

**RESEARCH PROBLEM STATEMENT**

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| <b>DATE:</b> 09/04/2019  | <b>PROJECT AREA:</b> Design |                  |
| <b>TITLE:</b> Arkansas Guidelines for Automated Flagger Assistance Devices (AFAD)  |                             |                  |
| <b>PROBLEM STATEMENT:</b>  |                             |                  |
| <p>Controlling traffic through work zones is crucial to successful highway project completion. Flaggers are personnel that direct traffic as it approaches a work zone. Traditionally, flagging is a hazardous job, especially in construction zones that lack safe refuge areas. Automated Flagger Assistance Devices (AFAD) have been used for temporary traffic control for several years, and are addressed in the 2009 MUTCD.</p> <p>AFAD devices offer safety enhancements by minimizing flaggers' direct exposure to live traffic. However, qualified flaggers must still be present on-site and must be trained in operating the AFADs. In certain situations, one person may control two AFADs, but in all cases, personnel must be available to step in as a manual flagger. ARDOT does not have guidelines for use of AFADs. The MUTCD suggests that states choosing to use AFADs develop policies to govern their application. Key points should include guidelines for when to use one AFAD or two, maximum spacing between AFADs, volume-based criteria, fail safe procedures, and recommended additional signing.</p> |                             |                  |
| <b>OBJECTIVES:</b>   |                             |                  |
| <ol style="list-style-type: none"> <li>1. Complete a literature review that includes guidelines from other state DOTs;</li> <li>2. Document use of AFADs in Arkansas and collect lessons learned;             <ol style="list-style-type: none"> <li>a. Develop three field test sites to compare flaggers with AFADs and observe operations.</li> </ol> </li> <li>3. Determine benefits of AFADs, including costs and safety benefits.</li> <li>4. Develop Arkansas Guidelines for use of AFADs in construction and maintenance work zones; and</li> <li>5. Provide a summary of funding mechanisms used by other State DOTs.</li> </ol>  |                             |                  |
| <b>FORM OF RESEARCH IMPLEMENTATION AND RETURN ON INVESTMENT:</b>   |                             |                  |
| <p>Successful deployment of research findings would provide guidance of when AFADs may be used, provide supplemental signing plans, as appropriate, and would provide funding mechanisms for including the devices in maintenance and construction projects. Return on investment would be realized in the form of reduction in work zone related safety costs.</p>  |                             |                  |
| <b>Estimated Project Duration:</b> 24 Months   |                             |                  |
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Standing Subcommittee  
Ranking

Advisory Council  
Ranking

Statement Combined with  
Statement Number(s)