

**Arkansas State Highway and Transportation Department
Transportation Research Committee**

RESEARCH PROBLEM STATEMENT

DATE: 09/12/2016	PROJECT AREA: Planning
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TITLE: Cost-Benefit Analysis of Alternative Traffic-Incident-Management Strategies

PROBLEM STATEMENT:

Using a phased-in approach, AHTD is formulating a plan to implement a proposed statewide Traffic Management Center (TMC), intended for traffic incident management (TIM) and other functions. It has been recognized that the current use of the AHTD Radio Room dispatchers as incident managers will be greatly improved with appropriate investment into the ITS infrastructure, making proactive traffic and incident operations a reality. (See Slide #1, which shows the initial two phases for expansion of the TMC.) The question becomes one of prioritizing the alternate investments into a variety of TIM strategies. The UALR researchers believe the decision can be guided by a careful cost-benefit analysis of each alternate strategy. Fortunately, there are two current sources of information to perform such a cost-benefit study for the state. The recently released "TIM Program Benefit-Cost Estimation Tool" by FHWA is one. The soon-to-be-released NCHRP report, "Guidance on Quantifying Benefits of TIM Strategies," is another. While the FHWA TIM tool was based on extensive simulation results, the NCHRP study adopted a literature-review approach.

OBJECTIVES:

In their study, the FHWA's research team came up with a user-friendly tool to assess the various TIM strategies. The new "TIM-BC tool" covers eight different strategies: safety service patrols, driver removal laws, authority removal laws, shared quick clearance goals, pre-established towing service agreements, dispatch co-location, TIM Task Forces, and the second Strategic Highway Research Program (SHRP2) training. (See Slide #2 for an opening display of the software tool.) At the same time, the NCHRP team came up with "rules of the thumb" approaches. Slide #3 illustrates a conceptual delineation of the benefits resulting from a TIM strategy. UALR proposes to take the best from both studies and apply these tools to the state of Arkansas.

FORM OF RESEARCH IMPLEMENTATION:

Assisted by stakeholders, Kimley-Horn has identified a comprehensive list of TIM strategies for Arkansas in their "Arkansas Statewide TMC - Concept of Operations" report. From these TIMS strategies, UALR proposes to identify the high-ranking ones at various parts of the state, based specifically on their local conditions. As such, the UALR study will be the first step toward a "TIM blue print" for the proposed statewide TMC, covering Bi-State (Fort Smith), Northwest Arkansas, Pine Bluff, West Memphis, Central Arkansas, Texarkana, among other areas. (See Slide #4 for the level of effort on TIM among these areas.)

REVIEWER: Tymli Frierson	Estimated Project Duration: 24 months
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