


Project Title:	MASH TL-2 Compliant Permanent Concrete Low-Profile Barrier (Barrier Curb)
Project Synopsis:	<i>Develop a MASH TL-2 Compliant Permanent Concrete Low-Profile Barrier</i>
Project Goal(s):	Provide design details for a MASH TL-2 Compliant Permanent Concrete Low-Profile Barrier
Project Background:	<p><i>From AASHTO RDG, 4th Edition 2011, Chapter 5;</i></p> <p><i>“...developed for typically urban environments or where a TL-2 system is appropriate is the low profile barrier. These barriers typically range from 457 mm to 510 mm [18 in. to 20 in.]. The low profile barrier was developed to provide a barrier that provides additional design options for site-specific applications. These barriers can be used in permanent or temporary applications. Several different barrier cross-section configurations have been approved for TL-2 applications. Many of these barriers are available as cast-in-place or precast construction. The lower barrier height improves sight distance as well as provides another option to tie in with the adjacent surroundings. This low profile barrier shown in Figure 5-19 has been used in urban settings to shield trees in a raised median.”</i></p>  <p><i>Figure 5-19. Low Profile Barrier</i></p>

<p>Proposed Work Plan:</p>	<p><i>Design and Crash Test a Length of Need segment of MASH TL-2 Compliant Permanent Concrete Barrier (Barrier Curb). The project should look to optimize the system while allowing for potential future asphalt overlays, but not exceed 24-inches of height to avoid sight distance issues.</i></p> <p>Task 1. Design Detail Development and Finite Element Investigation. Develop design details. Conduct finite element simulation as design aid and vehicle impact behavior prediction.</p> <p>Task 2. System Construction & Full-Scale Crash Testing. Build test article. Conduct full-scale crash testing (TL-2).</p> <p>Task 3. Implementation. Summarize recommendations for implementation based on crash testing and engineering investigation.</p>
<p>Deliverables:</p>	<p>MASH TL-2 Compliant Permanent Concrete Low-Profile Barrier</p>
<p>Urgency and Expected Benefit:</p>	<p><i>A MASH Compliant design for permanent design is currently not available.</i></p> <p><i>Benefits include:</i></p> <ul style="list-style-type: none"> • <i>Having a MASH option for urban areas where visibility of pedestrians, bicyclists, and businesses is paramount, in addition to providing sufficient stopping sight distance.</i> • <i>provide a great crashworthy alternative for separated ped./bicycle facilities (i.e. Barrier Curb).</i> • <i>Aesthetically mitigate items like; trees, street furniture, parklets, etc. in context sensitive areas (i.e., urban areas with speeds between 35 and 45 MPH).</i>
<p>Problem Funding and Research Period:</p>	<p><i>Please describe what are the estimated costs and time to complete the project</i></p> <p>Problem Anticipated Funding: \$180,000 Research Period: 1 year</p>
<p>Developer(s) of the Problem Statement:</p>	<p>Name: Derwood Sheppard Email: derwood.sheppard@dot.state.fl.us Phone: 850-414-4334</p>