

George Washington Memorial Parkway Action Plan

| Action | Superintendent | Draft report update as of: |
|---|-------------------------------------|----------------------------|
| Pedestrian Road Safety Audit - Arlington Memorial Circle | Jon James, Acting Superintendent | 6/6/2012 |

ACTION PLAN

Statement of Objective/Goals:

Make short-term traffic and safety improvements that are aimed at enhancing the overall safety at the Arlington Memorial Circle, while protecting our historic sites, cultural landscapes, and viewsheds. Proposed actions are based on the November 2011 Pedestrian Road Safety Audit recommendations.



Recommendation 1: Signage/markings

| Strategy | Tasks | Status |
|---|---|--|
| Replace / install needed signage and stripping. | 1. Install pedestrian warning signs (W11-1) with a supplemental arrow plaque (W16-7P) on both sides of the roadway at each crosswalk. These signs should have black symbols on a fluorescent yellow-green background to improve sign visibility. | <input checked="" type="checkbox"/> Underway <input type="checkbox"/> Completed |
| | 2. Install advanced pedestrian warning (W11-1) or bicycle / pedestrian (W11-15) signs with a supplement sign plaque reading 'AHEAD) on all approach roadways that have crosswalks on fluorescent yellow-green backgrounds to improve sign visibility. For samples of advance warning. | <input checked="" type="checkbox"/> Underway <input type="checkbox"/> Completed |
| | 3. Improve signing retro reflectivity for all brown recreational, informational and cultural interest signing in this area. See Appendix #8 for 2011 Traffic Sign Retro reflective Sheeting Identification Guide. | <input checked="" type="checkbox"/> Underway <input type="checkbox"/> Completed |
| | 4. Install post-mounted, perhaps on an Arlington Bridge light pole, route guidance signs (black letters / symbols on white background) to supplement recommended in-pavement guidance. | <input checked="" type="checkbox"/> Underway <input type="checkbox"/> Completed |
| | 5. Install in-pavement lane guidance in advance of decision points that assist drivers in selecting the appropriate travel lane for their desired destination(s). | <input checked="" type="checkbox"/> Underway <input type="checkbox"/> Completed |
| | <i>Other Tasks:</i> Modify, if applicable, current brown guidance signs by reducing, or simplifying destination descriptions and introduce the use of directional arrows and symbols to allow interpretation by all drivers in a minimal amount of time. | <input checked="" type="checkbox"/> Underway <input type="checkbox"/> Completed |

Notes: Sign design approved through compliance. Pedestrian signs acquired and scheduled to be installed by 6/30/2012. Other signs to be install pending UNICOR sign production. Production projected by fall 2012.

Recommendation 2: Sight distance

| <i>Strategy</i> | <i>Tasks</i> | <i>Status</i> |
|--|---|---|
| Address sight distances to allow for early warnings. | 1. At Crosswalk #6, reduce curb radii of the westbound lanes exiting the Arlington Memorial Bridge to assist in slowing, or calming the traffic flow. Reducing the curb radii will enhance the recognition and visibility for both pedestrians and drivers and reduce the length of the crossing. | <input type="checkbox"/> Underway <input type="checkbox"/> Completed Task #1 Requires an Environment Impact Statement (EIS) |
| | 2. Install advance pedestrian / shared warning signs for crosswalk #1 to alert drivers of a pedestrian / bicyclist presence. | <input checked="" type="checkbox"/> Underway <input type="checkbox"/> Completed |

Notes: Task #1 NPS staff have conducted an assessment on crosswalk #6 curb and has consulted with Federal High Way Administration (FHWA). This project will require an EIS.

Recommendation 3: Conflicting movements

| <i>Strategy</i> | <i>Tasks</i> | <i>Status</i> |
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| Correct pavement marking to help clarify driver lanes. | 1. Install mini-skips to delineate areas where lane changing, merging and diverging are allowed. | <input checked="" type="checkbox"/> Underway <input type="checkbox"/> Completed |
| | 2. Install in-pavement lane guidance in advance of decision points that assist drivers in selecting the appropriate travel lane for their desired destination(s). Modify current signage by reducing or simplifying destination descriptions and introducing the use of directional arrows and symbols to allow interpretation by all drivers in a minimal amount of time. | <input checked="" type="checkbox"/> Underway <input type="checkbox"/> Completed |

Notes: Chief of Maintenance and Park engineer visited site on March 24, 2012. Team determined that the trial and cross walk should be re-aligned due to the cross walks close proximity to this mixing point. Proposal was presented to FHWA. FHWA agreed. Proposed project is in compliance. Once approved by compliance team the re-alignment project will be performed with in-house staff.

| Recommendation 4: Disoriented Users | | |
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| Strategy | Tasks | Status |
| Install clearer directional controls | 1. Use EXIT gore signs (E5-1a) with directional arrows and symbols, when applicable, in advance of exit lanes and ramps. | <input type="checkbox"/> Underway <input type="checkbox"/> Completed |
| | 2. Install road name signs to identify roadways. | <input checked="" type="checkbox"/> Underway <input type="checkbox"/> Completed |
| | 3. Install trail guide signs. | <input checked="" type="checkbox"/> Underway <input type="checkbox"/> Completed |
| | 4. Install weatherproof trail maps. | <input type="checkbox"/> Underway <input type="checkbox"/> Completed |
| | 5. Align YIELD signs with triangular yield pavement markings. Install YIELD signs on the right-hand side of the approach. | <input checked="" type="checkbox"/> Underway <input type="checkbox"/> Completed |
| | 6. Install Raised Pavement Markers (RPM's) to improve the visibility of roadway and lane alignments and merge/diverge areas, especially at twilight and at night. Consideration should be given to utilizing snowplow able and/or Light Emitting Diode (LED) RPMs | <input type="checkbox"/> Underway <input type="checkbox"/> Completed |

Notes: Study was performed during daylight LED questionable. Trail signs signs approved by compliance team are being formatted by Harpers Ferry group. New signs have been approved and are now in production with UNICOR.

| Recommendation 5: Failure to yield to pedestrians and bikes | | |
|--|---|--|
| Strategy | Tasks | Status |
| Alert drivers of pedestrian and bikers presents. | 1. Install Rectangular Rapid Flash Beacons (RRFB) to increase driver awareness of a pedestrian at crosswalk #5. The RRFB can either be user actuated, or triggered through an interruption of a small magnetic field amber LED strobe-type light that supplements warning signs and is only activated when prompted by either method. RRFBs have been shown to introduce or increase yielding behavior of drivers at crosswalks when used in coordination or combination with standard pedestrian crossing warning signs and pavement markings. | <input checked="" type="checkbox"/> Underway <input type="checkbox"/> Completed |
| | 2. Install pedestrian level lighting at crosswalks. | <input type="checkbox"/> Underway <input type="checkbox"/> Completed |
| | 3. Install SHARE THE ROAD sign (W16-1P) plaques to alert drivers to the presence of pedestrians and bicyclist. | <input type="checkbox"/> Underway <input type="checkbox"/> Completed |

Notes: Flashing lights recommendations will be explored by compliance team to assess compliance pathway. No bikes on parkway - Share the road no action. Fine Arts committee has to be consulted on LED strobe-type lighting.

| Recommendation 6: Speeding | | |
|---|--|--|
| Strategy | Tasks | Status |
| Implement / install control devices to slow driver speed. | 1. Consideration given to providing more daytime speed enforcement | <input type="checkbox"/> Underway <input type="checkbox"/> Completed |
| | 2. Install in-lane, or transverse rumble strips in advance of crosswalks 2, 4 and 5. Rumble strips can function as traffic calming devices as their presence typically results in vehicles slowing down when they are traversed. | <input checked="" type="checkbox"/> Underway <input type="checkbox"/> Completed |
| | 3. Install raised pavement pedestrian crossings. This type of pedestrian crossing functions much like speed tables in that they encourage motorists to slow down and/or yield. Raised crossings are designed for safe vehicular travel at speeds of approximately 25 mph, which would be in line with the posted speed limit for vehicles travelling through the Circle area. This improvement may be used at crossing #2. | <input type="checkbox"/> Underway <input type="checkbox"/> Completed |

Notes: Park Superintendent will consult United States Park Police (USPP) about speed enforcement capabilities in area. Parks needs to review raised pedestrian crosswalk. Possible conflict with traffic flow. Rumble strips material to be place thru cross walks in acquisition phase.

Recommendation 7: Social paths indicate need for pedestrian connectivity

| <i>Strategy</i> | <i>Tasks</i> | <i>Status</i> |
|-------------------------------------|--|--|
| Discourage use of unofficial trails | 1. Install trail guide signs on existing hard-surface trails to assist in guiding users of the trails and to, hopefully, prevent their use of the severely worn social paths. | <input checked="" type="checkbox"/> Underway <input type="checkbox"/> Completed |
| | 2. Areas of the social paths should be landscaped with appropriate vegetation that serves to discourage the use of these unmarked and unofficial trails. The goal is to use appropriate vegetation as a physical barrier that increases the difficulty for pedestrians, joggers and bicyclist to access and use these worn social paths. | <input type="checkbox"/> Underway <input checked="" type="checkbox"/> Completed |

Notes: Social trails repaired / rehab. Grass has been restored to area. Area Safety concerns resolved. Some pedestrians, joggers, and bicyclists continue to use these unmarked unofficial trails despite the Parks attempt to discourage this unsafe behavior.

| Recommendation 8: Traffic Flow Changes | | |
|--|--|--|
| Strategy | Tasks | Status |
| <p>A. Greater attempt of diversion of trough traffic ramp</p> | <p>1. Implement signing and in-pavement guidance to direct traffic bound for I-66 to use the access-controlled portion of the GWMP I and US 50 bound traffic to use Memorial Boulevard.</p> | <input checked="" type="checkbox"/> Underway <input type="checkbox"/> Completed |
| | <p>2. Decreased traffic volumes that utilize the eastern portion of the Memorial Circle.</p> | <input type="checkbox"/> Underway <input type="checkbox"/> Completed |
| | <p>3. Reduce traffic volumes entering the Circle to reduce the number of conflicts with vehicles, pedestrians and bicyclists on the local roadways.</p> | <input type="checkbox"/> Underway <input type="checkbox"/> Completed |
| <p>B. Change from two lanes to one lane before the crossing #3</p> <p>At this specific location, allow the two lanes which begin to merge into a single lane to only cross one lane of traffic.</p> | <p>1. Relocating the existing crosswalk farther away from the merging section so it only crosses one lane. See Figure 38.</p> | <input checked="" type="checkbox"/> Underway <input type="checkbox"/> Completed |
| | <p>2. Begin and end the travel lane merging prior to the existing crosswalk location. This action will entail a systematic review of approach roadway pavement markings and merging operations.</p> | <input checked="" type="checkbox"/> Underway <input type="checkbox"/> Completed |
| <p>C. Give the right of way to the circle</p> | <p>1. Given the FHWA guide's operational recommendations as well as the observed conditions in field, the RSA team does recommend that the circulating roadway maintain right-of-way and that vehicles on all approaches to the Arlington Circle must yield to traffic within the circle. This operation is typical of other modern roundabouts in the Washington, DC, northern Virginia area and will lend itself to the concept of driver expectancy for roundabouts and the interactions of pedestrians and bicyclists at these features.</p> | <input type="checkbox"/> Underway <input type="checkbox"/> Completed |

Notes: Decision to relocate this crosswalk approximately 130 feet from its existing location. This action will remove pedestrians further from the north bound Memorial circle bypass area that has Disoriented Users and Conflicting movements issues. Proposal was presented to FHWA. FHWA agreed. Proposed project is in compliance. Once approved by compliance team the re-alignment project will be performed with in-house staff.