

<b>Project Title:</b>	Steel Luminaire Supports MASH Compliance
<b>Project Synopsis:</b>	<p><i>Please describe the proposed project synopsis within 200 words.</i></p> <p>Develop criteria for non-proprietary steel luminaire supports that satisfies MASH requirements. The project will review existing literature, determine arm and height configurations, determine installation details, perform computer simulations, and perform MASH crash testing.</p>
<b>Project Goal(s):</b>	<p>Identify and evaluate the crash performance of breakaway steel luminaire supports. The evaluation should include a survey of the Pooled Fund members, in-service safety performance, previous crash testing, potential failure modes, and the likelihood of luminaire supports to comply with the MASH crash test criteria.</p> <p>Coordinate with researchers that are working on the NCHRP 03-119 project about the parameters they are using, computer simulations they have ran, and the luminaire support they are going to crash test.</p> <p>Determine the configurations to do computer simulations and verification crash testing to move towards an approved non-proprietary luminaire breakaway support that satisfies MASH. Items to consider are arm lengths, luminaire mounting heights, base type, pole sizes, and maximum weights.</p>
<b>Project Background:</b>	<p><i>Please describe the problem you would like to address.</i></p> <p>Lighting for the State Highways requires installing many installations closed to the traveled way that require breakaway functionality.</p> <p>Slip base non-proprietary steel luminaire supports are shown on TM629 and TM630 of the Oregon DOT standards and ES-6F of the CALTRANS standards drawings that have provided a high level of safety for many years. Frangible base luminaire supports have been successfully used across the country with a high level of safety with castings forged by Akron that may be considered a proprietary item.</p> <p>Changes in MASH for the roof crush has raised concerns about whether or not the current maximum total weight of 1000# is acceptable.</p> <p>The current NCHRP 03-119 project is including luminaire breakaway supports in the research, but the extent of the luminaire breakaway supports investigation is not known. It is cost effective to make sure the work performed for the Pooled Fund does not duplicate the computer simulations, design modifications, and full-scale crash testing already performed by the NCHRP 03-119 project.</p>

<p><b>Proposed Work Plan:</b></p>	<p><i>Please describe what work or test will be done and what the result will be.</i></p> <p>The proposed work plan includes the following tasks:</p> <ul style="list-style-type: none"> <li>• Literature Review and Survey of States</li> <li>• Computer Simulations</li> <li>• MASH TL-3 Crash Testing</li> <li>• Final Report</li> </ul>
<p><b>Deliverables:</b></p>	<p>Summary table of results including breakaway base dimensions, ranges of arm lengths, range of luminaire mounting heights, base types, pole sizes, and maximum weights.</p> <p>Computer simulation and verification crash test reports, photos, videos, and performance evaluation summaries to use for submitting completed results/materials to the FHWA for an eligibility letter.</p>
<p><b>Urgency and Expected Benefit:</b></p>	<p><i>Please describe the expected benefits of the research.</i></p> <p>MASH implementation milestone for luminaire supports is December 31, 2019.</p> <p>Steel luminaire breakaway supports are very common and maintenance crews have had satisfactory historical performance.</p> <p>The results of this research can move States towards MASH compliant breakaway luminaire supports.</p>
<p><b>Problem Funding and Research Period:</b></p>	<p><i>Please describe what are the estimated costs and time to complete the project</i></p> <p>The estimated costs to complete the proposed project is \$120,000. Estimated time to complete the project is 18 months.</p>
<p><b>Developer(s) of the Problem Statement:</b></p>	<p>Name: Erik Emerson, Wisconsin DOT  Email: Erik.Emerson@wi.gov  Phone: (608)-266-2842</p> <p>Name: Scott Jollo, Oregon DOT  Email: scott.u.jollo@odot.state.or.us  Phone: (503)-986-3069</p> <p>Name: Ethan Peterson, Minnesota DOT  Email: ethan.peterson@state.mn.us  Phone: (651)-234-7380</p>