FHWA identified specific factors to consider in making a significance determination for GHG emissions. The Council on Environmental Quality has noted that “it is not currently useful for the NEPA analysis to attempt to link specific climatological changes, or the environmental impacts thereof, to the particular project or emissions; as such direct linkage is difficult to isolate and to understand.” Accordingly, it is not useful to attempt to determine the significance of such impacts... While the results could be used to differentiate between Alternatives, the VMT from which these emissions would be calculated serves the same purpose.” Therefore, regardless of the significance issue, the conclusion regarding potential GHG impacts associated with the Refined Selected Action would follow the same rationale as MSAT impacts discussed above. Namely, despite the forecasted increase in AVMT for the Refined Selected Action, the resulting AVMT still falls well below the AVMT for the other build alternatives already evaluated in the SEIS.

Further, from a quantitative perspective, global climate change is the cumulative result of numerous and varied emissions sources (in terms of both absolute numbers and types), each of which makes a relatively small contribution to global atmospheric GHG concentrations. Under NEPA, detailed environmental analysis should be focused on issues that are significant and meaningful to decision-making. FHWA has concluded, based on the nature of GHG emissions and the exceedingly small potential GHG impacts of the proposed action, that the GHG emissions from the proposed action will not result in “reasonably foreseeable significant adverse impacts on the human environment” (40 CFR 1502.22(b)). The GHG emissions from the Refined Selected Action let alone the changes to the Selected Action that are covered by the EA will be insignificant and will not play a meaningful role in a determination that the changes to the Selected Action will result in significant impacts not already considered requiring the SEIS to be supplemented. More detailed information on GHG emissions “is not essential to a reasoned choice among alternatives” (40 CFR 1502.22(a); the alternatives being the Selected Action and the Refined Selected Action in this case) or to making a decision in the best overall public interest based on a balanced consideration of transportation, economic, social, and environmental needs and impacts (23 CFR 771.105(b)).

On July 20, 2018 the Southern Environmental Law Center (SELC) and Chesapeake Bay Foundation (CBF) submitted comments on the EA² stating that the Trump Administration’s proposal to rollback the Corporate Average Fuel Economy (CAFÉ) standards could substantially increase traffic-related pollution in the future, including many of the emissions assessed in the EA. The SELC and CBF urged the air quality analysis for the project be updated to account for this change in circumstances. The SELC also sent a letter to the U.S. Secretary of Transportation, the FHWA Acting Administrator, and the EPA Acting Administrator related to the CAFÉ standards issue citing this project along with two other projects (one in North Carolina and one in South Carolina). The SELC argues that transportation air quality conformity determinations and NEPA analyses developed using the 2012 CAFÉ standards are invalid. In response, the agencies

2. The SELC and CBF also submitted comments dated September 13, 2018 in response to design public hearings hosted by VDOT in mid-August. That letter references their EA comments and serves to “briefly reiterate” their previous comments. Since the SELC and CBF’s July 20, 2018 EA comments have already been considered and addressed by VDOT, their September 13, 2018 comments are not being addressed separately as part of the EA Re-evaluation process.

anticipate that none of the alternatives included in the proposal are likely to have a significant impact on concentrations of criteria pollutants or greenhouse gases.

* Hampton Roads Aquatic Habitat and Essential Fish Habitat/Habitat Areas of Particular Concern/Anadromous Fish Use Areas:

The EA identified increases in the acreage for these two categories of resources. The increase in acreage is due to the decision to expand the limits of disturbance (LOD) over the water to include the westbound infrastructure (i.e., the outer loop) and the islands in their entirety (see Figure 2-1 in the EA). In the SEIS, the LOD only included the eastbound infrastructure (i.e., the inner loop; see Figures 3-2a and 3-2b in the Final SEIS) and the area to the west where the new structure was anticipated to be constructed. The expanded acreage doesn't represent new impacts necessarily because this area has already been disturbed by the existing structure. The existing bridges are in need of heavy maintenance, repair and possibly replacement of certain sections, and consideration is being given to how these needs can best be addressed.

* Transportation Air Quality Conformity:

In February 2018, the D.C. Circuit Court issued a decision in *South Coast Air Quality Management District v. EPA* which impacted areas like Hampton Roads that had been designated nonattainment and/or maintenance under the 1997 ozone standard but designated attainment under the 2008 ozone standard. One of those impacts is that projects and new, updated, or amended Transportation Improvement Programs (TIP) and Long Range Transportation Plans (LRTP) must demonstrate conformity in keeping with the anti-backsliding requirements associated with the revocation of the 1997 ozone standard. As documented in VDOT's August 10, 2018 letter requesting a FONSI, the changes covered by the EA and in particular, the drivable shoulder, do not rise to the level of being a capacity-increasing improvement in the corridor given the shoulder's anticipated limited use throughout the day. Therefore, the changes were not included in the conformity analysis recently prepared for the region. Subsequent to the completion of the EA comment period, the conformity requirements related to the 1997 ozone standard have been postponed. On September 14, 2018 the Court issued an Order staying its decision with respect to transportation conformity until February 16, 2019. Based on the Court's Order, projects in a TIP and LRTP may proceed prior to this date without demonstrating conformity.

Resources that received further consideration:

The following resources will experience an increase in impacts and are discussed in greater detail below: environmental justice communities, floodplains, terrestrial habitat, benthic communities, threatened and endangered species, cultural resources, streams, and wetlands. The increases in impacts are due to the decision to manage the new capacity as HOT lanes which, as depicted in Figure 2-2 of the EA, will result in the following increases to the typical section compared to the SEIS:

- Hampton, landside – 8 foot increase
- Hampton, approach bridges – 4 foot increase
- Norfolk, approach bridges – 8 foot increase
- Norfolk, landside – 12 foot increase

The increases in impacts can also be attributed to the proposed modifications to the Interstate 64/Interstate 564 interchange to accommodate direct connections between the HOT Lanes and the general-purpose lanes. The actual configuration of those connections, if incorporated into the

project, will be left up to the design-build contractor. For the time being, an expanded limit of disturbance has been drawn around the interchange, which should accommodate the yet-to-be-developed interchange configuration; therefore, the quantification of the resources within the LOD that are documented in the EA represents an over-estimation of potential impacts.

The increases in impacts can also be attributed to the decision to purchase undeveloped property on Willoughby Spit for a construction staging area.

Finally, the EA was developed using a greater level of detail than what was available for the SEIS. Specifically, the field delineation of wetlands, development of survey level details to establish right-of-way limits, and more detailed design of the Selected Action than what was available in the SEIS contribute to the increases in resource impacts.

When the EA was developed, the tunnel construction methodology was not known because the procurement process has been ongoing. There are two possible tunnel construction methods: an immersed tube tunnel requiring a cut and cover construction method and a bored tunnel using a boring machine. The week before VDOT submitted its FONSI request, it was announced that both firms pursuing the construction contract would submit proposals based on a bored tunnel approach. Both the SEIS and EA assessed impacts based on the construction methodology that would yield the worst-case impacts, the immersed tube tunnel. With the announcement of a bored tunnel approach, the impacts to resources in the harbor will be much less than those reported. The estimated quantity of dredge material will also be reduced, which was already more than three times less than the estimates for the next closest build alternative (1.2 million cubic yards versus 4.1 cubic yards). The Final SEIS acknowledged there was a potential that a percentage of the dredge material would be contaminated stating, "This contaminated material would require additional analysis and mitigation before identifying an acceptable disposal site. Several options are available to dispose of dredge material that requires testing to evaluate its suitability for various alternative uses and disposal sites." Likewise, the boring construction methodology may further contaminate dredge material with the use of chemical additives to stabilize the soil, which was a potential concern identified during the development of the SEIS. These same circumstances with contaminated dredge material and the potential challenges with identifying a suitable disposal location are also associated with the Revised Selected Action; therefore, it does not represent new information. Responsibility for identifying disposal sites will rest with the design-build contractor that is awarded the construction contract. Recent experience on the Parallel Thimble Shoal Tunnel Project in the Chesapeake Bay, which is utilizing the same construction methodology, demonstrates that the issue with contaminated dredge material is manageable.

The following social and environmental impacts identified in the EA will result if the proposed changes are incorporated into the project:

* Environmental Justice:

There are three additional Census Block Groups within the expanded study area for the Refined Selected Action, and they meet the definition of a minority or low-income population. One is in the vicinity of the proposed construction staging area on Willoughby Spit and the other two are in the vicinity of the Interstate 64/Interstate 564 interchange where an expanded LOD has been used to capture the possible configurations for the direct connections between the HOT Lanes and Interstate 564. Despite the increase in Census Block Groups, residential relocations and residential right-of-way impacts are forecasted to decline compared to the information presented in

the Final SEIS.

Additionally, low income and minority populations will not experience a disproportionate impact from tolls because they will continue to have free access to the general-purpose lanes. Further, changes to the EZ-Pass system now allow individuals that could not obtain an EZ-Pass transponder due to the lack of credit to purchase reloadable EZ-Pass cards. Finally, it is anticipated that those using transit will benefit from the HOT Lanes because the transit vehicles will have access to the HOT Lanes and experience a travel time advantage over those using the general-purpose lanes.

Conclusion: the increase in Census Block Groups located within the inventory corridor of the Refined Selected Action does not have new impacts associated with them that are considered significant.

* Floodplains:

Floodplain impacts will increase by approximately 75 acres compared to the Final SEIS from 149 acres to 225 acres. The majority of the increase in impacts will occur at the Interstate 64/Interstate 564 interchange where an expanded LOD has been drawn to accommodate any future configuration of the interchange. While the expanded LOD will accommodate the future configuration, it overstates the impacts because the entire area within the expanded LOD will not be needed. Further, the increase does not take into account reductions that will result from minimization efforts that will be considered during the permitting process and employed during construction.

In the Final SEIS, it was documented that there are approximately 989 acres of floodplains in the inventory corridor of Alternative D which consists of all of the improvements evaluated under the other build alternatives. While this acreage provides some context for this resource in the immediate vicinity of the build alternatives, this narrowly defined corridor only represents a small fraction of the floodplain resources that exist throughout the region (see Figure 3-12 of the Final SEIS which depicts the floodplains throughout the region).

Conclusion: the increase in floodplain acreage associated with the Refined Selected Action is not considered significant in light of the magnitude of floodplain acreage present throughout the inventory corridors as well as throughout the region. It is further recognized that the majority of the increase in the acreage of floodplain impacts is at the Interstate 64/Interstate 564 interchange where impacts have been overestimated. Since the Refined Selected Action involves expanding the capacity of an existing transportation facility, the proposed floodplain impacts will occur in the vicinity of floodplains already being impacted.

* Terrestrial Habitat:

Impacts to terrestrial habitat are expected to increase from approximately 15 acres to 33 acres as a result of proposed improvements at the Interstate 64/Interstate 564 interchange. In this location, existing forested patches can be found between the ramps of Interstate 64, within the loop ramps of Interstate 564, and along Granby Street at the interchange with Interstate 64. The presence of the Interstate and the fragmented patches of forest make it of low value for wildlife. On adjacent Naval Station Norfolk property, roadways and boundary fence impede wildlife movement between these forested areas and the larger contiguous forested patches located to the north and west.

Conclusion: while the impacts to terrestrial habitat will more than double with the Refined Selected Action, this increase is not considered significant given the low value and fragmented nature of the forested areas in the Interstate 64/Interstate 564 interchange where those additional impacts are occurring. Also, given that the scope of improvements at the interchange have not been developed yet and an expanded LOD was used to document the impacts, it is expected that the magnitude of these new impacts will be reduced as those improvements are developed. By comparison, the other build alternatives were forecasted to have terrestrial habitat impacts between 73 and 178 acres in the Final SEIS.

* Benthic Communities:

Benthic community impacts will increase from approximately 155 acres to 206 acres, and almost all of the increase in impacts will be to hard clam habitat. The increase in impacts to hard clam habitat is due to the increase in the footprint of the Refined Selected Action over the water and because the entire overwater area in the Hampton Roads Harbor is considered potential hard clam habitat. The Refined Selected Action footprint in the EA included the existing Hampton Roads Bridge Tunnel (HRBT) whereas the Selected Action footprint in the SEIS did not.

There will be no change in impacts to public clamming grounds, blue crab sanctuary, oyster reefs, oyster sanctuary, public Baylor Grounds, or private shellfish grounds. Impacts to blue crab habitat will increase by 0.2 acres.

In the Final SEIS, it was documented that there are approximately 1,477 acres of hard clam habitat in the inventory corridor of Alternative D which consists of all of the improvements evaluated under the other build alternatives. While this acreage provides some context for this resource in the immediate vicinity of the build alternatives, this narrowly defined corridor only represents a small fraction of the hard clam habitat that exists throughout the region as represented by the overwater area in Figure 3-14 of the Final SEIS. As depicted in Figure 3-14 of the Final SEIS, there is a hard clam harvesting area approximately two miles to the west of the Refined Selected Action that borders Hampton. With the exception of this area, the area between Interstate 664 and Interstate 64 is classified as a Condemnation Zone for shellfishing by the Virginia Department of Health.

Conclusion: while the impacts to hard clam habitat will increase by approximately 50 acres, this increase is not considered significant since all of the overwater area in the Hampton Roads Harbor is considered suitable hard clam habitat. Given this context, a 50 acre increase in impacts immediately adjacent to the existing Interstate 64 corridor in an area classified as a Condemnation Zone for shellfishing is inconsequential. By comparison, the other build alternatives were forecasted to have hard clam habitat impacts between 236 and 657 acres in the Final SEIS.

* Threatened and Endangered Species:

Impacts to threatened and endangered species habitat are forecasted to increase from 1 to 2.7 acres. The majority of this increase (1.4 acres) would be on Willoughby Spit where property would be purchased for a construction staging area. Much of this habitat is attributed to the piping plover, a federally threatened species which has not been seen in the area for some time. The remainder of the increase would occur near Woodlands Golf Course in Hampton where potential bat habitat was identified in the Final SEIS. Impacts in this area are forecasted to increase by 0.3 acres due to the increased level of engineering used to develop the EA.

Conclusion: the minor increase in impacts to potential threatened and endangered species habitat is not considered significant. In comparison, the other build alternatives were forecasted to impact between 91 and 117 acres of shorebird and bat habitat in the Final SEIS. Since shorebird foraging habitat is associated with wetlands, efforts will be made to minimize and avoid these impacts during the permitting process. Bat impacts will be addressed programmatically in accordance with the Range-wide Programmatic Agreement for Indiana Bat and Northern Long-eared Bat.

* Historic/Archeological Resources:

Two historic sites representing maritime battles will experience an increase in impacts due to the increased footprint of the Refined Selected Action over water. The Battle of Hampton Roads, which consists of approximately 35,000 acres, will experience an increase in acreage impacts from 164 acres to 247 acres. Impacts to the Battle of Sewell's Point, which consists of approximately 10,000 acres, will increase from 137 acres to 179 acres. Prior to issuance of the Final SEIS, the Virginia SHPO concurred with a no adverse effect determination for the impacts to these two sites.

The project would not adversely affect the non-archeological characteristics/components of these two battlefields because the integrity of the historic setting and feeling associated with the surface water and shoreline components of the battles have been significantly compromised by modern development. Since the improvements associated with the project would occur immediately west of the existing structures, the addition of new structures would not further diminish the integrity of the battlefields given the scale and condition of the battlefield landscapes. After the ROD was issued, underwater archeological surveys were completed for the project, including the expanded footprint of the Revised Selected Action, in accordance with the Section 106 Programmatic Agreement executed for the project. The surveys did not identify any sites or features associated with the battles that are eligible for the National Register of Historic Places (NRHP). The survey results have been reviewed by the Virginia SHPO, which concurred with this finding. Stipulation I.F of the Section 106 Programmatic Agreement states, "Once VDOT has developed an appropriate level of design plans for adding capacity to the HRBT, VDOT shall apply the criteria of adverse effect for the design to determine if the effect is consistent with the assessments for...Battle of Hampton Roads (DHR Inventory No. 114-5471), Battle of Sewell's Point (DHR Inventory No. 122-5426)...VDOT shall coordinate its updated findings with the SHPO and the Consulting Parties in accordance with 36 CFR 800.5 and shall consult with the SHPO and the Consulting Parties to resolve any adverse effects in accordance with 36 C.F.R. 800.6." Until such time as those plans are developed, it is reasonable to conclude that the proposed changes to the project will not alter the existing no adverse effect determination for the two historic battlefields. This is because the increase in acreage associated with the proposed changes is due to minor increases to the width of the inventory corridor over the water, which will not further diminish the integrity of the battlefields given the scale and condition of the battlefield landscapes. Additionally, a major concern with the project's effect was over impacts to potential archeological sites associated with the battles. However, the archeological surveys that were conducted demonstrated that there are no archeological sites associated with the battle and eligible for the NRHP that will be impacted by the project or the proposed changes.

Forest Lawn Cemetery is located in the vicinity of the Interstate 64/Interstate 564 interchange. Previously, the Virginia SHPO concurred that the Selected Action would not have an adverse effect on this historic property. The expanded LOD for the Refined Selected Action that has been drawn to accommodate any future configuration of the interchange does not encroach on this

property. However, indirect effects like visual impacts will be assessed when the design of the connections between the HOT Lanes and the general-purpose lanes advances in later stages of project development.

In the time since the Final SEIS was issued, VDOT completed terrestrial and underwater archeological surveys of the LOD for the Refined Selected Action, except for the area of the expanded LOD at the Interstate 64/Interstate 564 interchange. Based on coordination with the Virginia SHPO, none of the three additional underwater sites identified by the surveys are eligible for the NRHP. In accordance with Stipulation II of the Section 106 Programmatic Agreement, efforts to identify archeological properties in the vicinity of the Interstate 64/Interstate 564 interchange will be carried out prior to construction.

Conclusion: the increase in impacts to the Battle of Hampton Roads and Battle of Sewell's Point resulting from the minor increase in the width of the inventory corridor over the water are not considered significant given the magnitude of these two sites and the large area that they cover. Additionally, the results of the underwater archeological surveys reinforce the fact that none of the features that contribute to the significance of these historic sites will be adversely affected by the proposed changes to the project.

* Streams:

In the EA, 1,155 linear feet of stream impacts, based on unconfirmed field delineation, were reported as a new impact because the methodology used in the SEIS to identify Waters of the US (WOUS) was not sensitive enough to identify ephemeral streams. In the SEIS, stream impacts were included in the wetland impacts in the SEIS and not reported separately. However, the 1,155 linear feet of impacts had not yet been reviewed and confirmed by the COE when the EA was issued. After the EA was issued, additional coordination with the COE took place. Following field review of the field delineation by the COE, it was determined that most of what was presented as stream impacts in the EA is actually wetland impacts. As a result, stream impacts are now estimated to be 39 linear feet. In contrast, the adjustment means that wetland impacts will increase an additional 0.36 acres over what was reported in the EA.

Conclusion: 39 linear feet of stream impacts is not considered a significant impact especially given the magnitude of WOUS resources identified in the Final SEIS.

- * Wetlands: Wetland impacts will increase from approximately 7.6 acres to 15.7 acres (see the previous discussion on stream impacts) and are not confined to a specific location. About half of the increase in impacts can be attributed to field delineation and more advanced engineering that has taken place since the ROD was issued. The remainder of the increase in impacts can be attributed to the proposed changes to the Selected Action. Namely, the increase in the width of the typical section to accommodate the HOT Lanes, proposed improvements at the Interstate 64/Interstate 564 interchange, and the acquisition of property for a construction staging area account for the remaining increase in impacts.

Conclusion: while the increase in wetland impacts represents more than a doubling of wetland impacts, this increase is not considered significant. In the Final SEIS, it was documented that there are approximately 1,600 acres of wetlands in the inventory corridor of Alternative D which consists of all of the improvements evaluated under the other build alternatives. While this acreage provides some context for this resource in the immediate vicinity of the build alternatives,

this narrowly defined corridor only represents a small fraction of the wetland resources that exist throughout the region. By comparison, the other build alternatives were forecasted to have wetland impacts between 73 and 120 acres in the Final SEIS. In light of the COE's previous determination that the Selected Action could be considered the preliminary LEDPA and without the benefit of asking them to make another formal determination, it is reasonable to assume that the Selected Action with the changes proposed by VDOT (i.e., the Refined Selected Alternative) will remain the preliminary LEDPA when compared to the other build alternatives. Whether or not wetland impacts associated with the Refined Selected Action can be reduced further through avoidance and minimization will be determined during the permitting process.

Findings and Determinations:

Wetland Finding – Wetland impacts have been considered in light of Executive Order 11990. Given that the project involves the expansion of an existing facility, avoidance options are limited. The other build alternatives that were considered have far greater wetland impacts and would not represent a practicable avoidance alternative. However, the proposed project does include all practicable measures to minimize harm that can be developed at this stage of project development. Therefore, based on the above considerations, it is determined that there is no practicable alternative to the proposed construction in wetlands, generally speaking, and the proposed project includes all practicable measures to minimize harm to wetlands that can be developed at this stage of project development which may result from such use.

Section 4(f) de minimis finding – When the ROD was issued, Section 4(f) *de minimis* findings were made for the Battle of Hampton Roads and the Battle of Sewell's Point historic sites. As documented in the discussion on **Historic/Archeological Resources** above, there will be an increase in the use of property from the Battle of Hampton Roads and the Battle of Sewell's Point historic sites with the Refined Selected Action. However, it is reasonable to conclude that the increase in impacts will not alter the no adverse effect determination for purposes of Section 106 for the reasons cited in that discussion. Consequently, the *de minimis* findings would be extended despite the increased use of these sites. In terms of the timing, it is anticipated that VDOT will formally assess the effects of the project on the two historic sites once design plans are developed in accordance with the Section 106 Programmatic Agreement. The *de minimis* findings would then be revisited at that time to include consulting with the SHPO to ensure concurrence with the revisited proposed *de minimis* determination.

Evaluation of Significance:

In 40 CFR § 1508.27, the Council on Environmental Quality's regulations identify ten criteria that should be considered in determining whether the intensity of a project's impacts are significant enough to warrant the preparation of an EIS. Those ten criteria are discussed below as they relate to the proposed changes to the project:

1. *Impacts that may be both beneficial and adverse* – In addition to the adverse effects of the proposed changes to the project described above which FHWA believes are not significant, the proposed changes and the project overall will have some beneficial impact on the environment. However, it is not anticipated that these beneficial impacts will be significant. Specifically, the discussion of purpose and need in the Final SEIS addressed how the Selected Action would address the needs identified, which represents the beneficial impacts

of the project. With respect to the proposed changes, it is expected that those needs will continue to be addressed to varying degrees.

2. *The degree to which the project affects public health or safety* – It is not anticipated that the proposed changes will adversely affect public health or safety. Two areas where public health arises as an issue is with air quality and noise impacts. The National Ambient Air Quality Standards (NAAQS) were established with public health in mind. The qualitative air quality analysis for the proposed changes demonstrated that there would be no exceedances of the NAAQS and therefore, the proposed changes would not adversely affect public health as it relates to carbon monoxide. Likewise, the MSAT analysis demonstrated that there does not appear to be any significant change in MSAT emission levels as a result of the Refined Selected Action and that there would in fact be significant reductions in MSAT emissions over time. Likewise, noise is assessed against noise abatement criteria (NAC) established by FHWA. These NAC were developed by considering several criteria including: 1) hearing impairment; 2) annoyance, sleep, and task interference or disturbance; and 3) interference with speech communication (FHWA’s Highway Traffic Noise Analysis and Abatement Guidance). The qualitative noise analysis demonstrated that the impact on predicted noise levels as a result of the proposed changes would be nominal.
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 area* – There are historic properties, parks, and recreational resources located adjacent to and in proximity to the project corridor; wetlands, likewise are located throughout the area. However, it has been determined that the proposed changes will have no adverse effect on the historic properties identified, and the use of Section 4(f) resources is considered *de minimis*. Further, while the proposed changes to the project will result in an increase in wetland impacts, the resulting impacts are significantly less than the impacts associated with the other build alternatives considered.
4. *The degree to which the effects on the environment are expected to be highly controversial* – The effects on the environment attributed to the proposed changes are not expected to be controversial let alone highly controversial. Environmental issues have been coordinated with the appropriate state and federal resource and regulatory agencies, and they have been provided an opportunity to review the EA. Those agencies that submitted comments did not take issue with the assessment of impacts or disagree with the effect of the proposed changes on environmental resources.
5. *The degree to which the effects on the quality of the human environment are highly uncertain or involve unique or unknown risks* – There are no effects on the quality of the human environment associated with the proposed changes that can be considered highly uncertain or involve unique or unknown risks. Because the proposed changes involve adding capacity to an existing facility, the impact on the quality of the human environment is limited. The project will not disrupt any neighborhoods nor impact public parks, community facilities, non-profit organizations, or schools. The increase in right-of-way needed to accommodate the proposed changes to the project is approximately 10 acres, and this impact has been minimized by previous commitments to limit the improvements to the existing right-of-way in certain locations where sensitive resources are located.
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* – The proposed changes will not establish a precedent for future roadway projects with significant effects or represent a decision in principle about a future project. The impacts associated with the proposed changes are not unique and instead, are fairly common for transportation

improvements. The decision on the proposed changes represented by the FONSI is a stand-alone decision and does not create any obligation or bind decision makers on future actions in any way.

7. *Whether the action is related to other actions with individually insignificant but cumulatively significant impacts* – Other reasonably foreseeable actions in proximity to the proposed project were identified in the SEIS, but none of those projects met CEQ’s criteria for connected, cumulative, or similar actions such that they should have been considered in the SEIS. The proposed changes do not alter this conclusion.
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 proposed changes are not expected to alter the project’s no adverse effect determination as previously discussed.
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 federally-listed endangered or threatened species nor associated critical habitat will be impacted the proposed changes to the project.
10. *Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment* – The proposed changes do not knowingly threaten a violation of any Federal, State, or local law for the protection of the environment. If anything, the project facilitates compliance with Federal, State and local law.

Based on the information contained in the EA and other supporting documentation provided by VDOT, FHWA has concluded that neither the impacts resulting from the proposed changes nor any new information or circumstances relevant to environmental concerns will result in significant environmental impacts not previously considered. Therefore, the SEIS need not be supplemented.

This decision represents the general acceptance of the proposed changes and concepts described in the EA with the understanding that those changes may be subject to additional coordination, review and approval once design progresses (e.g. approval of design exceptions) and/or operational characteristics are finalized. Subsequent approvals that have the potential to change the scope of the project will be evaluated at that time to determine the need to revisit the environmental review.