Federal Highway Administration-DelMar Division

U.S. 50 OVER SINEPUXENT BAY CROSSING STUDY
MD 611 to MD 378 and 5th STREET to SOMERSET STREET
FINAL ENVIRONMENTAL IMPACT STATEMENT/
PROGRAMMATIC SECTION 4(f) EVALUATION
WORCESTER COUNTY, MARYLAND

RECORD OF DECISION

This document is the Federal Highway Administration (FHWA) Record of Decision (ROD) for the U.S. 50 Crossing Study from MD 611 to MD 378 and 5th Street to Somerset Street in Ocean City, MD. This ROD approves the Selection of Alternative 5A – North Parallel Bridge, as described in the Final Environmental Impact Statement/Programmatic Section 4(f) Evaluation (FEIS) dated May 2012 and documents that the Selected Alternative best serves the purpose and need for this project, minimizes environmental impacts, and is in the best overall public interest, in accordance with 23 U.S.C. 109(h). This ROD is based on the information presented in the FEIS and its associated administrative record and consideration of input received from the public and other agencies.

FHWA will issue a "statute of limitations" (SOL) notice in the Federal Register, pursuant to 23 USC 139(1)(1), indicating that one or more Federal agencies have taken final action that grants permits, licenses, or approvals for this transportation project. The SOL notice will establish that claims seeking judicial review of those Federal agency actions will be barred unless such claims are filed on or before 150 days after publication of the SOL notice in the Federal Register.

A. DECISION

1. Project Location, Purpose and Need

The U.S. 50 Crossing Study is located in Ocean City, Maryland, in the northeastern portion of Worcester County. U.S. 50 connects Ocean City to points west, including the remainder of the Delmarva Peninsula, the Chesapeake Bay Bridge, and the western shore of the Chesapeake Bay and is the primary east-west route for Maryland's Eastern Shore. The study area encompasses the U.S. 50 Crossing of the Sinepuxent Bay by way of the Harry W. Kelley Memorial Bridge (SHA Bridge No. 2300700) and extends from MD 611 to MD 378 (Baltimore Avenue in Ocean City) in the east-west direction, and from 5th Street to Somerset Street in the north-south direction. Project location and area maps are shown in the May 2012 FEIS as **Figure I-1** and **Figure I-2**.

The purpose of this project is to develop a solution that addresses transportation-related operational inadequacies and structural deficiencies of the existing bridge, while also improving safety for all users of the U.S. 50 Crossing of the Sinepuxent Bay in Worcester County, Maryland.

The Harry W. Kelley Memorial Bridge, also known as the U.S. 50 Bridge, was built in 1942 and is 70+ years old. It is considered functionally obsolete, with a narrow curb-to-curb roadway width which is substandard for the Average Daily Traffic (ADT) volumes it carries, particularly the increased recreational traffic generated during the summer months. The need to maintain a safe and efficient crossing of U.S. 50 is very important, not only because it provides access to and from the commercial center of Ocean City, but also because it serves as one of only three evacuation routes from the barrier peninsula during emergencies.

This study also addresses the need to safely accommodate the navigational needs of boaters, pedestrian and bicycle traffic, and the recreational needs of fishermen. Pedestrians, fishermen, and cyclists all currently share the same narrow five-foot wide sidewalks along the existing bridge, which creates potential conflicts among the various users. Finally, the study also investigates aesthetic enhancements to any crossing representative of a coastal gateway resort.

2. Traffic Analysis

The Average Daily Traffic (ADT) volume for 2011 for the U.S. 50 Bridge crossing is 48,600 vehicles per day (VPD) on summer Saturdays and 17,000 VPD during the off-peak season months (January through April and October through December). Traffic forecasts indicate that in 2030 the volumes on the bridge would increase to 61,900 VPD on summer Saturdays and 20,500 VPD during the off-season. This growth (approximately 1 percent annually) is consistent with socio-economic forecasts for households and jobs in the vicinity of the bridge in the Maryland Statewide Travel Model. The projected 2030 ADT volumes assume no large scale capacity or operational improvements along U.S. 50, the bridge itself (such as widening to six lanes), or to other nearby roadways. Overall, 2030 volumes are expected to be the same for the No-Build (Alternative 1) and Build Alternative (Alternative 5A), as the proposed reduction of draw span closures for boat traffic is expected to have a limited impact on overall travel demand in this area since no nearby alternatives to U.S. 50 exist for accessing the southern portion of Ocean City.

As traffic volumes increase for the summer season, the LOS for the U.S. 50 intersections deteriorates from the off-season condition. **Table I-1** summarizes the summer LOS analyses for the 2011 and 2030 conditions. During the summer season, all of these intersections were shown to operate at a LOS D or better in 2011. With the increased traffic volumes expected by the year 2030, the operational characteristics of the intersections are expected to get worse, with the U.S. 50/MD 611 intersection expected to fail (LOS F) in the evening peak.

Table I-1: Intersection LOS Analysis – "Summer Saturday" Traffic

Location	2011		2030 No-Build and Build	
	Midday Peak	Evening Peak	Midday Peak	Evening Peak
U.S. 50 @ MD 611 (Stephen Decatur Hwy)	D (0.84)	D (0.82)	E (0.96)	F (1.01)
U.S. 50 @ Golf Course Road	C (0.77)	C (0.72)	E (0.93)	D (0.87)
U.S. 50 @ MD 528 (Philadelphia Avenue)	B (0.68)	B (0.65)	D (0.85)	C (0.80)
U.S. 50 @ MD 378 (Baltimore Avenue)	B (0.72)	C (0.77)	D (0.90)	E (0.95)

3. Decision on the Selected Alternative

Alternative 5A – North Parallel Bridge has been chosen as the Selected Alternative based on information developed for the study, analysis of the environmental impacts associated with each alternative and input from regulatory agencies and the public. Alternative 5A – North Parallel Bridge was selected as it will best address existing and projected operational needs while minimizing environmental impacts throughout the study area.

The Selected Alternative includes a new parallel bridge just north of U.S. 50, tying back into Division Street. The new bridge will have a 30-foot high draw span and carry inbound and outbound traffic on two, 12-foot lanes in each direction for a total of four lanes (**FEIS Figure II-5**). The typical section for this alternative includes 7-foot shoulder and 5-foot 8-inch sidewalks along both sides of the roadway with a 6-foot median. This typical section is designed to improve safety for all users of the U.S. 50 Crossing, including bicyclists and pedestrians. With this alternative, St. Louis Avenue will be relocated underneath U.S. 50 to continue the north/south connection. This alternative does not change the flow of traffic, but will help reduce congestion due to the wider roadway; in addition, the higher draw span should reduce the number of bridge openings. The Selected Alternative does include the removal of the bascule span on the existing bridge. However, a future design study will be completed before determining the extent of the remaining bridge that will be removed. For a more detailed description of the Selected Alternative, please refer to the **U.S. 50 FEIS Section II**.

B. ALTERNATIVES CONSIDERED

In addition to the Selected Alternative, the alternatives below were evaluated, but were not selected. Regulatory and review agencies concurred with this recommendation as part of Maryland's Streamlined Environmental and Regulatory Process. Their concurrence is included in **Section VI of the FEIS, Comments and Coordination.** For a full description of the alternatives considered, please refer to **Section II of the FEIS**.

Alternatives Retained for Detailed Study and Presented at the May 29, 2008 Public Hearing

Alternative 1 – No-Build

Major improvements are not proposed under Alternative 1, the No-Build Alternative. Minor short-term improvements would occur as part of routine maintenance and safety improvements. Alternative 1 would not provide transportation improvements to the bridge or satisfy the Purpose and Need for the project; therefore, it was not selected.

Alternative 2 – Rehabilitation

This alternative included rehabilitation of the existing bridge with the addition of a separate fishing pier for fishermen, wider sidewalks for pedestrians and cyclists, and the addition of aesthetics such as lighting and archways. See **FEIS Figure II-2** for a display of this alternative.

Alternative 2 was initially considered a viable solution, with rehabilitation extending the life of the existing bridge 30 to 40 years. This alternative met the project's Purpose and Need, although not as well as the Selected Alternative in terms of its long-term viability. Upon further analysis and consultation with SHA's Office of Structures, Alternative 2 was not selected because it would not provide a long-term solution which addresses the need for the project. In 2008, the

existing bridge was rehabilitated and its life span was extended by only 20 to 25 years. The Office of Structures has determined that rehabilitation options do not exist for extending the bridge life to 30 or 40 years.

Alternative 4 Modified - Fixed Span Bridge

Alternative 4 was presented at the Alternatives Public Workshop as the "1st Street Connection," but was re-named because the alternative no longer connected in the vicinity of 1st Street; instead, it connected into Ocean City north of 1st Street. This alternative was modified after the Alternatives Public Workshop to minimize impacts to homes and businesses. The modifications include a new slightly curved bridge to the north of the existing bridge that connects into Philadelphia Avenue (one-way southbound) and Baltimore Avenue (one-way northbound). This allows the bridge to maintain maximum distance from Skimmer Island while tying in further to the north in Ocean City than the original Alternative 4 to minimize impacts to properties with existing structures.

The bridge would be a 45-foot high fixed span with four lanes carrying both inbound and outbound traffic. The inbound traffic would continue northbound one-way onto Baltimore Avenue (MD 378), and a new connection would be added onto Philadelphia Avenue to continue the inbound right-turn movement for traffic heading south into Ocean City. This alternative would require longer ramps into Ocean City due to the height needed for a fixed span. Parking would need to be removed from 5th Street to allow for an additional left turn lane at Philadelphia Avenue, and Baltimore Avenue would need to be widened by one lane from the ramp connection up to 5th Street to accommodate two lanes from the ramp and two from Baltimore Avenue. Baltimore Avenue would also need to be transitioned from three lanes to two south of the ramp to accommodate the ramp lanes.

This alternative received support from the majority of participants at the June 2006 Alternatives Public Workshop. It would eliminate the need for draw span openings and would provide a separate facility for pedestrians, bicyclists, and fishermen on the existing bridge. After the May 29, 2008 public hearing, Alternative 4 Modified was further modified to become Alternative 4 Modified Signal Option (MSO). One of the main reasons for the modifications was to remove a weave created by the northbound off-ramp onto Baltimore Avenue.

Alternative 5 – South Parallel 30-Foot Bascule Span Bridge

This alternative included a new parallel bridge just south of U.S. 50, tying back into Division Street on the Ocean City side. The new bridge would have a higher draw span and carry inbound and outbound traffic on four lanes. It was anticipated that the higher draw span would reduce the number of bridge openings. See **FEIS Figure II-4** for a display of this alternative.

Alternative 5 was dropped due to impacts from the alignment to the Villas at Inlet Isle, the marina of Villas Inlet Isle, the homes at the end of Inlet Isle Lane, and at the Angler Inn restaurant. Impacts included placing the bridge within close proximity to new homes and requiring height restrictions for boat traffic using the boat slips behind the Villas. It would also have impacted the Angler Restaurant on the east approach of the bridge.

Alternatives Modified after the Public Hearing

Alternative 4 – Modified Signal Option (MSO) Fixed- Span Bridge (FEIS Figure II-6)

For this alternative (further modification to Alternative 4 Modified), the new proposed bridge would still be a fixed span with 45 feet of clearance over the water and four lanes carrying inbound and outbound traffic. This alternative changes Alternative 4 Modified by providing the connection of the in-bound ramp from the bridge to Baltimore Avenue at a signalized intersection. This would reduce the weaving traffic on Baltimore Avenue, eliminate the need to widen Baltimore Avenue between the ramp and 5th Street to accommodate two lanes from the bridge and two lanes from Baltimore Avenue simultaneously, and eliminate the need to transition Baltimore Avenue from three lanes down to two as it approached the bridge ramp. Third Street would be converted to one-way westbound, signals would be added or removed at several signals along Philadelphia and Baltimore Avenues, and parking would no longer need to be taken from 5th Street, as was needed with Alternative 4 Modified. See **FEIS Figure II-6** for a display of this alternative.

Alternative 4 MSO was not selected due to greater right-of-way (ROW) costs and socioeconomic impacts as compared to the Selected Alternative. Multiple residential and commercial property impacts would be caused by the ramps that tie into Ocean City. These ramps would change the character of downtown Ocean City and were a source of concern for residents, business owners, and local elected officials. This alternative impacted 32 more properties, one more acre of residential ROW and three more acres of commercial ROW than the Selected Alternative. It resulted in approximately $100M more ROW costs than the Selected Alternative.

Alternatives Developed after the Public Hearing

Alternative 5B – 45-Foot North Parallel Fixed Span Bridge

This alternative included removing the draw span and replacing it with a new fixed span bridge with 45 feet of clearance over the water and four lanes carrying inbound and outbound Ocean City traffic. The bridge alignment would generally follow that of Alternative 5A and would tie into U.S. 50 just west of the existing bridge on the west side of Sinepuxent Bay.

This alternative was not selected due to greater ROW and socioeconomic impacts. Multiple residential and commercial property impacts would be caused by the ramps that tie into Ocean City. These ramps would change the character of downtown Ocean City and were a source of concern for residents, business owners, and local elected officials. Because of these concerns, the alternative was dropped at the request of the Ocean City Mayor and City Council and the Worcester County Commissioners.

Alternative 5C – North Parallel 18-Foot Bascule Span Bridge

This alternative consists of a new parallel bridge just north of U.S. 50, following the horizontal alignment of Alternative 5A and tying back into Division Street east of Sinepuxent Bay. The bridge alignment would tie into U.S. 50 just west of the existing bridge on the west side of the bay. The bridge would have a draw span with the same clearance as the existing bridge (15 to 20 feet) and carry inbound and outbound traffic on four lanes.

Alternative 5C was not selected because the number of bridge openings would remain the same as today, and the lower 18-foot clearance would result in more traffic delays and fewer boats being able to pass underneath the bridge than with the Selected Alternative. Overall the impacts and cost of Alternative 5C would be the same as the Selected Alternative, but without the benefits.

C. SECTION 4(f) EVALUATION

The Selected Alternative will impact one Section 4(f) resource, the Harry W. Kelley Memorial Bridge. The FHWA has determined that the FEIS/Programmatic Section 4(f) Evaluation adequately discusses environmental impacts and demonstrates that there is no feasible and prudent alternative that will avoid or minimize the impact to the Section 4(f) property. A detailed evaluation of the environmental impacts of the U.S. 50 Crossing Study was presented in **Section V** of the **FEIS/Programmatic Section 4(f) Evaluation.**

The Harry W. Kelley Memorial Bridge is included in SHA's Historic Highway Bridge Inventory and is eligible for the National Register of Historic Places (NRHP) as determined by SHA on February 27, 2001 under Criterion C, as a 1942 example of a double-leaf rolling lift bascule bridge. The 70+ year old bridge is also significant under Criterion A for its role in the development of transportation on the Eastern Shore during the Modern Period. The Maryland Historical Trust (MHT) concurred with this determination on April 3, 2001.

The SHA Bridge No. 2300700 is unique, not only because it is a structure eligible for the NRHP, but also because it is part of a Federal-Aid Highway System. Although it must function as an integral part of a modern transportation system, it is no longer adequate to address needs identified in the future transportation models; therefore, it must be replaced in order to assure public safety while maintaining system continuity and integrity. Implementation of the Selected Alternative would constitute a "use" of the bridge because the action would impair the historic integrity of the bridge by removal of the draw span.

The following alternatives were evaluated to avoid the use of the historic bridge: Alternative 1: No-Build, Alternative 2: Rehabilitation of the Historic Bridge with Repairs, and 3: Build a new structure at a different location without affecting the historic integrity of the old bridge. Alternative 1 would have fewer impacts and cost less than the Selected Alternative; however, it would not meet the purpose and need of the project and was not considered feasible or prudent. The No-Build Alternative would not address the limited life span of the existing structure nor correct the functional and structural deficiencies of the current bridge; it also would not address the safety concerns for motorists, bicyclists, and pedestrians. The cost of Alternative 2 is approximately $107,000,000 for initial upgrades and would still require ongoing maintenance of the rehabilitated bridge. However, this alternative would still not address the current operational inadequacies or safety concerns cited in the Purpose and Need. The SHA Office of Structures concluded that maintaining the bridge beyond the year 2027 may not be possible due to issues associated with its structural integrity. Replacement of any key bridge components would likely result in an adverse effect on the historic integrity of the bridge; therefore, Alternative 2 is not considered to be prudent.

Initially, all of the alternatives retained for detailed study (ARDS) presented in the Draft Environmental Impact Statement (DEIS) (March 2008), which proposed constructing a bridge on new location, included retaining the existing bridge for use by pedestrians, fishermen, and bicyclists. However, after further consultation with the public and local elected officials, it was determined that the most practical approach would be to remove the existing bascule span after the new bridge is constructed. Retaining the existing draw span would present an unnecessary hazard to navigation and would require maintenance, as well as a tender to open the span for boat traffic. Additional costs to cover inspection and maintenance activities, as well as the tender

would range between 20-25 million for a twenty year period. For this reason, retaining the draw span on the existing bridge was considered not prudent. Therefore, all of the re-located bridge ARDS presented in the FEIS included removal of the historic draw span from Bridge No. 2300700. As a result, the removal of the draw span from Bridge No. 2300700 was considered an adverse effect to the historic resource.

Minimization measures included a commitment to further study how much of the current bridge could be left in place for recreational use (fishing, pedestrian, bicycle, etc.). During the design phase of the project, SHA will coordinate with the Town of Ocean City on retaining a portion of the structure and will conduct further studies to determine the most appropriate course of action based on considerations (navigational, structural, environmental, and financial) which exist at that time.

Mitigation measures have also been incorporated into the Selected Alternative to further minimize harm to Section 4(f) resources. The mitigation of any impacts resulting from the replacement of the bridge would be implemented in accordance with a Memorandum of Agreement (MOA) developed between the FHWA, SHA, and MHT, pursuant to the National Historic Preservation Act of 1966 as amended. By being a signatory, these agencies will assure that the provisions of the MOA will be followed.

1. Coordination and Correspondence Regarding Section 4(f) Resources

The MD SHPO initially concurred with SHA's NRHP eligibility determination for Bridge No. 2300700 in April 3, 2001. In July 2010, SHA submitted a SHA Preferred Alternative description, summary of identified significant properties, and finding of effect for MHT's review and concurrence. The MHT concurred with the NRHP eligibility of project area historic properties, as well as the adverse effect determination for the project, on September 20, 2010 (**Section VI, pages B-103:B-116 of the U.S. 50 FEIS (September 2011)**). As a result of the adverse impact to the historic bridge, SHA entered into a MOA that will provide mitigation for the project's effect on historic properties. SHA has consulted with the Ocean City Life-Saving Station Museum and the Nabb Research Center for Delmarva History and Culture at Salisbury University as well as MD SHPO about possible mitigation strategies. The MOA was signed by the MHT on August 19, 2011. (**Section VI, page B-128 of the U.S. 50 FEIS (September 2011)**)

Pursuant to the regulations set forth in either 36 CFR Part 800 or under Section 106 of the National Historic Preservation Act, the Ocean City Department of Planning and Community Development, the Worcester County Department of Development, Review and Permitting, St. Paul's by-the-Sea Episcopal Church, Ms. Lynnda J. Emery and Ms. Kristina J. Hartman were notified of the project's effect on historic properties, and invited to participate in the Section 106 process. Further coordination with these groups continued into development of the MOA.

2. Section 4(f) Concluding Statement

It has been determined that there is no feasible and prudent alternative to the use of Bridge No. 2300700 and the proposed action includes all possible planning to minimize harm to Bridge No. 2300700 resulting from such use. "All possible planning" includes all reasonable measures to minimize harm and mitigate for adverse impacts and effects.

D. MEASURES TO MINIMIZE HARM

Measures to minimize harm have been identified and will be incorporated into the design of the Selected Alternative. Measures to minimize harm include compensation for all residential and commercial property acquisition, sediment and erosion control measures, wetland mitigation, and stormwater management. Avoidance and minimization efforts also include, but are not limited to lengthening the bridge structure, using steeper fill slopes and retaining walls, minimizing the proposed bridge width, potentially utilizing portions of the existing historic bridge for pedestrian and fishing, minimizing the approach roadway improvements, and modeling the hydrodynamic characteristics to ensure minimal effects to the flow dynamics of the bay. SHA will coordinate with the Town of Ocean City during the design phase on retaining a portion of the existing structure and will conduct further studies to determine the most appropriate course of action based on navigational, structural, environmental, and financial considerations that exist at the time.

1. Residential and Commercial Displacements

The Selected Alternative will require three acres of right-of-way from 17 separate properties, six residential building displacements and two commercial displacements. The recent development within and around Ocean City will provide adequate opportunity to accommodate the displacements in the study area. The Selected Alternative does not disproportionately affect minorities or low income residents. The SHA will follow standard procedures for assisting property owners through the relocation and reimbursement process in accordance with the *Uniform Relocation Assistance and Real Property Acquisition Act of 1970* as amended by *Title IV of the Surface Transportation Policies Act of 1987*.

2. Community Cohesion, Access, and Mobility

The Selected Alternative primarily affects the Ocean City community one block north of the existing bridge, resulting in the displacement of eight buildings (six residential and two commercial). The residential displacements include the Bay Mist Apartments (3 buildings), the Bridgeview Apartments, an unnamed condominium building, and an unnamed apartment building) and will result in a total of approximately 26 to 30 residential unit displacements. Commercial impacts include the Buoy Motel and the Shell Gasoline Service Station. The remaining homes will not be isolated between the new and existing bridge, and traffic patterns and property access routes will remain similar to existing conditions.

Parking at the base of the existing bridge in Ocean City will be impacted, but additional parking along the new bridge will be investigated depending on the final design of the bridge. Two pay-to-park lots near the intersection of Philadelphia Avenue and Caroline Street will be partially impacted, resulting in the loss of approximately 20 spaces. A separate lot north of the existing bridge, near the intersection of North Division Street and St. Louis Avenue, would also be impacted, resulting in the loss of approximately 10 to 15 spaces. Approximately 10 on-street parking spaces along Division Street will also be impacted. This estimate is based on preliminary design layouts; revisions will likely occur as the project advances. Loss of parking spaces will translate to loss of future income to the owners of the pay-to-park lots.

The Selected Alternative will utilize existing pavement and have little effect on the West Ocean City community, requiring only minor impacts (less than 0.1 acre) to tidal wetlands north of the existing bridge and no residential or commercial displacements.

3. Cultural Resources

The FHWA and the SHA, in consultation with the MHT, identified eight cultural resources within the U.S. 50 Crossing Study Area of Potential Effects (APE). All eight resources are historic standing structures that were evaluated and determined by the MHT to be eligible for their inclusion on or listed on the NRHP. The eight resources include St. Paul's by the Sea Episcopal Church (MIHP No. WO-326), Taylor House (MIHP No. WO-331), Edwin L. Purnell Store (MIHP No. WO-336), Town Market (MIHP No. WO-337), City Hall (MIHP No. WO-341), SHA Bridge No. 2300700 (MIHP No. WO-461), Emery-Hartman House (MIHP No. WO-553), and Francis Scott Key Motel (MIHP No. WO-555), all of which are considered Section 4(f) resources under the U.S. Department of Transportation Act of 1966 (49 USC 303 (c)).

The Selected Alternative will adversely affect SHA Bridge No. 2300700 due to the removal of the bascule span, which is the defining element of the historic property. The remaining seven historic properties will have no adverse effects from the Selected Alternative.

A MOA was developed among the FHWA, SHA, and the MHT to resolve the impacts to the existing bridge. The MOA, dated August 19, 2011 (included in **Section VI of the FEIS**) formalizes the commitment to complete the field identification, evaluation, and treatment of this site as appropriate. The MOA also requires completion of the Section 106 process on all ancillary project activities that occur during final design and right-of-way acquisition.

There are no archeological resources eligible for the NRHP that would be impacted by the Selected Alternative.

4. Surface Water Resources

There is one waterway crossing required by the Selected Alternative. The new crossing proposed by the Selected Alternative is located in the vicinity of the existing U.S. 50 Bridge over the Isle of Wight Bay/Sinepuxent Bay. These waterways are classified as Use II (Shellfish Harvesting Waters) surface waters by the Maryland Department of Natural Resources (DNR). Although these waterways are classified as Use II, DNR has recommended incorporating Use I in-stream work time restrictions to protect anadromous fish species known to occur in Sinepuxent Bay. The Use I in-stream work restriction period is March 1 through June 15, inclusive, during any year. A Section 10/404 permit from the United States Army Corps of Engineers (USACE) and a Tidal Wetlands License from the State of Maryland will be required for any construction in open waters. Sinepuxent Bay is considered navigable waters; therefore, a U.S. Coast Guard permit will also be required.

Construction of the Selected Alternative will impose unavoidable short-term, localized impacts to water quality. Temporary increases in turbidity levels, as well as the potential release of nutrients into the water column are expected due to bridge construction activities. For this reason a National Pollutant Discharge Elimination System (NPDES) stormwater permit is required for the proposed bridge construction project. A grading plan and erosion and sediment (E&S) control plan will be prepared and implemented in accordance with MDE regulations. The grading and E&S control plans will minimize the potential for impacts to water quality from erosion and sedimentation that would occur before, during, and after construction.

5. Wetlands and other Waters of the U.S.

The Selected Alternative will impact 0.02 acre of tidal wetlands and 0.84 acre of tidal waters. In accordance with COMAR 26.24.05.01C-1E(2), out-of-kind creation and enhancement ratios are increased by a factor of two (2). Based on projected cost for one acre of enhancement associated with each program, the SHA, in coordination with MDE and USACE, has proposed to extend this ratio to 8:1 for the project's impacts to tidal wetlands and waters. Therefore, SHA would contribute to either the Coastal Wetland Initiative (CWI) or National Park Service (NPS) Assateague wetland enhancement program at an 8:1 ratio for the project's impacts to tidal wetlands and tidal waters. Though the proposed project requires approximately 0.88 acre of compensatory mitigation, SHA would enhance 6.88 acres of the previously disturbed high marsh communities through the CWI. As an alternative, SHA will investigate additional locations where tidal wetland mitigation could occur in the event that contributions to the CWI and NPS enhancement programs are deemed inadequate or unavailable at the time design funding becomes available. Following additional investigations prior to the design phase of study, further consultation with MDE, USACE and U.S. Fish and Wildlife Service (USFWS) will determine which site, or sites, best meets the needs of the proposed project's compensatory mitigation requirements.

Avoidance and minimize measures have been utilized for the Selected Alternative to reduce impacts to wetlands within the study area. These efforts include: lengthening the bridge structure, using steeper fill slopes and retaining walls, minimizing the proposed bridge width, and minimizing the approach roadway improvements. Additional avoidance measures will be considered in the design phase.

6. Floodplains

The study area is located mostly within the tidal 100-year floodplain of Sinepuxent Bay. The Selected Alternative will impact 2.3 acres of the 100-year floodplain. Fill placed at the bridge abutments in tidal floodplains and approaches will not result in increased floodplain elevation or frequency. SHA will continue to coordinate with USACE on the permit required for impacts or disturbance to tidal floodplains, as tidal floodplains are not regulated by MDE as waters of the State.

7. Chesapeake and Atlantic Coastal Bays Critical Area

The Selected Alternative will impact approximately 2.5 acres of the Critical Area (CA) - Intensely Developed Area (IDA) and approximately 1.2 acres of the 100-foot buffer. Impacts are due to the disturbance required for the tie-in of the bridge to existing U.S. 50, the removal of vegetation, placement of fill, and increased impervious area. Mitigation for any disturbance to the CA buffer will be required at 3:1 ratio and mitigation for disturbance to vegetation outside the 100-foot CA buffer will be required at a 1:1 ratio. Best Management Practices (BMPs) will be used throughout the project to reduce the effects of erosion, sedimentation and pollutant loading on groundwater and the Coastal Bays. These practices could include Environmental Site Design practices such as infiltration filtering systems (such as micro-bioretention) and vegetated swales or stormwater management ponds, stormwater wetlands, or infiltration basins. SHA will conduct further coordination with the Critical Area Commission during the design phase of the project.

8. Aquatic Habitat and Wildlife/Fisheries

Protecting aquatic habitat and the fish species within the study area is a top priority while achieving the project goals. Impacts to fish will most likely occur during construction. BMPs such as turbidity curtains and bubble curtains may be utilized to avoid and minimize the potential for sedimentation/turbidity during construction. In addition, pile driving of hollow steel piles greater than four feet in diameter can cause an oscillation that is lethal to fish. Depending on the design requirement of steel pilings required for bridge construction, sound dampening techniques will be required for mitigation purposes. The driving of piles will be conducted during the appropriate time of year to minimize the effects on fish, and bubble curtains may be used to minimize the shock wave effects of driving piles. Pressure waves below four pounds per square inch (psi) would need to be maintained during pile driving in order to be protective of fish. Pile driving may also impose adverse effects on fish populations; therefore, turbidity curtains may be required to prevent fish from entering the area of high pressure waves. The National Marine Fisheries Service (NMFS) may require time-of-year construction restrictions inclusive of April 1st through June 30th to be protective of young summer flounder. Consultation with the DNR, USFWS and NMFS is ongoing and will continue throughout the design and construction process in an effort to avoid or minimize impacts to fish and other important aquatic wildlife.

9. Rare, Threatened and Endangered Species

Colonial Nesting Waterbirds

Skimmer Island, located north of the existing U.S. 50 Bridge, provides nesting habitat for the state listed endangered black skimmer (*Rhynchops niger*), royal tern (*Thalasseus maximus*) and several other colonial nesting waterbird species of conservation interest. As a means to protect this habitat, SHA will continue to refine the bridge pier spacing/size options and scour protection options during the design phase in an effort to avoid or minimize impacts to Skimmer Island. A sand migration model will be used to modify the pier placement locations and/or adjust the pier spacing in an effort to direct the flows in such a way that Skimmer Island and other shoal systems are not affected by the project. Other options under consideration to reverse the possible migration and degradation of Skimmer Island may include the removal of some of the scour protection under the existing bridge to reduce the "weir" effect and provide increased sand availability to Skimmer Island. These design efforts may result in increased habitat for the colonial nesting bird species of concern and the stabilization of Skimmer Island, thereby halting the southern migration. SHA will consult the appropriate agencies and coordinate actions during the design and construction phases of the project with regard to Skimmer Island.

Marine Turtles

Potential impacts to sea turtles will be minimized by conducting in-water construction activities outside the known window of sea turtle occurrences in Maryland (April 1st through November 30th). Sea turtles are typically found in the coastal bays during warmer months and are incidental, summer transients. Sound dampening techniques may be used as construction mitigation to reduce the effects of pile driving which can cause the marine turtles to leave the area. It is not anticipated that the permanent bridge in-water structures will have any impact on sea turtles.

Atlantic and Shortnose Sturgeon

Updated coordination with the National Marine Fisheries Service (NMFS) indicated that the Atlantic Sturgeon (*Acipenser oxyrinchus oxyrinchus*) was designated as a federally-listed endangered species on January 31, 2012. This species, along with the Shortnose Sturgeon

(*Acipenser brevirostrum*), are known to exist near the project site. Potential impacts to these fish are most likely to occur during construction with dredging, turbidity, and pile driving. Formal consultation with the National Marine Fisheries Service (NMFS) will be initiated regarding the need to prepare a Biological Assessment that will be completed during the design phase when additional details related to the project's design and construction methodology are developed. Coordination with NMFS will continue throughout the design and construction process in an effort to avoid or minimize impacts to Atlantic and Shortnose Sturgeon populations.

Other Aquatic Species

The only state listed aquatic species known to exist in the Maryland Coastal Bays is the spotfin killifish (*Fundulus luciae*), which is currently considered rare. Minimal impacts to fish are most likely to occur during construction. Pile driving of hollow steel piles greater than four feet in diameter can cause an oscillation that is lethal to fish. If larger sized piles are required, construction mitigation (sound dampening techniques) will be employed. Bubble curtains may be used to minimize the shock wave effects of driving piles. BMPs such as turbidity curtains and bubble curtains may also be employed to avoid and minimize the potential for sedimentation/turbidity during construction. In addition, the driving of piles may be restricted during the period between April 1st and June 30th to minimize the effects on fish. Consultation with the DNR, USFWS and NMFS is ongoing and will continue throughout the planning, design and construction process in an effort to avoid or minimize impacts to fish and other important aquatic wildlife.

10. Hazardous Materials

Several inventoried hazardous materials sites have the potential to be impacted by the Selected Alternative. Depending on the design and depth of required grading, subsurface water pipes, foundations, aboveground storage tanks (ASTs), and associated soil and groundwater could be impacted. Further investigation into the specific location of reported permanently out-of-use ASTs in relation to the proposed U.S. 50 Bridge construction activities is recommended before property is purchased and construction is initiated.

11. Air Quality

U.S. 50 is located in Worcester County. This county has not been designated as a "non-attainment" area per the National Ambient Air Quality Standards (NAAQS) for $PM_{2.5}$. This project is therefore exempt from $PM_{2.5}$ analysis. Temporary air quality impacts in the project area are possible due to construction activities. These short-term impacts can be minimized through adherence to accepted construction site air dust control measures in the handling of materials and as part of any potential demolition. Fugitive dust controls such as water spraying of access roads and stockpiles and the employment of dust covers on vehicles transporting dust-emitting materials has been shown to be effective in controlling emissions.

None of the receptor sites in the project area yielded worst-case CO emissions in excess of the 1-hour National Ambient Air Quality Standards (NAAQS) of 35 parts per million (ppm) or 8-hour NAAQS of 9.0 ppm. Predicted CO concentrations were consistent through all cases, with the highest future concentrations found (as anticipated) near intersections at the queuing analysis receptors.

The U.S. 50 Project will not result in any meaningful changes in traffic volumes, vehicle mix, or any other factor that would cause an increase in emissions impacts. As such, FHWA has determined that this project will generate minimal air quality impacts for the Clean Air Act criteria pollutants and has not been linked with any special Mobile Air Source Toxics (MSAT) concerns. However, based on existing FHWA guidance a qualitative MSAT analysis was developed. A new U.S. 50 Bridge crossing as proposed under the Selected Alternative will have the effect of moving some traffic closer to nearby homes and businesses; therefore, there may be localized areas where ambient concentrations of MSATs could be higher than the No-Build Alternative. The localized increases in MSAT concentrations would likely be most pronounced along the edge of the proposed facility where the travel lanes shift toward the residences and businesses. However, as discussed above, the magnitude and the duration of these potential increases compared to the No-Build Alternative cannot be accurately quantified due to the inherent deficiencies of current models. In sum, when a highway moves closer to receptors, the localized level of MSAT emissions could be higher relative to the No-Build Alternative, but this could be offset by increases in speeds and reductions in congestion (which are associated with lower MSAT emissions). Also, MSATs will be lower in other locations when traffic shifts away from them. Furthermore, at the project location and regionally, MSAT concentrations will decrease in future years due to EPA's vehicle emission and fuel regulations.

12. Noise Impact Mitigation

A noise analysis was performed in compliance with the FHWA and the SHA methodologies. Noise Abatement Criteria (NAC) for various land uses have been established by the FHWA in Title 23 of the Code of Federal Regulations, Part 772 (23 CFR 772) *Procedures for Abatement of Highway Traffic Noise and Construction Noise* and the SHA *Sound Barrier Policy* (May 1998). (This analysis was conducted prior to July 13, 2011, which is when SHA's Noise Policy revisions became effective. Any future environmental documents will include a reanalysis of the noise conditions/impacts consistent with the revised noise policy guidelines in effect at that time.) The NAC for land uses occurring in the study area (Category B: picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals) is 67 decibels (dBA) Leq.

Four Noise Sensitive Areas (NSAs) were identified to be monitored and modeled for the 2030 design year of the Selected Alternative. At NSA 3 and NSA 4, build noise levels approached or exceeded the FHWA noise abatement criteria; therefore, feasibility and reasonableness of noise abatement was investigated. The investigation concluded that although some traffic noise impacts would result from construction of the Selected Alternative, neither of the impacted NSAs met SHAs feasibility or reasonableness criteria for consideration of noise abatement measures. Thus, noise mitigation is not warranted for this project.

E. PROJECT IMPLEMENTATION

The SHA Office of Structures (OOS) has recommended continued rehabilitation in order to prolong the life of the bridge and a preventive maintenance plan has been developed to accomplish this. As inspections dictate, preventive maintenance will include rehabilitating deteriorated concrete in pile bents and caps, replacing deteriorated platforms and railing, repairing fenders and dolphins, replacing deteriorated conduit, machinery brakes, limit switches, lock motors, installing brake overload accommodations, adding lighting in machinery rooms,

replacing bearing liners, motor couplings and the East Bascule leaf main bull/pinion gears. The estimated cost to perform these ongoing inspection and preventative maintenance/rehabilitation measures in the year of expenditure (YOE) dollars is $1,700,000 over approximately a 10 to 15 year timeframe. These activities will be programmed in the 2013 and future Consolidated Transportation Plan (CTP)/Statewide Transportation Improvement Plan (STIP) documents under the System Preservation funding category such as Bridge Replacement and Rehabilitation and/or others as appropriate. These activities will serve as the subsequent project phase and SHA will continue to pursue these preventative maintenance activities until the bridge reaches the appropriate structural deficiency rating or until it is no longer cost effective to perform preventive maintenance/rehabilitation, at which time replacement would occur.

It is envisioned that even with the ongoing system preservation (preventive maintenance and rehabilitation) plan, the US 50 Bridge over Sinepuxent Bay will need to be replaced once it reaches a stage where its deficiencies can no longer be addressed through preventive maintenance/rehabilitation efforts, which is currently estimated to be between the years 2027-2032. Replacement of the US 50 bridge is consistent with the Statewide Long Range Transportation Plan. The total cost for replacement of the bridge in the YOE dollars is estimated at approximately $299.1M to $599.1M, with a 70 percent confidence level of $483.9M and full funding is reasonably expected to be available within that timeframe to complete the project. Due to the special nature of this bridge and its location, it is anticipated that it will take much longer to design and construct the replacement bridge (e.g. permitting issues, limited construction schedule and the complexity of the project design, especially the movable portion of the replacement bridge) and it is likely that the project would be completed under a single construction contract. At this time, SHA is projecting the following schedule which would allow enough time before the bridge's critical condition is reached (in 2012 dollars):

- NEPA and Preliminary Engineering: $3.0M
- Final Design: $ 50.8 M
- ROW: $ 35.6 M
- Construction: $ 246.3 M
- Completion: $335.7M

F. MONITORING AND ENFORCEMENT

As part of the commitment to continue efforts to minimize impacts from the project, several monitoring and coordination efforts are proposed as outlined in the FEIS and the MOA. To ensure compliance with all appropriate federal and state regulations, necessary permits will be obtained prior to construction. A permit from the USACE for any work in waterways or wetland areas will satisfy the requirements of Section 401/404 of the Clean Water Act (33 USC 1344). Monitoring programs will consist primarily of the conditions of the Section 404 Permit with respect to wetlands and other aquatic resources.

Coordination with appropriate agencies, including but not limited to, the MDE, the USACE, the USFWS, the U.S. Coast Guard, the NMFS, and the EPA during final design will ensure that the appropriate permits are obtained and commitments to develop and implement mitigation measures are carried out.

G. COMMENTS RECEIVED ON FINAL ENVIRONMENTAL IMPACT STATEMENT

The Notice of Availability of the FEIS was published in the *Federal Register* June 8, 2012. Advertisements announcing the availability of the document were published locally in the Salisbury Daily Times, Ocean Pines Independent, Worcester County Times, Ocean City Today and in *The Baltimore Sun* newspaper. The notices announced the availability of the FEIS and the locations where copies of the document were available for public review and comment. A list of specific agencies, organizations, and individuals to which copies of the FEIS were sent is included in **Section VIII of the FEIS**.

The comment period ended on July 9, 2012. Comments were received from the Maryland Department of Natural Resources, Maryland Department of the Environment, Maryland Critical Area Commission U.S. Army Corps of Engineers, NOAA's National Marine Fisheries Service, and U.S Department of the Interior. Two previously unidentified issues were raised. MDE requested that SHA ensure solid waste from the old bridge is properly recycled during construction and the DOI asked that the Memorandum of Agreement (MOA) between MHT and SHA be included in the FEIS. The signed MOA is included in Section VI of the FEIS, and the MDE comment will be included in the project Commitments and Mitigation Checklist and will be addressed during the construction phase of the project.

Eastern Legal Services has provided Legal Sufficiency approval for the FEIS.

Conclusion

The FHWA has determined that Selected Alternative 5A – North Parallel Bridge best meets the transportation needs of the U.S. 50 Crossing Study and is in the best overall public interest. This decision is based on the FEIS and the entire project record.

FHWA has considered all of the issues presented in the project record and has consulted with other federal and state agencies, as well as local jurisdictions in the corridor, in developing this project. Public input has been considered through the informal meeting with community groups, a public hearing, and public comments on the DEIS and the FEIS. Mitigation for unavoidable resource impacts has been incorporated into the project design, will be employed during construction, or will be implemented off site. Based on considerations documented in the Section 4(f) Evaluation, **Section V of the FEIS**, there is no feasible and prudent alternative to the use of Bridge No. 2300700 and the proposed action includes all possible planning to minimize harm to Bridge No. 2300700 resulting from such use. "All possible planning" includes all reasonable measures to minimize harm and mitigate for adverse impacts and effects.

8/22/13

Gregory Murrill
Delmar Division Administrator
Federal Highway Administration

Date