TITLE: Monocacy National Battlefield Traffic Assessment

REQUEST: Informational briefing on the draft assessment of road and traffic conditions around the Battlefield

APPLICANT/REPRESENTATIVES:
APPLICANT:
OWNER:
ENGINEER:
ARCHITECT:
ATTORNEY:

STAFF: Jim Gugel, Planning Director
   Dan Malsom, Kimley-Horn consultants
   Chris Stubs, Monocacy National Battlefield

RECOMMENDATION: Information

ATTACHMENTS:
Project Overview
Monocacy National Battlefield

MD 355 Traffic and Pedestrian Safety Context
Sensitive Solutions Assessment

Project Overview

April 11, 2018

National Park Service
U.S. Department of Transportation
Federal Highway Administration
Kimley-Horn
Project Goals

Propose improvements/safety countermeasures to address access, pedestrian and vehicular safety, and aesthetic issues along Maryland Route 355 (MD 355) in and approaching Monocacy National Battlefield.

Key Components

Safety countermeasures to improve pedestrian and vehicular safety of visitors

Wayfinding, pavement marking, other means to direct visitors to parking areas and points of interest

Design concepts for several aspirational potential safety improvements
Project Schedule

- **Progress so far**
  - November 2017
    - Project kick-off meeting and initial field review
  - December 2017-February 2018
    - Additional site and traffic observations
  - March 2018
    - Draft potential recommended improvements and concepts

- **Ongoing efforts**
  - Development of draft safety assessment report
  - Stakeholder review of draft improvements and concepts

- **Anticipated project completion: May 2018**
Project Study Area
Project Study Area

- MD 355 (Urbana Pike)
  - Potential improvements at five sites
    - New Technology Way intersection
    - New Jersey Monument
    - Monocacy River Crossing
    - Araby Church Road intersection
    - Ball Road intersection
  - Conditions also studied along Araby Church Road and Baker Valley Road
The Reason We’re Here

MD 355 Traffic

2016 Traffic: 6,207 vpd NB
7,364 vpd SB

2016 Traffic: 5,732 vpd NB
6,756 vpd SB

Note: vpd = vehicles per day

County Road Traffic

2008 Traffic: 846 vpd
2009 Traffic: 320 vpd

Rear-end and angle collisions at intersections

MD-355 Crashes by Collision Type 2011-2015

Collision Type
- Rear End
- Sidewipe
- Turning
- Angle
- Single Vehicle
- Other

0 500 1,000 Feet

Kimley-Horn
Safety Observations

- What we’ve seen and heard:
  - Sight distance and geometry concerns at intersections
  - Limited signage for battlefield sites
  - Difficulty turning onto MD 355 during AM/PM rush hours
  - Excessive vehicle speeds
  - Difficult crossing situations for pedestrians
  - Truck crash damaging the Monocacy River bridge
Draft Potential Improvements

- Provide safe pedestrian access to Battlefield monuments
- Remove gravel turnaround and reduce pavement width near bridge
Draft Potential Improvements

- Add northbound MD 355 battlefield guide signage and prominent signage at battlefield boundaries
- Develop targeted speed feedback and enforcement plan for vehicles speeding in corridor
Speed Feedback and Enforcement

- Reducing vehicle speeds in study area is a major priority for Monocacy National Battlefield staff.
- Safety review team observed vehicles commonly exceeding posted speed limit of 50 mph.
- Many factors considered in speed studies:
  - Posted speed limit vs. typical vehicle speed
  - Frequency of crashes related to speeding
  - Road geometry or other unexpected road conditions
  - Enforcement capabilities
MD 355 / Araby Church Road

Exploratory Concept 1: Realign Intersection
Cost Estimate: $1.6 million
MD 355 / Araby Church Road

Exploratory Concept 2: Construct Roundabout
Cost Estimate: $3.9 million
Comparing Exploratory Concepts

- **Exploratory Concept 1: Realign Intersection**

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<thead>
<tr>
<th>Benefits</th>
<th>Challenges</th>
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<tbody>
<tr>
<td>Reduces risks for turning vehicles</td>
<td>Moves intersection 120 feet south</td>
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<tr>
<td>Increases SB stopping distance</td>
<td>Requires purchase of private land</td>
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<tr>
<td>Reduces crossing distance across MD 355</td>
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- **Exploratory Concept 2: Construct Roundabout**

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<tbody>
<tr>
<td>Reduces risks for turning vehicles</td>
<td>Increases intersection footprint</td>
</tr>
<tr>
<td>Mostly negates potential for angle crashes</td>
<td>Requires purchase of private land</td>
</tr>
<tr>
<td>Reduces travel speeds along MD 355</td>
<td>Impacts a nearby stream</td>
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<tr>
<td>Creates gaps for turning traffic</td>
<td>Affects NB battlefield approach view</td>
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Thank You

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