

ADMINISTRATIVE ACTION

- () Draft Environmental Impact Statement
- () Environmental Assessment
- () Categorical Exclusion
- (X) Final Environmental Impact Statement
- () Finding No Significant Impact
- (X) Programmatic Section 4(f) Evaluation

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A. INTRODUCTION

This document presents the results of studies that have been completed to address both National Environmental Policy Act (NEPA) and U.S. Army Corps of Engineers (USACE) Section 404 requirements. NEPA focuses on environmental analyses of alternatives, whereas the USACE Section 404 permit addresses specific impacts to wetlands and Waters of the U.S. (WUS), in accordance with the Clean Water Act. In addition, Section 4(f) requirements of the U.S. Department of Transportation Act are addressed.

B. PURPOSE AND NEED / DESCRIPTION OF ACTION

1. Project Purpose and Need

U.S. 50 is a primary connector from Ocean City to points west, including the remainder of the Delmarva Peninsula, the Chesapeake Bay Bridge, and the western shore of the Chesapeake Bay. The study area is located in Ocean City, in the northeastern portion of Worcester County, Maryland. The study area extends from MD 611 to MD 378 (Baltimore Avenue) in the east-west direction and from 5th Street to Somerset Street in the north-south direction. The Federal Highway Administration (FHWA) and the Maryland State Highway Administration (SHA) are the lead agencies for the project. Cooperating agencies include the National Marine Fisheries Service (NMFS), the USACE, the U.S. Coast Guard, the U.S. Environmental Protection Agency

(EPA), the U.S. Fish and Wildlife Service (USFWS), and the Maryland Department of the Environment (MDE).

The purpose of this study is to develop a transportation solution that addresses transportation operational inadequacies and structural deficiencies and improves safety for all users of the U.S. 50 crossing of the Sinepuxent Bay in Worcester County, Maryland.

The U.S. 50 Bridge over the Sinepuxent Bay, officially named the Harry W. Kelley Memorial Bridge, is 69 years old. It is considered functionally obsolete due to its narrow curb-to-curb roadway width of 44 feet, which is substandard for the Average Daily Traffic (ADT) volumes that it carries, particularly during summer months when volumes increase due to recreational traffic. The need to maintain a safe and efficient crossing of U.S. 50 is important, not only because U.S. 50 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.

C. ALTERNATIVES DESCRIPTIONS

Eight alternatives were initially developed for this study. A summarized description of each alternative and the reasons some were dropped from detailed study follow. For detailed information regarding these eight alternatives and the reasons they were dropped, please refer to the *U.S. 50 Draft Environmental Impact Statement (DEIS)* (April 2008).

Alternative 1 – No-Build - No major improvements are included under Alternative 1, the No-Build Alternative. Minor short term improvements would occur as part of routine maintenance and safety improvements.

Alternative 2 – Rehabilitation - This alternative involves rehabilitation of the existing bridge, with the addition of a separate fishing pier, wider sidewalks for pedestrians and cyclists, and aesthetics such as lighting and archways.

Alternative 3 – One-Way Pair - This alternative includes the use of the existing bridge for one-way inbound/eastbound traffic, and the construction of a new bridge to carry westbound traffic. Alternative 3 was dropped from further consideration because (1) it did not address the need to separate pedestrians, bicyclists, and fishermen from traffic, (2) it would require frequent drawbridge openings and extensive repairs to the existing bridge, and (3) it received low support from the public.

Alternative 4 – 1st Street Connection - Alternative 4 Modified includes a new, slightly curved high-level fixed span bridge with six lanes. The bridge enters Ocean City north of the existing bridge, slightly above 1st Street, and connects into Philadelphia Avenue (one-way southbound) and Baltimore Avenue (one-way northbound). Future studies would be needed to decide whether to retain or remove any portion of the existing bridge after construction of a new crossing.

Alternative 5 – South Parallel Bridge - This alternative includes a new six-lane parallel bridge just south of U.S. 50, tying back into Division Street. The bridge would have a higher draw span

to reduce the number of bridge openings. Future studies would be needed to decide whether to retain or remove any portion of the existing bridge after construction of a new crossing.

Alternative 5A – North Parallel Bridge - This alternative includes a new six-lane parallel bridge just north of U.S. 50, tying back into Division Street. The bridge would have a higher draw span to reduce the number of bridge openings. Future studies would be needed to decide whether to retain or remove any portion of the existing bridge after construction of a new crossing.

Alternative 6 – 9th Street Connection - This alternative includes a new alignment for U.S. 50 from west of MD 611, traversing north of the White Marlin Mall and tying into 9th Street in Ocean City. Alternative 6 was dropped from further consideration due to public opposition, substantial impacts to tidal wetlands, changes to traffic patterns, community impacts, and cost.

Alternative 7 – Remove & Replace - This alternative includes the removal and replacement of the Harry W. Kelley Memorial Bridge, which is listed on the SHA's Historic Bridge Inventory and is eligible for inclusion in the National Register of Historic Places (NRHP). It is one of nine movable bridges in Maryland that are eligible for the NRHP. The bridge also serves as one of three evacuation routes from the barrier peninsula during emergencies. Because the bridge is historic and needs to be open to traffic in case an evacuation is necessary during construction, alternatives which remove or significantly alter the bridge were dropped from consideration.

1. Alternatives Retained for Detailed Study (ARDS) and Presented at the Public Hearing

Based on additional input from the public, resource agencies, and elected officials, and further engineering and environmental analyses of the eight alternatives developed for the study, the following alternatives were retained for detailed study and presented at the public hearing:

- Alternative 1 - No-Build
- Alternative 2 - Rehabilitation
- Alternative 4 Modified - Fixed Span Bridge
- Alternative 5 - South Parallel Bridge
- Alternative 5A - North Parallel Bridge

2. Alternatives Modified and Developed After the Public Hearing

Alternatives Developed

Subsequent to the Location/Design Public Hearing, two additional alternatives were developed based on comments from local elected officials and the Ocean City Town Manager.

Alternative 5B – 45-Foot North Parallel Fixed Span Bridge - This alternative includes a new fixed span bridge with 45 feet of clearance over the water and four lanes carrying inbound and outbound traffic into and out of Ocean City. It would follow the same horizontal alignment as Alternative 5A as it crosses the water instead of veering to the north, as Alternative 4 Modified Signal Option (MSO) does. The bridge alignment would tie into U.S. 50 just west of the existing

bridge on the west side of Sinepuxent Bay. Portions of the existing bridge could be retained and used for pedestrians and bicyclists, but the drawspan would be removed.

With Alternative 5B, Baltimore Avenue would need to be transitioned from three lanes to two as it approaches the northbound ramp from the south to accommodate the merge of the ramp. North of the ramp, Baltimore Avenue would need to be widened to four lanes up to 5th Street to accommodate the merging of the two lanes from the ramp and the two lanes from Baltimore Avenue.

Alternative 5B was developed because Ocean City Department of Public Works staff was concerned with right-of-way (ROW) impacts from Alternative 4 MSO and wanted to know what options existed for moving that alignment farther south, and for reducing the potential traffic weaving on Baltimore Avenue with the relocation of the northbound traffic heading to the bridge to 1st Street.

Alternative 5C – Low Level North Parallel Draw 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 drawspan with the same clearance as the existing bridge (15 to 20 feet) and carry inbound and outbound traffic on four lanes. The drawspan would require the same number of openings as the existing bridge, but would have less visual impact and slightly less ROW impact than Alternative 5A.

Alternatives Modified

Prior to the public hearing, Alternative 4 (renamed Alternative 4 Modified) was reconfigured to minimize impacts to Skimmer Island while also tying the bridge in further to the north in Ocean City to reduce impacts to existing structures by impacting more vacant and parking parcels.

After the public hearing, additional modifications were made to remove a weave created by the northbound off-ramp onto Baltimore Avenue. Based on the modifications, Alternative 4 Modified was renamed to Alternative 4 Modified Signal Option. Details of these modifications are presented below. It should also be noted that all alternatives that proposed new bridge crossings were reduced to four-lane bridges from six lanes to better coordinate with the current four-lane section on U.S. 50.

Alternative 4 – Modified Signal Option (MSO) Fixed Span Bridge - As with the original Alternative 4 Modified, the new proposed bridge would be a fixed span with 45 feet of clearance over the water and four lanes carrying inbound and outbound traffic. This alternative would require longer ramps into Ocean City than the alternatives with less clearance due to the height needed for the fixed span. The ramp to Baltimore Avenue in Ocean City would require a signal at its intersection with Baltimore Avenue. Traffic signals would also be required at Baltimore Avenue and 4th Street, and at Philadelphia Avenue and 3rd and 4th Streets.

3. SHA's Preferred Alternative

Based on the information developed for the study and the feedback received from agency and public comments, Alternative 5A has been selected as the SHA Preferred Alternative by SHA. The SHA Preferred Alternative includes a new parallel bridge just north of U.S. 50, tying back into Division Street. The bridge would have a 30-foot high draw span and carry inbound and outbound traffic on four lanes. The higher draw span should also reduce the number of bridge openings. The typical section includes a seven-foot shoulder and five-foot eight-inch sidewalk along both sides of the roadway with a six-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 would need to be relocated underneath U.S. 50 to continue the north/south connection. Removal of the current bridge's bascule span is proposed with the Preferred Alternative, however, future studies would be needed to determine whether to retain or remove any portion of the existing bridge after construction of a new crossing. Minor short-term improvements would occur as part of routine maintenance and safety improvements. Alternative 5A is fully endorsed by the Worcester County Commissioners and the Ocean City Mayor and City Council.

D. SUMMARY OF ENVIRONMENTAL IMPACTS

A summary of the impacts associated with the ARDS and the SHA Preferred Alternative is presented in this section and in **Table S-2**, which is located at the end of this summary. Detailed environmental impacts are not included for Alternatives 5B and 5C because they were dropped prior to detailed study.

1. Socioeconomic Environment

The SHA Preferred Alternative would require three acres of ROW acquisition, including one acre of residential property and two acres of commercial property resulting in six residential and two commercial displacements. In total, six residential and ten commercial properties will be impacted for ROW needs.

There are no known concentrations of minority or low-income populations within the study area. The impacts resulting from the SHA Preferred Alternative would not constitute a disproportionately high or adverse effect to environmental justice populations. The SHA Preferred Alternative would not affect senior centers or assisted living facilities or access to them.

Ocean City and West Ocean City are approaching build-out. Approximately 95 percent of the buildable land in the Town of Ocean City has been developed. Therefore, land use changes within the study area will come primarily from redevelopment.

The SHA Preferred Alternative would convert commercial land use to transportation land use. Because Ocean City has nearly reached build-out, this type of conversion would be required for almost any transportation improvement that must occur outside the existing transportation corridors. The SHA Preferred Alternative is consistent with local land use plans.

The Smart Growth Initiative requires the state to direct funding for highways and economic development to designated Priority Funding Areas (PFAs). The project limits are entirely within the Ocean City PFA. Therefore, the project is in compliance with Smart Growth initiatives.

SHA is coordinating with study area emergency services providers. The Ocean City Police Department believes that Alternative 2 would not affect emergency response times, but the other build alternatives would improve emergency response times. SHA will continue to coordinate with all emergency services providers throughout the design phase.

2. Natural Environment

Groundwater is the source of drinking water, the primary source of irrigation water, and the major source of freshwater to the coastal bays. The water supply in Ocean City is provided by 23 production wells. These include 14 wells in the Ocean City Aquifer and nine wells in the Manokin Aquifer. The SHA Preferred Alternative would increase the amount of impervious surface in the study area by approximately nine percent. Best Management Practices (BMPs), as found in the 2003 *Critical Area 10% Rule Guidance Manual*, would be used throughout the project to provide water quality management for these new impervious areas as well as an overall reduction of pollutants from the existing condition. The SHA Preferred Alternative would result in 0.02 acres of impacts to a small tidal emergent wetland along the north side of U.S. 50 on the western edge of Sinepuxent Bay, 0.84 acre of WUS for the construction of the bridge abutments and piers, and will impact 2.18 acres of the 100-Year floodplain. Permits would be required from the USACE and MDE for impacts to wetlands and WUS. A Tidal Wetlands License could be required from the Maryland Board of Public Works for impacts to tidal wetlands and open waters. Mitigation for the impacts to open waters and tidal wetlands would be required.

Avoidance and minimization of impacts to tidal WUS will be a priority as the project progresses through design and may involve the design of steeper fill slopes, retaining walls, relocation of the bridge abutments to minimize the project footprint, minimization of the pier size and spacing and minimization of impacts during construction. Potential changes to the hydrology/hydraulics of Sinepuxent Bay as a result of the SHA Preferred Alternative have been evaluated by an expert in coastal hydrodynamics and sedimentation. The location and design of piers and abutments will be assessed throughout the design process to ensure that the project does not negatively affect the Bay's hydraulics.

The Maryland coastal bays support a high diversity of finfish (over 140 species) that utilize the area for feeding and nursery habitat (Wazniak and Hall, 2005). The NMFS has indicated that the study area and vicinity contains Essential Fish Habitat (EFH) for more than a dozen species of finfish managed under the Magnuson-Stevens Fishery Conservation and Management Act (MSFC). EFH is defined as “those waters and substrate necessary to federally managed fish for spawning, breeding, feeding or growth to maturity”. The U.S. 50 Crossing study area is located along the boundary of two EFH summary designations, and affects waters of Isle of Wight Bay, Sinepuxent Bay and the Ocean City Inlet.

The SHA Preferred Alternative is expected to have some short-term and/or long-term impacts to aquatic species in the immediate project area. Dredging and/or excavation activities during rehabilitation or new bridge construction may result in the temporary reduction of fish utilization in the area and minimal loss of shallow water habitat. Construction activities associated with a new bridge would likely cause temporary in-water disturbances, such as re-suspension of sediment and increased noise levels in the study area. Long-term impacts associated with the SHA Preferred Alternative would occur from the construction of the proposed footers. BMPs, such as turbidity curtains, may be employed to avoid and minimize the potential for re-suspended sediment movement and transport away from the construction site. In addition, power-driving of large diameter hollow steel piles will be conducted during the appropriate time of year (e.g., during winter months) to minimize adverse affects on aquatic species from shock waves produced by the driving action.

There is the potential for federally threatened and endangered marine turtles to be present within the study area and vicinity. These include the green (*Chelonia mydas*), hawksbill (*Eretmochelys imbricate*), Kemp's ridleys (*Lepidochelys kempfi*), leatherback (*Dermochelys coriacea*), and loggerhead (*Caretta caretta*) turtles. A Section 7 Endangered Species Act (ESA) Biological Assessment was completed in August 2007. It was developed to determine the effects of the proposed project on these federally threatened and endangered marine turtles. The Biological Assessment has determined that the proposed action is unlikely to impact turtle populations or critical habitats. No permanent impacts to sea turtle populations are anticipated since the project area does not contain sea turtle nesting areas and most of the sea turtles are incidental, summer transients. Any impacts to sea turtles will be minimized by conducting in-water construction activities outside of the known window of sea turtle occurrences in Maryland (April 1st through November 30th).

Skimmer Island is a waterbird colony that supports a variety of breeding waterbirds, including the state listed endangered black skimmer (*Rhynchops niger*), and is the only known location that supports state listed endangered royal tern (*Thalasseus maximus*). Skimmer Island is a flood tidal shoal system that provides essential nesting habitat for these state listed species, as well as other colonial nesting waterbird species of conservation interest.

There are no anticipated direct impacts to Skimmer Island, or to the rare, threatened and endangered (RTE) species or their nesting habitat from the SHA Preferred Alternative. Potential indirect impacts to the state listed endangered colonial waterbird species may include conflicts between traffic and birds in flight, the potential migration of Skimmer Island to the south, which would place Skimmer Island closer to the existing bridge and/or the SHA Preferred Alternative, the potential erosion of Skimmer Island due to changes in Sinepuxent Bay's hydraulics and disturbance to the colonial nesting waterbirds during construction or due to the SHA Preferred Alternative that places traffic closer to the habitat.

Minimization of impacts to colonial nesting birds will be achieved by following the construction time of year restrictions as recommended by the Maryland Department of Natural Resources (DNR). Due to the dynamic nature of the bay system, Skimmer Island has been losing sand and growing vegetation that is undesirable for the RTE species that utilize the island. DNR was able to place approximately 10,000 cubic feet of sand on Skimmer Island in March 2011. A thorough analysis and modeling of the current sand migration patterns in Sinepuxent Bay, and analysis of

the past, current, and future sand migration patterns for the SHA Preferred Alternative was completed. Incorporating the results of the modeling into the design and location/placement of piers and/or scour protection measures will help to minimize the further migration or degradation of Skimmer Island. Additional studies will be conducted in the future, closer to the beginning of the bridge design phase to investigate any potential indirect impacts the new bridge or removal of the old bridge may have on the surrounding hydrodynamic system. Potential impacts to Skimmer Island will be coordinated with environmental agencies and appropriate mitigation determined at that time.

The SHA Preferred Alternative would have no impacts to forests, forest interior dwelling species (FIDS) habitat, large or significant trees or agricultural land.

3. Cultural Resources

The SHA Preferred Alternative will have an adverse effect on the U.S. 50 Harry W. Kelley Memorial Bridge (Bridge No. 2300700), which is listed on the SHA's Historic Bridge Inventory and is eligible for inclusion in the NRHP. It is one of nine movable bridges in Maryland that are eligible for the NRHP.

4. Air Quality

None of the receptor sites in the project area yielded Carbon monoxide (CO) emissions in excess of the eight-hour National Ambient Air Quality Standards (NAAQS). The project would not result in any meaningful changes in traffic volumes, vehicle mix or any other factor that would cause an increase in emissions impacts from Mobile Source Air Toxics (MSATs).

No violations of the applicable State and National Ambient Air Quality Standards (S/NAAQS) for CO are expected from the project and Worcester County has been designated as not in “non-attainment” of the NAAQS for PM_{2.5}. Therefore, this project is exempt from regional or micro-scale PM_{2.5} analysis.

5. Noise Analysis

All impact analyses were performed in conformance with Title 23 of the Code of Federal Regulations (CFR), Part 772 (23 CFR Part 772) *Procedures for Abatement of Highway Traffic Noise and Construction Noise* and the SHA *Sound Barrier Policy* (May 1998). Revisions to the SHA Noise Policy in response to FHWA Regulation 23 CFR 772 are in the process of being finalized and scheduled for implementation by July 13, 2011, which postdates the analysis performed for this project. Any future reevaluations of the FEIS will include a reanalysis of the noise conditions/impacts consistent with the revised noise policy guidelines in effect at that time.

Each noise sensitive area (NSA) was analyzed to determine potential impacts from each of the project alternatives. Impacts were assessed based upon the following criteria: projected 2030 design year noise levels approaching or exceeding 67 dBA (66 dBA or greater), or projected 2030 design year noise levels exceeding existing noise levels by 10 dBA or more.

The investigation of sound barriers was found to be warranted for the SHA Preferred Alternative at two NSAs (NSAs 3 and 4) due to noise levels equal to or exceeding the 66 dBA criteria. As a result, feasibility and reasonableness of mitigation were investigated for both NSAs.

Feasible mitigation for NSA 3 could not be developed due to maintenance of local vehicular and pedestrian access. Potential mitigation designed to protect this NSA would require a vertical barrier to be placed between the community and Philadelphia Avenue, which would displace the pedestrian walkway and encroach upon the Philadelphia Avenue travel lanes.

Feasible mitigation could not be developed for NSA 4 due to maintenance of local vehicular and pedestrian access to the NSA.

Reasonableness would also be an issue, given that predicted future “build” noise levels would not exceed future “No-Build” noise levels (within 3 dBA) in any of the four NSAs, and in many cases are lower due to the shadow zone created by a higher bridge structure. Because no capacity increases have been made to the bridge since the original construction, a cumulative effects analysis does not apply. Therefore, mitigation consideration does not meet SHA feasibility or reasonableness criteria for either NSA.

6. Hazardous Materials

One potential hazardous materials site has the potential to be impacted by the SHA Preferred Alternative. The site is ranked as high potential for environmental concern. The potential for impact depends on the design and depth of required grading. The site located on the northwest side of the U.S. 50 Bridge on U.S. 50 (Ocean Gateway Highway). Two drinking water wells were observed on the south side of the main building during the site visit, as were two aboveground storage tanks (ASTs). Further investigation into the specific location of reported permanently out-of-use ASTs in relation to proposed U.S. 50 Bridge construction activities will be conducted before property is purchased and construction is initiated.

7. Chesapeake and Atlantic Coastal Bays Critical Area

The entire study area is located within the Intensely Developed Area (IDA) as classified by the Critical Area Commission (CAC) for the Chesapeake and Atlantic Coastal Bays. The Atlantic Coastal Bays Protection Act also requires the establishment of a 100-foot, undisturbed, naturally vegetated or planted buffer landward from the mean high water line of tidal waters or from the edge of tidal wetlands or tributary streams. The SHA Preferred Alternative would result in disturbance to 2.5 acres within the IDA associated with the tie-in of the bridge to existing U.S. 50 on the west end and to city streets on the east end of the bridge. The anticipated impacts include earth disturbance, removal of vegetation, placement of fill, and increased impervious area. The SHA Preferred Alternative would also impact the 100-foot buffer. The SHA Preferred Alternative would result in disturbance of 2.18 acres of the 100-foot buffer. Coordination with the CAC will continue to ensure compliance with the policies of the Critical Area Act.

Table S-1: Environmental Impacts and Costs by Alternative

	Alt. 1		Alt. 4 Mod. Option				
Residential Displacements (number)	0	0	14	8	6	19	6
Commercial Displacements (number)	0	0	12	2	2	15	2
Right-of-Way Required (acres)	0	0	7	2	3	5	3
Farmland Impacts (acres)	0	0	0	0	0	0	0
Park Impacts (acres)	0	0	0	0	0	0	0
Historic Sites (number)	0	0	1	1	1	1	1
Waters of the U.S. Impacts (permanent)(acres)	0	0	0.80	0.83	0.84	0.76	0.83
Wetlands Impacts (permanent)(acres)	0	0	0.03	0	0.02	0.02	0.02
100-Year Floodplain Impacts (acres)	0	0	4.0	2.0	2.2	3.5	2.1
Forest Impacts (acres)	0	0	0	0	0	0	0
Hazardous Materials (number of properties affected)	0	0	9	2	0	N/A	N/A
RTE Species (acres of habitat directly impacted)	0	0	0	0	0	0	0
Significant Trees (number)	0	0	0	0	0	0	0
Critical Area Disturbance (acres)	0	0	5.8	2.2	2.5	N/A	N/A
Critical Area 100-Foot Buffer Disturbance (acres)	0	0	1.0	1.0	1.2	N/A	N/A
Impervious Surface (acres)	0	0.5	5.6	5.2	5.3	N/A	N/A
Noise Abatement	0	0	0	0	0	N/A	N/A
Cost (millions)	\$20-25**	\$130-\$140	\$525-\$535	\$310-\$325	\$310-\$325	\$525-\$535	\$310-\$325

* Detailed environmental impacts were not evaluated for Alternatives 5B and 5C. These alternatives were developed by SHA at the request local elected officials and the Ocean City Town Manager. They were immediately dropped because they were determined not to be reasonable or feasible alternatives for this study.

** The No-Build Alternative cost estimate represents the expense for routine maintenance (structural, mechanical, and electrical) and operation of the existing bridge over the next 20 years.

8. Indirect and Cumulative Effects

An Indirect and Cumulative Effects (ICE) Analysis was developed for this study. Indirect effects are caused by an action and are later in time or farther removed in distance, but are still reasonably foreseeable. Cumulative effects are impacts on the environment that result from the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes the action. Indirect and cumulative effects associated with the U.S. 50 Bridge over Sinepuxent Bay project are anticipated to be minor due to the existing high level of development near the project location and the existing Smart Growth laws and land use plans and zoning regulations of Worcester County and Ocean City. However, the greatest potential for indirect impacts is attributed to the effects that the SHA Preferred Alternative may have on Skimmer Island. The SHA Preferred Alternative has the potential to change the hydrodynamics and pattern of sand migration in the bay due to the additional bridge piers and supports. These changes could indirectly impact aquatic habitats, fisheries, and the waterbird colonies on Skimmer Island.

9. Livability Principles and Sustainability

The six principles of livability and sustainability established by FHWA were incorporated in the U.S. 50 Crossing Study where applicable. Economic competitiveness of neighborhoods is a primary theme of this study, as SHA has worked diligently with officials to give people reliable access to educational opportunities, employment centers, as well as goods and services. The SHA Preferred Alternative will assist in providing more transportation choices with the separate facility that is intended for pedestrians, bicyclists, and fisherman. A major goal of this study is to alleviate traffic congestion throughout the study area, which in turn will allow the residents and business owners improved community access and more walkable neighborhoods. An aesthetically pleasing gateway to Ocean City will also be designed as part of the SHA Preferred Alternative.

10. Mitigation

Based on preliminary estimates, the proposed project would require approximately 0.80-acre to 1.50 acre of compensatory mitigation. Sites identified in the December 2007 ‘Tidal Wetland Mitigation Site Search and Suitability Evaluation for U.S. 50 Bridge Project’ report were rejected by regulatory and resource agencies. Instead of conducting a supplementary site search or exploring out of kind options, an alternative approach of contribution to either DNR, Coastal Wetland Initiative (CWI) or National Park Service (NPS) ditch filling wetlands enhancement program at Assateague National Seashore is SHA’s preferred alternative to provide compensatory mitigation for the proposed project’s impacts to emergent tidal wetlands and tidal waters. A contribution would be made to CWI or NPS wetland enhancement programs at an 8:1 ratio, which is higher than the required 2:1. SHA would continue to investigate additional locations where tidal wetland mitigation could occur in the event that contributions to the CWI and NPS’ enhancement programs are deemed inadequate. This preferred approach may change if these programs are no longer available at the time design funding becomes available. In addition, any indirect impacts to Skimmer Island will be coordinated with environmental agencies and appropriate mitigation will be determined at that time. Following any additional investigations, further consultation with MDE, USACE and USFWS will determine which site, or sites, best meets the needs of the proposed project’s compensatory mitigation requirements.

E. PERMITS REQUIRED

It is anticipated that the construction of the build alternatives for this project could require the following permits:

Section 404/Section 10 Permit	USACE
Section 401 Water Quality Certification	MDE
Coastal Zone Consistency Determination	MDE
Tidal Wetlands License	MD Board of Public Works/MDE
Stormwater Management Plan Approval	MDE
Sediment and Erosion Control Plan Approval	MDE
National Pollutant Discharge Elimination System (NPDES) Permit for Construction	MDE

Critical Area Approval	CAC
Bridge Construction Permit	U.S. Coast Guard
Section 7 Biological Opinion (further coordination)	National Oceanic and Atmospheric Administration – NMFS and USFWS

F. AREAS OF CONTROVERSY OR SPECIAL CONCERN

The proximity of the U.S. 50 Bridge to Skimmer Island has been an area of particular concern throughout the public and agency involvement process. These concerns are summarized below.

Skimmer Island

Skimmer Island is a flood tidal shoal system that provides essential nesting habitat for two state-listed endangered species, the black skimmer and the royal tern. Both species require unvegetated sand bars for breeding and nesting habitat and Skimmer Island represents the only viable nesting location for the royal tern in the State. The DNR is concerned that Skimmer Island may be steadily migrating to the south or closer to the U.S. 50 Bridge, and may eventually move underneath or south of the existing bridge. DNR will consider the project's future actions under the provisions of Title 08 in COMAR regarding the potential to "jeopardize the continued existence" of these species, to avoid an undesirable and potentially unlawful outcome in the context of conserving viable populations of wildlife across the State.

The DNR requested that SHA provide an analysis of the flood tidal shoal migration and change, including modeling and projections over the long term (25 to 75 years); an analysis of the impacts upon flood tidal shoal migration and change that may be attributable to the specific options retained for further study (i.e. how the project itself may influence the migration); an analysis of the potential for "take" of listed species under current statute which would result from any of the alternatives being retained for detailed study (including the SHA Preferred Alternative), including consideration of any increase in traffic volumes related to the project; and present avoidance, minimization, and mitigation options related to potential impacts of long-term habitat loss to black skimmers and royal terns that might result from the alternatives (including the SHA Preferred Alternative).

To address DNR's concerns, a hydrodynamic and sediment transport model was applied to the five ARDS, including the SHA Preferred Alternative. The model application indentified possible impacts on Skimmer Island and other coastal areas over the short and long-term. The model was also used to assess the effects of specific pier placement and design options in an effort to avoid impacts to Skimmer Island, and to potentially reverse the past and current degradation and migration of the Island. Additional studies will be conducted in the future, closer to the beginning of the bridge design phase to investigate any potential indirect impacts the new bridge or removal of the old bridge (entire or in part) may have on the surrounding hydrodynamic system. Potential impacts to Skimmer Island will be coordinated with environmental agencies and appropriate mitigation determined at that time.

G. PUBLIC INVOLVEMENT

Several public workshops, hearings and newsletters have been used to solicit public involvement in the U.S. 50 Crossing Study.

- Open House meetings were held in Ocean City in June 2005 to introduce the project to the public and solicit public responses on the project and potential solutions. A total of 45 persons attended.
- Open House meetings were held in October 2005 to present the conceptual alternatives and purpose and need of the project and receive public input. A total of 145 persons attended. In June 2006, Alternatives Public Workshops were held to display the preliminary alternatives for public review and comment. The Maryland SHA received 341 responses from the public. The responses provided important information concerning public approval of the various alternatives.
- In May-June 2007, Informational Public Workshops were held to present the ARDS and display the Coordination Plan summary. A total of 50 persons attended, and the SHA received 363 responses to the ARDS. The Coordination Plan was circulated to the agencies on February 29, 2008, and can be accessed by the public for review and comment via the project's website.
- The SHA held a Joint Location/Design Public Hearing on Thursday, May 29, 2009, at the Roland E. Powell Convention Center in Ocean City. The purpose of the public hearing was to present the ARDS and provide an opportunity for public participation in the overall planning process. A total of 115 persons attended. The team received 45 comment cards, five letters, three e-mails, 13 survey cards with comments and five feedback rating cards. The team provided written responses to all comments that included a return address.

H. 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 the 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 \$457.8M to \$564.1M 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:

- System Preservation (preventive maintenance/rehabilitation) Plan: 2012-2027 (\$1,700,000)
- Final Design: 2022-2027 (\$ 61.2 M - \$ 73.2 M)
- ROW: 2022-2027 (\$ 46.7 M - \$ 59.6 M)
- Construction: 2027-2032 (\$ 366.2 M – \$ 429.6 M)
- Completion 2032 (\$475.8M – \$564.1M)

I. ENVIRONMENTAL ASSESSMENT FORM

The following Environmental Assessment Form (EAF) is a requirement of the Maryland Environmental Policy Act and Maryland Department of Transportation Order 11.01.06.02. Its use is in keeping with the provisions of 1500.4 (k), 1506.2 and 1506.6 of the Council of Environmental Quality Regulations, effective July 31, 1979, which recommend that duplication of Federal, State and Local procedures be integrated into a single process.

The checklist identifies specific areas of the natural and socioeconomic environment that have been considered while preparing this environmental impact statement. The reviewer can refer to the appropriate section of the document as indicated in the "Comment" column of the form for a description of specific characteristics of the resource and the potential impacts, beneficial or adverse, that the action may incur. The "No" column indicates that during the scoping and coordination processes, a specific area of the environment was not identified to be within the project area or would not be impacted by the proposed action.

ENVIRONMENTAL ASSESSMENT FORM

	<u>YES</u>	<u>NO</u>	<u>COMMENTS</u>
A. Land Use Considerations			
1. Will the action be within the 100- year floodplain?	<u>X</u>	<u> </u>	<u>See Section IV.C.5</u>
2. Will the action require a permit for construction or alteration within the 50 year floodplain?	<u> </u>	<u>X</u>	<u> </u>
3. Will the action require a permit for dredging, filling, draining or alteration of a wetland?	<u>X</u>	<u> </u>	<u>See Section IV.C.4</u>
4. Will the action require a permit for the construction or operation of facilities for solid waste disposal including dredge and excavation spoil?	<u> </u>	<u>X</u>	<u> </u>
5. Will the action occur on slopes exceeding 15%?	<u> </u>	<u>X</u>	<u> </u>
6. Will the action require a grading plan or a sediment control permit?	<u>X</u>	<u> </u>	<u>See Section IV.C.2</u>
7. Will the action require a mining permit for deep or surface mining?	<u> </u>	<u>X</u>	<u> </u>
8. Will the action require a permit for drilling a gas or oil well?	<u> </u>	<u>X</u>	<u> </u>
9. Will the action require a permit for airport construction?	<u> </u>	<u>X</u>	<u> </u>
10. Will the action require a permit for the crossing of the Potomac River by conduits, cables or other like devices?	<u> </u>	<u>X</u>	<u> </u>
11. Will the action affect the use of a public recreation area, park, forest, wildlife management area, scenic river or wildland?	<u> </u>	<u>X</u>	<u> </u>
12. Will the action affect the use of any natural or manmade features that are unique to the county, state, or nation?	<u>X</u>	<u> </u>	<u>See Section IV.B.1</u>
13. Will the action affect the use of an archeological or historical site or structure?	<u>X</u>	<u> </u>	<u>See Section IV.B.1 and 2</u>
B. Water Use Considerations			
14. Will the action require a permit for the change of the course, current, or cross-section of a stream or other body of water?	<u>X</u>	<u> </u>	<u>See Section IV.C.4</u>

	YES	NO	COMMENTS
15. Will the action require the construction, alteration, or removal of a dam, reservoir, or waterway obstruction?	_____	X	_____
16. Will the action change the overland flow of stormwater or reduce the absorption capacity of the ground?	X	_____	See Section IV.C.2
17. Will the action require a permit for the drilling of a water well?	_____	X	_____
18. Will the action require a permit for water appropriation?	_____	X	_____
19. Will the action require a permit for the construction and operation of facilities for treatment or distribution of water?	_____	X	_____
20. Will the project require a permit for the construction and operation of facilities for sewage treatment and/or land disposal of liquid waste derivatives?	_____	X	_____
21. Will the action result in any discharge into surface or sub-surface water?	X	_____	See Section IV.C.3
22. If so, will the discharge affect ambient water quality parameters and/or require a discharge permit?	_____	X	See Section IV.C.3
C. Air Use Considerations			
23. Will the action result in any discharge into the air?	X	_____	See Section IV.E
24. If so, will the discharge affect ambient air quality parameters or produce a disagreeable odor?	_____	X	See Section IV.E
25. Will the action generate additional noise which differs in character or level from present conditions?	X	_____	See Section IV.F
26. Will the action preclude future use of related air space?	_____	X	_____
27. Will the action generate any radiological, electrical, magnetic, or light influences?	_____	X	_____
D. Plants and Animals			
28. Will the action cause the disturbance, reduction or loss of any rare, unique or valuable plant or animal?	_____	_____	See Section IV.8. a. & Table IV-5
29. Will the action result in the significant reduction or loss of any fish or wildlife habitats?	_____	_____	See Section IV.7. b.

	YES	NO	COMMENTS
30. Will the action require a permit for the use of pesticides, herbicides or other biological, chemical or radiological control agents?		X	
E. Socio-Economic			
31. Will the action result in a pre-emption or division of properties or impair their economic use?	X		See Section IV.A.1
32. Will the action cause relocation of activities, structures, or result in a change in the population density or distribution?	X		See Section IV.A.1
33. Will the action alter land values?		X	See Section IV.A.2
34. Will the action affect traffic flow and volume?		X	
35. Will the action affect the production, extra action, harvest or potential use of a scarce or economically important resource?		X	
36. Will the action require a license to construct a sawmill or other plant for the manufacture of forest products?		X	
37. Is the action in accord with federal, state, regional and local comprehensive or functional plans- including zoning?	X		See Section IV.A.3
38. Will the action affect the employment opportunities for persons in the area?		X	See Section IV.A.2
39. Will the action affect the ability of the area to attract new sources of tax revenue?		X	See Section IV.A.2
40. Will the action discourage present sources of tax revenue from remaining in the area, or affirmatively encourage them to relocate elsewhere?		X	See Section IV.A.2
41. Will the action affect the ability of the area to attract tourism?		X	
F. Other Considerations			
42. Could the action endanger the public health, safety or welfare?		X	
43. Could the action be eliminated without deleterious affects to the public health, safety, welfare or the natural environment?		X	

	YES	NO	COMMENTS
44. Will the action be of statewide significance?		X	
45. Are there any other plans or actions (federal, state, county or private) that, in conjunction with the subject action could result in a cumulative or synergistic impact on the public health, safety, welfare, or environment?	X		See Section IV.H
46. Will the action require additional power generation or transmission capacity?		X	
47. This agency will develop a complete environmental effects report on the proposed action.	X		See DEIS April 2008