

Project Title:	MASH TL-3 Compliance for Median Guide Rail Transition to F-Shape Barrier
Project Synopsis:	Evaluate and develop a design for transition of strong post median guide rail to precast/cast-in-place F-Shape barrier.
Project Goal(s):	Evaluate and develop guidelines for a MASH TL-3 compliant transition from strong post median guide rail to various heights of precast/cast-in-place F-Shape barrier.
Project Background:	<p>PennDOT has run into several scenarios where strong post median guide rail must be connected to an F-Shape barrier. Establishing a MASH compliant transition between strong post median guide rail and an F-Shape barrier would provide the safest possible transition for any state to use.</p> <p>TxDOT is currently investigating a transition from strong post median guide rail to a single slope concrete barrier. The project is in the crash testing phase. Some of the details from the single slope tests likely be used for F shape barrier.</p>
Proposed Work Plan:	<p><u>Tasks:</u></p> <ol style="list-style-type: none"> 1. Literature Review and Engineering Analysis <ol style="list-style-type: none"> a. Evaluate current transitions used by various states between strong post median guide rail and concrete barriers b. Determine critical transition design (i.e., F-Shape barrier height and configuration, post spacing, etc.) c. Determine critical crash test matrix 2. Computer simulations <ol style="list-style-type: none"> a. Develop 3D computer model of selected transition system b. Perform impact simulations to evaluate performance of transition system c. Finalize transition design for full-scale crash testing 3. Crash Testing <ol style="list-style-type: none"> a. If needed, perform critical full-scale crash tests to determine MASH compliance of transition design 4. Report
Deliverables:	<ol style="list-style-type: none"> 1. MASH TL-3 transition design with detailed drawings 2. Report documenting the literature review, computer simulations, and full-scale crash testing
Urgency and Expected Benefit:	PennDOT uses transitions from strong post median guide rail to F-Shape barriers, so there is a need to develop a MASH approved system, which all states could use if desired. This would provide consistency and maximum safety for any transitions being made between these barriers.

Problem Funding and Research Period:	Total Cost Estimate = \$205,000 Project Duration is 18 months.
Developer(s) of the Problem Statement:	Name: Hassan Raza Email: hraza@pa.gov Phone: 717-783-5110