Arkansas State Highway and Transportation Department
Transportation Research Committee

RESEARCH PROBLEM STATEMENT

DATE: 08/09/2010	**PROJECT AREA:** Special Projects

TITLE: Development of a Mobile Road Weather Platform

PROBLEM STATEMENT:

Real time road weather data are of use not only to maintenance crews engaged in winter operations but to the travelling public as well. A complete weather suite made available to field personnel can be used in scheduling maintenance activities during any season. Additionally, public safety can be enhanced by using these data to update the Department's road conditions map during inclement weather.

An instrumented vehicle operating out of an Area Maintenance Yard would provide detailed real-time weather data that could be posted on a web page for use in planning Department activities. Data can be archived in a database for use with the new pavement design guide, transmitted to the Clarus system, or posted to a web site for the public's benefit.

This project would provide a transparent, integrated tool that could be used not only for Department activities but for public safety as well. It would also provide a means of furnishing road weather data to FHWA's Clarus initiative if it were so desired.

OBJECTIVES:

The objective of this project is to instrument two department vehicles as mobile weather data collection platforms using off-the-shelf components. GPS-tagged data will consist of real-time air and pavement temperatures, relative humidity, barometric pressure, user-input road conditions (wet, dry, icy, snow-packed, etc.) and camera snapshots. Data will be transmitted to a database on the Department's network. In-cab displays will continuously show environmental data and weather radar. A web page will show the real time vehicle location and associated data.

Form of Research Implementation:

This project will provide the framework for implementation of real-time data systems used in maintenance decisions during winter weather events resulting in: improved public safety, mobility and a higher level of service. Data from these vehicles will be integrated with the existing weather network being implemented.

Total Estimated Cost and Project Duration: **$** 75,000 **and** 24 **months.**

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ADVISORY COUNCIL RANKING	TRC RANKING	Statement Combined with Statement Number(s)
12		