Arkansas State Highway and Transportation Department
Transportation Research Committee

RESEARCH PROBLEM STATEMENT

DATE: 09/08/2010	**PROJECT AREA:** Planning

TITLE: Planning Level Analysis of Seismic Impacts

PROBLEM STATEMENT:

In 2006, the REDARS 2 software package was released by the Multidisciplinary Center for Earthquake Engineering Research (MCEER). The purpose of the software was to perform a planning level analysis of how seismic activity would impact bridge structures in an affected region. A pilot application was performed in the Memphis metropolitan area. More recently, this software was applied to the Salt Lake City metropolitan area, and the resulting bridge impact data was imported into the local travel demand model. The data was used to analyze how expected bridge failures would affect the overall roadway network.

The Department is currently developing a statewide travel demand model. The inclusion of seismic impact data in the model would be useful for scenario planning. No literature has been found that discusses if REDARS 2 is adequate and appropriate for a statewide level analysis. It is desirable to know if this software is appropriate for use in conjunction with a statewide travel demand model or if an alternative methodology is more appropriate.

OBJECTIVES:

To determine if REDARS 2 is an adequate tool for planning level analysis of seismic impacts in Arkansas, and if not, to identify an alternative methodology that is more appropriate.

To determine how the statewide travel demand model framework should be designed to incorporate seismic analysis.

Form of Research Implementation:

When complete, this research will be used to develop a framework for seismic analysis in the statewide travel demand model.

Total Estimated Cost and Project Duration: **$** 75,000 **and** 12 **months.**

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ADVISORY COUNCIL RANKING	TRC RANKING	Statement Combined with Statement Number(s)
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