PROBLEM STATEMENT

DATE: 09/07/2018  PROJECT AREA: Construction

TITLE: Building a Work Zone Transportation Management Program Framework

PROBLEM STATEMENT:
As the highway system ages, maintenance and reconstruction of high traffic volume routes present challenges. Federal Highway Administration safety and mobility regulations require that highway work zone planning, design, and delivery be a policy driven process integrated into institutional practice. Transportation Management Programs or Plans (TMPs) are tools applied at either the project or program level to institutionalize work zone decision making. Work zone impacts can result from a number of factors both within and outside agency or contractor control, including: weather, special events, project schedules, resources, public information, and traffic control. Documentation of work zone attributes and strategies would be useful to all phases of project development. Current documentation of such attributes exist in a myriad of separate resources. A focused framework for evaluating strategies like staged construction strategies, full closures, lane rental fees, AWIS, public information strategies, and a system to test alternative construction methods and materials may reduce work zone impacts over the life of a project and streamline program delivery for transportation projects.

OBJECTIVES:
1) Document the state of practice for developing and implementing the work zone safety and mobility rule, including consolidating interoffice memorandums, procedures, committee findings, TMP document template, special provisions, and construction records. 2) Compile programmatic TMP Guidelines for use in all phases of project development. 3) Develop a database documenting job attributes for projects in Arkansas. Information collected would expand upon existing databases to organize contract and construction methods, traffic control devices, measured traffic impacts, and lessons learned. 4) Track work zone safety and traffic data for jobs such as CA0601, CA0602, CA0604, 061331, and various accelerated bridge construction projects.

FORM OF RESEARCH IMPLEMENTATION AND RETURN ON INVESTMENT:
The database would be a resource to inform project development and to document lessons learned. TMP Guidelines would assist all Divisions in project development goals of delivering a premium highway network that most efficiently serves the motoring public and the economy. Road user costs due to work zone impacts has been estimated at more than $100,000 per day for many recent construction jobs. This research would further develop tools and guidelines to minimize work zone impacts. Examining past job delivery would add efficiency in project scheduling. Ancillary applications may inform future projects in terms quantifying system resiliency and reliability under an array of conditions.

Estimated Project Duration: 24 Months

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Standing Subcommittee Ranking: 1/2  Advisory Council Ranking: 2/37  Statement Combined with Statement Number(s):