FINDING OF NO SIGNIFICANT IMPACT
For
ROADWAY AND TRAIL SAFETY IMPROVEMENTS

-ENVIRONMENTAL ASSESSMENT-

GEORGE WASHINGTON MEMORIAL PARKWAY
Virginia and Washington, DC

BACKGROUND

The George Washington Memorial Parkway (GWMP) is a linear park located in Virginia, Maryland and the District of Columbia along the Potomac River. The park is owned by the Federal government and administered by the National Park Service (NPS). The GWMP includes four separate roadway segments – the George Washington Memorial Parkway, the Mount Vernon Memorial Highway (MVMH), the Clara Barton Parkway and the Spout Run Parkway – totaling 38.3 miles and 7,248 acres that connect natural and cultural resources.

The park is mostly located in Virginia, on the west side of the Potomac River. The George Washington Memorial Parkway segment extends from Memorial Circle to the Capital Beltway (I-495) on the northern end. The MVMW segment extends from Memorial Circle to Mount Vernon. The Columbia Island portion of the GWMP is located in the District of Columbia. The Mount Vernon Trail, a bicycle and pedestrian route, extends along the GWMP and the Potomac River from Theodore Roosevelt Island to Mount Vernon.

The area investigated focused on the GWMP in the vicinity of its intersection with Interstate 395 (I-395), just west of the 14th Street Bridge over the Potomac River. While collectively referred to as the 14th Street Bridge, the crossing consists of three bridges: the George Mason Bridge, which carries the southbound lanes of I-395 from the District of Columbia to Virginia; the Rochambeau Bridge that connects northbound I-395 to 14th Street; and the Arland D. Williams Jr. Memorial Bridge (Williams Bridge), which also carries northbound I-395 across the Potomac River from Virginia. The general boundaries of the Study Area are the Potomac River to the east, the Williams Bridge to the south, Boundary Channel Drive to the west, and Columbia Island Marina to the north.

The segment of the GWMP within the Study Area was constructed in 1932, although a number of modifications have been made to the roadway and adjacent parklands since that time. The parkway was originally constructed to commemorate the first president, preserve the natural setting along the Potomac River and provide a fittingly grand and scenic entryway for visitors to the nation's capital. Those factors, as well as its significance as the first parkway constructed and maintained by the U.S. Government, led to the listing of the GWMP on the National Register of Historic Places (National Register) in 1981. Contributing elements of the GWMP historic resource within the Study Area include the Boundary Channel Bridge (No. 3300-020P), commonly referred to as the "Humpback Bridge", and the Navy and Marine Memorial, located just north of the Humpback Bridge.

As the Washington, DC region has become increasingly urban in character, the GWMP has become a primary commuter route between Virginia, Maryland and the District of Columbia. The scenic experience intended by the parkway's originators is still pleasing to most commuters... With the increase in traffic volumes and speeds, regular users of the parkway commonly display high-speed

driving habits. These habits can result in unsafe traffic maneuvers and accidents. The Mount Vernon Trail is also heavily used be walkers, joggers, bicyclists, and others, both as a recreational resource and as a commuter route between Virginia and the District of Columbia.

The purpose of the proposed action was to identify and evaluate a series of roadway and bicycle/pedestrian trail modifications to more safely and efficiently accommodate motorists, bicyclists and pedestrians using the GWMP in the vicinity of the 14th Street Bridge and Columbia Island Marina. Potential modifications to meet current public roadway design and NPS Park Road Standards were also investigated. The modifications are intended to address safety concerns in the Study Area and would not result in any increase in the existing roadway capacity.

PREFERRED ALTERNATIVE

The preferred alternative proposes to modify and improve features at two GWMP locations.

Columbia Island Marina Entrance

The Preferred Alternative would include the permanent closing of the Columbia Island Marina entrance at the GWMP and construction of a new entrance on Boundary Channel Drive, to the west. The existing entrance roadway to the marina parking lot and boat ramp would be removed. The reclaimed roadway would be re-vegetated with grass, consistent with the groundcover of the surrounding open space areas.

A two-lane vehicular bridge would be constructed over Boundary Channel to connect Boundary Channel Drive with the existing marina parking lot. The bridge would accommodate two vehicle travel lanes (one in each direction) and a sidewalk on one side. It would be designed to blend with the character of the GWMP National Register historic resource as well as adjacent National Register resources (i.e., Lyndon Baines Johnson (LBJ) Memorial Grove and the Pentagon).

Boundary Channel Drive is part of the Pentagon Reservation and under the jurisdiction of Department of Defense (DOD). A permit has been requested from the DOD Directorate of Real Estate and Facilities for access from Boundary Channel Drive for the new Columbia Island Marina entrance and bridge. The NPS maintains a parking area for the LBJ Grove and pedestrian bridge across Boundary Channel that are accessed via Boundary Channel Drive under a similar permit agreement.

It should be noted that, due to the terrorist attack on the Pentagon of September 11, 2002, DOD has almost completed plans to realign Virginia Route 110 (VA 110) to decrease its proximity to the Pentagon. While a final alignment has not been established, the relocation may require modifications to Boundary Channel Drive and/or the I-395/Boundary Channel Drive interchange that could also affect the design for the new marina entrance. As an interim safety measure and until a final alignment has been determined, the Federal Highway Administration (FHWA) and NPS propose to reconfigure the Columbia Island Marina entrance on the GWMP to right turns only. The center median of the GWMP would be closed to turning traffic. Once the relocation of VA 110 is completed, the new marina entrance would be constructed.

A bus turnaround located adjacent to the existing marina entrance roadway and parking lot would be removed in conjunction with the interim modifications to the marina entrance. Public buses no longer serve the Columbia Island Marina and the turnaround serves no useful purpose.

Southbound I-395 Ramp to Northbound GWMP, Humpback Bridge and Pedestrian Crossing of the GWMP

The Preferred Alternative involves the demolition of the Humpback Bridge and construction of a replacement bridge structure to include: a widened Mount Vernon Trail crossing (with a physical

barrier between the trail and vehicular travel lanes), a northbound acceleration lane for the ramp from southbound I-395 to northbound GWMP, two northbound travel lanes and two southbound travel lanes. A median barrier would separate the northbound and southbound GWMP lanes. Both the median barrier and the trail barrier would be constructed in a style and with material(s) compatible with the GWMP historic resource and the character of the existing bridge. The vertical profile and sight distance deficiencies of the existing bridge would be corrected and addressed in the design of the new bridge and the GWMP approaches.

The existing at-grade crosswalk would be eliminated and pedestrian underpasses would be constructed to the north and south of the Humpback Bridge to connect the east and west sides of the GWMP. The underpasses would be lighted and equipped for the potential use of security devices. Sidewalks/trails would be constructed to connect the Columbia Island Marina parking lot with the Mount Vernon Trail and Navy and Marine Memorial, via the northern underpass. Modifications to the Mount Vernon Trail would be made to link the existing trail with both underpasses. A new trail connection would be constructed along the southern edge of the Boundary Channel lagoon to link the Pentagon/Boundary Channel Drive with the GWMP and Mount Vernon Trail via the southern underpass. All trail connections would be 9-feet wide, consistent with the Mount Vernon Trail width standard. The small, six-stall parking lot serving the Navy and Marine Memorial would be eliminated in this alternative.

ALTERNATIVES CONSIDERED

Columbia Island Marina Entrance

The No Action Alternative was considered in this analysis in addition to the Preferred Alternative discussed above. Under the No Action Alternative, no changes would be made to the Columbia Island Marina entrance and related circulation/turning patterns. The small parking lot serving the Navy and Marine Memorial and Lady Bird Johnson Park would be retained as well. Because the safety concerns associated with turning traffic at the marina entrance would not be addressed, it was determined that the No Action alternative did not meet the purpose and need for action. Therefore, the Preferred Alternative of closing Marina access from the GWMP and constructing a new Boundary Channel Drive entrance was selected as the best solution to address the vehicular and pedestrian safety issues at this site.

Southbound I-395 Ramp to Northbound GWMP, Humpback Bridge and Pedestrian Crossing of the GWMP

The No Action Alternative was considered in this analysis in addition to three build alternatives: Alternative A – Widen the existing Humpback Bridge to include an acceleration lane and pedestrian trail improvements; Alternative B – Construct a separate bridge parallel to the existing Humpback Bridge and shift the traffic lanes to include an acceleration lane and pedestrian trail improvements; and the Preferred Alternative – Replace the existing Humpback bridge to include an acceleration lane and pedestrian trail improvements.

It was determined that the No Action Alternative, Alternative A, and Alternative B do not meet the purpose and need for action. Under the No Action Alternative, no modifications would be made to the southbound I-395 ramp to northbound GWMP. The safety and design deficiencies associated with the ramp and the existing trail/crosswalk would not be addressed. The bridges vertical sight distance deficiencies would remain as well. Although some of the safety and design deficiencies would be addressed under Alternatives A and B, the Preferred Alternative was selected as the best solution to address the project objectives.

Alternatives Evaluated but Decision Deferred

The closure of two ramps at the GWMP and I-395 interchange – the southbound GWMP exit ramp to southbound I-395 and the northbound I-395 exit ramp to northbound GWMP – were identified in the *14th Street Bridge Corridor Improvement Feasibility Study* 1998 report on the GWMP and I-395, as an option to improve motorist safety. The NPS has deferred selection of a preferred alternative or action/no action for the proposed ramp closures until the completion of a more extensive evaluation by the FHWA of the transportation needs of the I-395/14th Street corridor in Virginia and the District of Columbia, including the GWMP/I-395 interchange. Therefore, no preferred alternative was selected at this time.

Southbound GWMP Ramp to Southbound I-395

As with the other locations, the No Action Alternative was considered for this ramp in addition to one build alternative: Deferred Alternative – Eliminate Ramp. However, the No Action alternative would not address the safety and design deficiencies associated with the southbound GWMP ramp to southbound I-395 and the ramp would continue in operation. The Deferred Alternative involves closing the southbound GWMP exit ramp to southbound I-395. Traffic currently utilizing this ramp would be diverted to alternate routes such as Virginia Route 27, Boundary Channel Drive, I-395, and Old Jefferson Davis Highway.

As noted previously, DOD has initiated plans to realign VA 110 to decrease its proximity to the Pentagon. While a final alignment has not been established, the relocation may require modifications to Boundary Channel Drive and/or the I-395/Boundary Channel Drive interchange that could affect the use of Boundary Channel Drive as an alternate route between the GWMP and I-395.

Northbound I-395 Ramp to Northbound GWMP

The No Action Alternative was considered in this analysis in addition to one build alternative: Deferred Alternative – Eliminate Ramp. However, under the No Action Alternative, the northbound I-395 ramp to northbound GWMP would continue in operation and the safety and design deficiencies associated with the ramp would not be addressed. The Deferred Alternative involves closing the left-side exit ramp from northbound I-395 to northbound GWMP. Traffic currently utilizing this ramp would be diverted to alternate routes such as Virginia Route 27, I-395, and Boundary Channel Drive.

As with the proposed southbound GWMP to southbound I-395 ramp closure, this alternative also relies on Boundary Channel Drive as an alternate means of accessing I-395 from the GWMP.

SUMMARY OF ENVIRONMENTAL CONSEQUENCES

The proposed resource protection measures described in the EA are adopted. Although the Preferred Alternatives would have short and long-term impacts on natural and cultural resources, they would be minimized and mitigated as described in the EA. No impairment of the NPS resource would result. A summary of environmental consequences follows.

Definitions

1. *Temporary impacts* – Impacts anticipated occurring during construction only. Upon completion of the construction activities, conditions are likely to return to those that existed prior to construction.
2. *Short-term Impacts* – Impacts that may extend past the construction period, but are not anticipated lasting more than a couple years.
3. *Long-term impacts* – Impacts that may extend past the construction period, and are anticipated lasting more than a couple years.
4. *Negligible* – Little or no impact (not measurable).
5. *Minor* – Changes or disruptions may occur, but does not result in a substantial resource impact.

6. *Major* – Easily defined and measurable. Results in a substantial resource impact.
7. *Impairment* – An impact that would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values.

General Environmental Setting

Natural Resources and Physical Environment

Vegetation

For the Columbia Island Marina entrance, the interim option to limit turning movements at the existing entrance to right in/out would result in the closure and re-vegetation of the center GWMP median at the marina entrance. The median would likely be planted with turf grass, consistent with the treatment of the adjacent median areas. This modification is anticipated to have a negligible benefit to existing vegetation resources, but would increase the amount of landscaped area by approximately 5,900 square feet (SF) or 0.1 acres (AC).

The construction of a new marina entrance from Boundary Channel Drive would result in the clearing of approximately 6,500 SF or 0.1 AC of mixed woodland vegetation adjacent to Boundary Channel within the path of the proposed entrance bridge. Once the new bridge is constructed, disturbed areas would be re-vegetated. Removal of the existing marina entrance roadway would increase the amount of landscaped area by approximately 0.8 AC.

Replacement of the Humpback Bridge would result in the clearing of trees and other vegetation on both sides of the new structure. The eastern or river face of the new structure would be located in approximately the same position as the existing bridge face in order to minimize the impact to existing plantings. Proposed pedestrian underpasses and related trails have been located to minimize the loss of existing plantings, particularly the specimens on the Potomac River side of the bridge. However, three trees, the 80-inch diameter at breast height (DBH) pin oak (*Quercus palustris*), the 25-inch DBH flowering dogwood (*Cornus florida*) and a multi-trunk flowering pear (*Pyrus calleryana*) would be impacted. Protective measures such as the use of pile shoring and other measures would be taken during the construction of the bridge to minimize additional impacts to vegetation. Approximately 1.77 AC of mixed woodland vegetation would also be removed on the Pentagon side of the new bridge. Once the new bridge and underpasses are constructed, cleared areas would be re-planted.

Wildlife and Threatened and Endangered Species

While existing vegetation would be cleared on each side of Boundary Channel for the proposed new entrance bridge and GWMP bridge (replacement Humpback Bridge), loss of that resource is not anticipated to have an adverse impact on wildlife inhabiting the area surrounding the Columbia Island Marina. Disturbed areas would be replanted with vegetation consistent with that removed in order to provide the same type of wildlife habitat that would be destroyed. Construction of the bridges would also affect aquatic wildlife found in Boundary Channel; however those impacts are anticipated to be temporary. There are no state or federally listed rare, threatened or endangered species known to inhabit the Study Area, so the impacts would be negligible.

Wetlands

The construction of the new bridges would comply with the conditions of Section 401 and 404 of the Clean Water Act, if necessary. Wetlands permits would be obtained from the U.S. Army Corps of Engineers for the construction activity. The proposed actions would also comply with applicable state and local permit requirements.

Construction of the marina new entrance bridge over Boundary Channel would take place within the Boundary Channel wetland resource. No wetlands would be destroyed; however temporary impacts

to the wetlands and associated aquatic vegetation and wildlife would result from construction of the new bridge.

Construction of the replacement Humpback Bridge would require filling of approximately 1,400 SF within the Boundary Channel wetland for the bridge foundations. Additional work would take place on and over the waters of Boundary Channel. Temporary filling of approximately 900 SF of wetland would also be required for the temporary construction bridge and roadway. The necessary permits would be obtained for the temporary filling activity and the wetland would be restored once construction was completed.

Floodplains

Construction of the new bridges over Boundary Channel would take place within Flood Zone A12, area of 100-year flood, as indicated on the FEMA Flood Insurance Rate Map for the Study Area. A permit would be required from the U.S. Army Corps of Engineers for the construction activity. Bridge permits from the U.S. Coast Guard would also be required.

Coastal Zone Management

The Arlington County portions of the Study Area are located within the Virginia Coastal Zone. The Federal Coastal Zone Management Act (CZMA) requires development projects of Federal agencies that take place within the Coastal Zone be consistent with the applicable state coastal zone management program to the maximum extent practicable. The Virginia Coastal Resources Management Program is a network of existing state laws and policies though which the Commonwealth of Virginia manages its coastal resources. Proposed actions that comply with the applicable state laws and policies are considered to be consistent with the Virginia Coastal program. The District of Columbia is not subject to the CZMA. The proposed safety improvements would be constructed in accordance with Commonwealth of Virginia and District of Columbia stormwater management, sedimentation and erosion control and other water quality protection laws and policies.

Chesapeake Bay Preservation Area

The Preferred Alternative for the new marina entrance is located on government-owned property that is exempt from Arlington County Chesapeake Bay Preservation regulations. The Preferred Alternative for the Humpback Bridge is partially located on government-owned property in Virginia that is exempt from Arlington County Chesapeake Bay Preservation regulations and partially located in the District of Columbia, which does not designate Chesapeake Bay Preservation Areas. Construction and other activities related to the implementation of the proposed safety improvements would comply with local stormwater management, sedimentation and erosion control and other water quality protection regulations.

Physiography, Geology and Soils

Minor soil disturbance would occur during the reconfiguration of the marina entrance from the GWMP and removal of the pavement in the GWMP median for the interim entrance modifications (right in/out). An area of approximately 0.3 AC would be impacted by the interim modifications. Soils would be disturbed during the construction of the new entrance bridge and the removal of the existing marina entrance driveway. Approximately 3.9 AC would be disturbed. All demolition and construction activities would incorporate erosion control measures to minimize soils loss.

Soil disturbance during the construction of a replacement Humpback Bridge (along with other modifications at this location) would result in the disturbance of approximately 9.9 AC due to demolition, clearing, filling/grading and other related activities. Demolition and construction activities would incorporate erosion control measures and best management practices to minimize soils loss. Disturbed areas would be re-vegetated with native grasses once construction activities are complete.

Air Quality

The proposed action does not increase the capacity of the GWMP transportation system; air quality levels would remain essentially the same as present conditions as a result of the construction of the new marina entrance. Minor, temporary increases in dust and other air emissions would result from construction activities. Construction activities would be conducted in accordance with the FHWA's Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects (1996) and would comply with applicable local, state and federal regulations.

Noise

Existing noise levels would increase temporarily during construction of the new marina entrance, marina entrance bridge across Boundary Channel, and replacement Humpback Bridge.

The rerouting of traffic to the new marina entrance would result in minor increases in noise levels on I-395, VA 27 and Boundary Channel Drive, due to the additional vehicle traffic. The increases in noise levels are not anticipated to be significant.

Existing noise levels would increase temporarily during the construction of the replacement Humpback Bridge. The speed with which a vehicle would travel the segment of roadway encompassing the ramp – the segment of southbound I-395 before the ramp, the ramp to the GWMP and the GWMP segment after the ramp merge – improved slightly with the addition of the acceleration lane, by approximately 16 mph (1.3 minutes) in the AM peak and 3 mph (0.2 minutes) in the PM peak. That increase in vehicle speeds would result in a corresponding minor increase in traffic-related noise levels within the Study Area, although below the approximately 20 mph increase necessary to produce a readily noticeable (i.e., 5 dBA) increase in noise levels.

Hazardous Materials and Wastes

No evidence of historical land use involving hazardous materials or hazardous wastes was found within the Study Area. Implementation of the proposed action would not require the disturbance or relocation of any of the existing, recognized environmental conditions – underground storage tanks (USTs) and above ground storage tanks (ASTs) – found at the Columbia Island Marina. Therefore, no disturbance or generation of hazardous materials or hazardous wastes is anticipated to occur with either the implementation of any of the safety improvements or under "no-action" conditions.

Energy

Energy consumption would temporarily increase during construction of the new marina entrance and bridge. No significant change in long-term energy consumption is anticipated.

Socioeconomic and Community Features

Construction jobs associated with the Preferred Alternatives would have a short-term benefit to local construction workers and the local economy. The longer and more extensive construction period required for a replacement Humpback Bridge would produce slightly greater benefits than the shorter-term parallel bridge or bridge widening efforts.

If vehicle turning movements in and out of the Columbia Island Marina were limited to right turns only, as an interim safety improvement measure, marina access/egress options would be reduced. The change in traffic patterns is not anticipated to adversely impact traffic operations. The marina situation would be similar to other locations on the GWMP, such as Gravelly Point and the Theodore Roosevelt Island parking lot, where access is only possible from one direction of the Parkway. In the long term, marina-bound visitors would be rerouted to the new entrance via a less direct route. Since the majority of marina traffic travels in non-peak periods, the rerouting is not anticipated to result in greater congestion on the Study Area road network.

In the long-term, a new bridge to replace the Humpback Bridge would incur lower maintenance costs for the NPS than the 70-year-old Humpback Bridge. The expected useful life of a new bridge would be 75 to 100 years, compared to the 25 to 30 year life expectancy of the existing Humpback Bridge.

Historic and Cultural Resources

A Memorandum of Agreement (MOA) for this project was signed on May 27, 2004 between National Park Service, Federal Highway Administration, Virginia State Historic Preservation Office and the District of Columbia State Historic Preservation Office..

Columbia Island Marina Entrance

Construction of the new marina entrance and bridge across Boundary Channel would impact the historic setting of the GWMP. Consultation with the Advisory Council on Historic Presentation (Advisory Council) and Virginia and District of Columbia State Historic Preservation Officers (SHPO) has been initiated in compliance with Section 106 of the National Historic Preservation Act (NEPA). The design of the new bridge, construction plans and details would be executed in conjunction with the terms and conditions of the (MOA) noted above. The MOA outlines the measures to be taken to mitigate potential impacts to the historic resources.

Past grading and filling activity have extensively modified the land within the Study Area. It is not anticipated to have a high potential for the presence of undisturbed cultural or archaeological resources.

Southbound I-395 Ramp to Northbound GWMP, Humpback Bridge and Pedestrian Crossing of the GWMP

The Preferred Alternative would result in the replacement of the Humpback Bridge with a new bridge across Boundary Channel. The existing bridge would be demolished, a direct impact to the GWMP historic resource and the bridge. The proposed action would also alter the GWMP setting within the views and vistas of adjacent historic resources, including the Pentagon, LBJ Memorial Grove, Arlington National Cemetery, East and West Potomac Park, and other historic resources of the District of Columbia. Consultation with the Advisory Council and Virginia and District of Columbia SHPO's has been initiated. The design of the new bridge and related elements, construction plans and details would be executed in consultation the Advisory Council and under the terms and conditions of the MOA between the FHWA, NPS, and District of Columbia and Virginia SHPO's outlining the measures to be taken to mitigate the impacts to the historic resources.

The new bridge would be similar in design and materials to the Humpback Bridge. The eastern or Potomac River edge of the new structure would not be located any farther east than the eastern façade of the existing bridge, to minimize impacts to the adjacent Navy and Marine Memorial. Multi-use trails would be constructed to pass beneath the new bridge and provide grade-separated crossing of the GWMP. Pedestrian and bicycle circulation patterns surrounding the Navy and Marine Memorial would also be modified to provide a transition and trail connection between the Mount Vernon Trail, new trail underpasses and Columbia Island Marina. The new trail connections would be designed and constructed to minimize disturbances to the Navy and Marine Memorial.

With respect to cultural or archaeological resources, past grading and filling activity have extensively modified the land within the Study Area. It is not anticipated to have a high potential for the presence of undisturbed cultural or archaeological resources.

Aesthetics and Viewsheds

Columbia Island Marina Entrance

The interim configuration of the marina entrance would benefit Parkway aesthetics slightly, due to the elimination of pavement in the GWMP and at the marina entrance. Construction of a new marina entrance and bridge across Boundary Channel would create a new element within the GWMP historic resource and in the viewsheds of adjacent historic resources: LBJ Memorial Grove, the Pentagon and Arlington National Cemetery.

While the design of the new bridge and entrance would be compatible with the existing character of the GWMP and other historic resources, the visual setting of the GWMP and Columbia Island would be affected by the construction of the new entrance, as well as views from the Pentagon and LBJ Memorial Grove. Areas cleared of vegetation during the construction process would be replanted once the new entrance is complete, to minimize visual impacts.

Southbound I-395 Ramp to Northbound GWMP, Humpback Bridge and Pedestrian Crossing of the GWMP

The Preferred Alternative would have the greatest potential visual impact on the GWMP historic resource and adjacent historic resources compared to the other alternatives. The Humpback Bridge would be replaced with a new structure. The design of the new bridge would be reminiscent of the Humpback Bridge in scale, massing and materials. The pedestrian underpasses and other new elements would be designed as integral components of the new bridge, to ensure their fit and compatibility. As with the other Humpback Bridge alternatives, mature specimen trees dating to the 1930's that flank the existing bridge on the Potomac River side would need to be removed. Vegetation on the Pentagon side of the bridge would also be cleared as part of construction activities. Landscaped areas adjacent to the bridge that would be cleared during construction would be replanted once construction is complete to mitigate the visual impacts.

Land Use

No change to existing land use patterns is anticipated for the Preferred Alternatives.

Public Use and Experience

Roadways and Ramps

Columbia Island Marina Entrance

The high traffic volumes on the GWMP at the un-signalized marina entrance intersection make left turns in and out of the Columbia Island Marina and Navy and Marine Memorial parking lot difficult and unsafe. The intersection was analyzed for the existing (2001) conditions, future (2025) no-build conditions, as well as the Preferred Alternative (2025), which involves the closure of the GWMP median (right in/out) as an interim safety measure and the permanent closure of the marina entrance on the GWMP and Navy and Marine Memorial parking lot as the preferred, long-term measure. The future marina entrance traffic was determined using the growth rate of 0.17% for the AM peak and 0.58% for the PM peak for the GWMP in the vicinity of the marina.

Eliminating the left turns at this intersection and providing right turns only, as an interim measure, removes most of the conflict points between vehicles, thus creating a safer intersection. The left turns into and out of the marina would be rerouted to become right turns at the marina entrance. This additional traffic on the southbound GWMP right-turn movement does not significantly affect its operation, since it is a free-flow movement. The mainline GWMP would remain at a level of service (LOS) D for southbound traffic and LOS F for northbound traffic.

Eliminating the entrance completely and relocating it to Boundary Channel Drive, as a long-term measure, would have the greatest safety benefit for the GWMP, although the northbound and southbound through traffic on the GWMP would remain at or near unacceptable levels of service due to the heavy mainline traffic volumes. Relocating the marina entrance would result in increased traffic on Boundary Channel Drive. The peak marina traffic, however, is on the weekend so there would be little conflict with weekday, peak period commuter traffic.

The long-term option to relocate the marina entrance assumes Boundary Channel Drive, which is under DOD jurisdiction, remains open to non-Pentagon traffic. The FHWA has submitted a request to the DOD, on behalf of the NPS, for a permit for access to Boundary Channel Drive for a new Columbia Island Marina entrance and vehicular bridge across Boundary Channel.

Maintenance of Traffic

The proposed interim measure to reconfigure the marina entrance to limit turning movements to right turns only and close the existing GWMP median break would require temporary reductions in mainline GWMP lane widths and at the marina entrance. The construction is not anticipated to have a significant impact on GWMP or marina traffic operations.

The construction of the new marina entrance and bridge would temporarily affect traffic patterns on Boundary Channel Drive and within the marina parking lot. Travel lanes on Boundary Channel Drive would be temporarily reduced in width due to construction activities. No road closures are anticipated. The new entrance would also result in the loss of approximately six parking spaces at the Columbia Island Marina. Travel lanes on the mainline GWMP in the vicinity of the marina would also be temporarily reduced during the removal of the existing entrance and median. No road closures are anticipated.

Southbound I-395 Ramp to Northbound GWMP, Humpback Bridge and Pedestrian Crossing of the GWMP

The proposed action involves a wider bridge crossing of the Boundary Channel inlet, which eliminates the geometric deficiencies for this ramp and allows for a longer acceleration lane without realigning the ramp.

As a result of the proposed improvement, the LOS on the ramp is significantly improved from a LOS F to a LOS D in the AM peak. In the PM peak, the LOS improved from an F to borderline C/D. The longer acceleration lanes in the improvement scenarios allow vehicles to merge more easily, thus reducing the traffic queues that develop along the ramp. However, northbound GWMP continues to operate at LOS F even with the ramp improvements due to the heavy mainline volumes.

In addition to the level of service analysis, an analysis of average speed and density was performed on the southbound I-395 to northbound GWMP movement in order to further compare the alternatives to the no-build scenario. As shown in the table below, the results are reported for the affected portion of the model; the link of I-395 before the ramp, the ramp itself, and the GWMP link after the ramp merges.

2025 Speed and Density Results – Comparison of No Build to Alternatives for SB I-395 to NB GWMP

	Average speed difference	Average density difference	Length of affected area
SB I-395 to NB GWMP			
AM	15.6 mph	39.5 %	0.65 mi
PM	3.4 mph	8.2 %	0.73 mi

Note: AM & PM peak hours were simulated in different models. As a result, the endpoints of the models may be in slightly different positions, causing the "Length of Affected Area" to be slightly different between the AM & PM peak hour models.

In the AM peak, speed improved by about 16 mph over a 0.65-mile length of roadway. In this same section, density improved by about 40 percent. The time it takes to travel this 0.65-mile section of roadway improved by 1.3 minutes for the AM peak. In the PM peak, speed improved by about 3 mph over a 0.73-mile section. In this same section, density improved by about 8 percent. The time it takes to travel this 0.73-mile section of roadway improved only by 0.2 minutes for the PM peak.

Maintenance of Traffic

Maintenance of traffic (MOT) plans would be developed to manage traffic on the GWMP during the construction of the proposed action. A temporary bridge across the Boundary Channel inlet would be required to maintain GWMP/Mount Vernon Trail traffic during bridge replacement construction. The temporary bridge would be located to the west of the proposed replacement bridge. A reduction in the GWMP speed limit would be required for the duration of construction activities to correspond to the 35 mph design speed of the temporary bridge. Northbound and southbound GWMP travel lanes and the Mount Vernon Trail would be diverted to the temporary bridge for the duration of the construction period. This alternative would result in the greatest disruption of existing traffic patterns and flows, compared to other alternatives investigated.

Bicycle and Pedestrian Facilities

Columbia Island Marina Entrance

The Preferred Alternative does not involve any modifications to the Mount Vernon Trail or other pedestrian/bicycle facilities. The existing facilities would remain in their current condition.

Southbound I-395 Ramp to Northbound GWMP, Humpback Bridge and Pedestrian Crossing of the GWMP

The Preferred Alternative involves a wider bridge crossing of the Boundary Channel inlet, which eliminates the geometric deficiencies for this ramp and allows for a longer acceleration lane without realigning the ramp. The Mount Vernon Trail would be widened to 10 feet as it crosses the Humpback Bridge and a barrier constructed between the trail and vehicle travel lanes to eliminate the existing safety deficiencies. Pedestrian/bicyclist conflicts with vehicular traffic associated with the existing at-grade crosswalk between the east and west sides of the GWMP would also be eliminated in this alternative, through the construction of pedestrian trail underpasses to the north and south of the bridge structure(s). The small parking lot serving the Navy and Marine Memorial would also be eliminated in this alternative. Accessible sidewalk/trail connections would be constructed to connect the Columbia Island Marina parking lot with the Mount Vernon Trail and Navy and Marine Memorial, via the northern underpass. The pedestrian/bicyclist connection between the Mount Vernon Trail, the Pentagon and Arlington County would be enhanced through the construction of a new trail connection along the southern edge of the Boundary Channel lagoon linking the Pentagon/Boundary Channel Drive with the GWMP via the southern underpass. All trail connections would be 9-feet wide, consistent with the Mount Vernon Trail width standard.

Cumulative Impacts

The proposed mid-term safety improvements identified for the Study Area are intended to complement the short-term and long-term safety improvements proposed by the FHWA for the I-395/GWMP interchange and 14th Street Bridge to enhance overall motorist and pedestrian safety within the corridor. No increase in the traffic-carrying capacity of the GWMP would result from the implementation of the preferred marina entrance alternative. It is not anticipated to contribute to any cumulative impacts.

Implementation of the proposed safety improvements would create a safer environment for the users of the other GWMP facilities proposed by the NPS in the vicinity of the Study Area as well as current GWMP users. Those facilities – a (non-motorized) boathouse and comfort station – would utilize the existing mainline roadway network, although the construction of vehicular and pedestrian connections may be necessary to link the new facilities with existing parking and trail resources.

The selection of the preferred alternative to relocate the Columbia Island Marina entrance to Boundary Channel Drive is contingent upon approval of the proposed entrance location by DOD, which controls access to Boundary Channel Drive. Any changes to Boundary Channel Drive would also require coordination with proposed plans to realign VA 110 to decrease its proximity to the Pentagon. Other planned improvements for the Pentagon Reservation are primarily concerned with the renovation of the existing Pentagon building. No major new structures are anticipated that, when combined with the impacts of the proposed marina re-location would result in significant cumulative impacts.

Undeveloped parcels in the vicinity of the Study Area include the former Twin Bridges Marriott site and the Arlington County "North Tract" site. Both are located to the southwest of the Study Area, at the north end of Crystal City. Arlington County plans to redevelop the North Tract as a public park and recreation facility. The county is also investigating the acquisition of the Twin Bridges Marriott site. Upgrade of the existing transportation network, including Old Jefferson Davis Highway, is under investigation as well. The upgrade of Old Jefferson Davis Highway would facilitate access to Boundary Channel Drive and the preferred new marina entrance. Development of the two parcels for park and recreation uses would be compatible with the use of the GWMP and would not be anticipated to result in significant cumulative impacts.

IMPAIRMENT OF PARK RESOURCES

National Park Service may use its discretion to allow impacts to park resources and values when necessary and appropriate to fulfill the purposes of a park, so long as the impact does not constitute impairment of the affected resources and values. An impact to any park resource or value may constitute an impairment when the conservation of that resource or value is:

- Necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park;
- Key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or
- Identified as a goal in the park's general management plan or other relevant NPS planning documents.

The portion of the George Washington Memorial Parkway where this project is proposed (Mount Vernon Memorial Highway) was established as a memorial to George Washington to connect Mount Vernon, the home of George Washington, with the south end of Memorial Bridge. This memorial highway, the first federally funded highway, "would be unrivaled in beauty by any highway in the country, and would form a recreational driveway unsurpassed in any capital city of the world". Its design intent "was to provide a thoroughfare of sufficient width over which traffic could move with the

least possible interruption, and the greatest possible enjoyment."[1] Roadway alignment, topography, planting, vistas, and parkway structures were the landscape elements employed by the Highway designers to achieve the desired "memorial character".[2] It is this "memorial character" that establishes a large portion of the park's values. The 1927 Senate Park Commission recommended the development of such a road because of the beautiful views it would reveal. The views, not the historical association with Mount Vernon, convinced the Commission that the Highway's inclusion in the park system of Washington was of utmost significance.[3]

The bridges were but one element of the overall design and were intended to harmonize with their surroundings, not dominate them; however they helped to establish the "memorial character". The demolition of the Humpback Bridge removes a contributing element to the George Washington Memorial Parkway's National Register of Historic Places nomination; however it is replaced with a similar structure that maintains the "memorial character". The decision to demolish the existing structure was made based on a number of factors including the structural integrity of the existing bridge, the additional length, width and mass of stone required for the additional lanes and pedestrian underpasses, the view of the bridge from Washington, D.C and the Potomac River, pedestrian and vehicular safety and future monitoring and maintenance.

The new structure incorporates the pedestrian underpasses in one "compact" structure thereby reducing the overall footprint and mass effect that would have occurred if the original bridge had remained and received the additions. The new structure also allows the Mount Vernon Trail crossing to be incorporated into the structure, alleviating the need for a separate pedestrian bridge that would obstruct the historically significant silhouette of the Humpback Bridge. Widening the existing bridge required the removal of one face and the addition of foundations to support the new section. This would have interfered with the original bridge's' foundation and potentially weakened it. If a bridge was added adjacent to the west face of the original bridge to carry the additional lanes needed, there would be no access to the west face of the original bridge and defects and deterioration could not be monitored or repaired. A new structure would also allow the median and pedestrian barriers to be installed with sufficient supports to withstand crashes.

The demolition of the existing Humpback Bridge is an unavoidable result of providing increased public safety. The mitigation measures to construct a replica of the existing bridge in its original location, salvage the stone and use on the new structure and match any new stone with existing, make the underpasses symmetrical, control the height of the parapet walls, only add 5 lanes of 11 feet width each and a single two way pedestrian/bike lane on the east side of the bridge, retain and protect as much of the existing vegetation as possible will maintain the integrity of the park values.

The NPS has determined that the implementation of the preferred alternatives will not constitute impairment to the GWMP's resources or values or violate the NPS Organic Act. This conclusion is based on a thorough analysis of the environmental impacts described in the EA, and the professional judgment of the decision-maker guided by the direction in *NPS Management Policies 2001*. Although the proposed action does have impacts to the natural, cultural, and historic environment, in all cases they are a result of actions taken to resolve safety concerns and maintain accessibility to resources. Overall, the plan results in continued opportunities for public enjoyment of the park's views and vistas,

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[1] Final Report The Mount Vernon Memorial Highway The Landscape Architectural Problems In Its Development by Wilbur H. Simpson, Senior Landscape Architect, 1932.

[2] Cultural Landscape Report Mount Vernon Memorial Highway, EDAW, Inc.,

[3] United States Congress, Senate Report, Mount Vernon Memorial Highway, report No. 469, 70th Session, 1st Session, January, 1927.

a park value, in a safe manner, and it does not result in their impairment As described in the environmental assessment, implementation of the preferred alternative will not result in major, adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the George Washington Memorial Parkway; (2) key to the natural or cultural integrity of the park; or (3) identified as a goal in the park's general management plan or other relevant National Park Service planning documents.

PUBLIC INVOLVEMENT

In accordance with Director's Order 12, Conservation Planning, Environmental Impact Analysis, and Decision-making, coordination and public involvement in the planning and preliminary design of the proposed action was initiated early in the process.

Public meetings were held in June 2001 and March 2002 to inform the public of the safety improvement alternatives being considered and to generate public comments. A total of three meetings were held in Arlington County, VA and the District of Columbia. Representatives of the NPS and the FHWA were available to informally discuss the proposed project and answer questions. Subsequent to each of the public meetings, written comments were received from private citizens and local and Federal agency representatives. The majority of comment letters were supportive of the proposed improvements. Many comments received identified the existing safety deficiencies that were addressed in the EA. Additional issues or concerns identified through the public involvement process include:

- Shared-use trails on a structure (e.g., the Humpback Bridge) should be 14 feet wide per AASHTO guidelines. Since the Mount Vernon Trail carries many modes of traffic in this area, the wider trail would provide a safer route.
- A pedestrian/bicycle trail should be provided alongside the Columbia Island Marina parking lot instead of requiring bicyclists to ride through this congested area.
- Provide a spur trail from the Mount Vernon Trail (southbound) to the north side Humpback Bridge underpass closer to the Navy-Marine Memorial.
- A separate pedestrian bridge crossing Boundary Channel (adjacent to the Humpback Bridge) should be provided.
- A bicycle and pedestrian crossing closer to I-395 is preferred over the proposed Humpback Bridge underpasses.
- The new entrance bridge from Boundary Channel Drive to the Marina should accommodate bicycles.
- Instead of modifying the Columbia Island Marina/GWMP intersection, a traffic signal should be installed at this location.
- The Mount Vernon Trail should remain open, on the east side of the Humpback Bridge, and at least 8 feet wide during bridge construction.
- The decision to defer the I-395 ramp actions to a more detailed I-395/14th Street Bridge Study was an appropriate one. These ramps and their affect on the South Arlington community should be carefully considered.
- The northbound GWMP vehicle traffic to the Arlington Cemetery should be uninterrupted during construction.
- Greater consideration should be given to changing the Humpback Bridge preferred alternative to widening of the existing bridge. The historic nature of the bridge should have been presented better.
- The northbound GWMP acceleration lane from Gravelly Point should be combined with the northbound GWMP deceleration lane to I-395 north.
- The bridge height should be raised for boat access.
- Roadway signs should be revised, indicating new traffic patterns to local destinations.

- Existing traffic regulations should be enforced, including prohibition of commercial vehicles on the Parkway.

In addition, a newsletter announcing the public meetings and identifying the areas of the GWMP under investigation was mailed to members of the public and other organizations with interest in the study. The mailing list from the newsletter was compiled from names provided by the NPS, GWMP unit, the FHWA Eastern Federal Lands Highway Division, and Arlington County Department of Public Works. Material was also published on the World Wide Web sites of the NPS and FHWA. Requests for comments were included in both the newsletter and the web site.

The EA was distributed to the public and local, State, and Federal agencies on March 28, 2002 for a 30-day comment period. The document was also made available for review to the interested and affected public, including affected agencies and tribes, at the GWMP headquarters, the Eastern Federal Lands headquarters, the Aurora Hills Library in Arlington, VA, and on the World Wide Web at www.nps.gov/gwmp/pphtml/facts.html and www.efl.fhwa.dot.gov/planning/nepa.htm. The availability of the EA was noticed in The Washington Post and the Washington Times.

AGENCY COORDINATION

Consultation and coordination occurred with a number of agencies and organizations having jurisdictional approval authority relative to proposed actions or anticipated to have a vested interest in the project plans and decision process. Agencies were contacted and meetings were held with many agencies throughout the EA process.

Following distribution of the EA in March 2002, the following agencies responded with comments:

- National Capital Planning Commission
- U. S. Fish and Wildlife Service
- Arlington National Cemetery – concerned with maintaining continuous flow of traffic on the GWMP during construction.

CONCLUSION

The NPS concludes that the selected action will not constitute a major Federal action having significant effect on the human environment within the definition of Section 102(2)(C) of the National Environmental Policy Act of 1969. Therefore, the preparation of an Environmental Impact Statement is not required. The environmental impacts resulting from the implementation of the proposed action will be mitigated. This project will not violate any Federal, State, or local environmental protection law.

RECOMMENDED: Audrey F. Calhoun 6/15/2004

Audrey F. Calhoun, Superintendent
George Washington Memorial Parkway
Date

APPROVED: for Joseph M. Lawler 6/15/04

Terry R. Carlstrom, Regional Director
National Capital Region
National Park Service
Date

Melisa L. Ridenour 6·15·04

Melisa L. Ridenour, Division Engineer
Eastern Federal Lands Highway Division
Federal Highway Administration
Date