

# North/West Passage Transportation Pooled Fund Study

## Phase I

### *Project 1.2*

### Deploy Limited CARS Study Application in Wisconsin

Project Recap and Lessons Learned

March 10, 2005



# NORTH/WEST PASSAGE TRANSPORTATION POOLED FUND STUDY: PROJECT 1.2 – DEPLOY LIMITED CARS STUDY APPLICATION IN WISCONSIN

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## Introduction

The North/West Passage *Project 1.2 'Deploy a Limited Condition Reporting System for Wisconsin'* was intended to allow Wisconsin State Patrol staff in District 6 to study the inputting of road condition, construction, incident, and special event information into a Condition Acquisition Reporting System (CARS). This study took place along the I-94 corridor near the Minnesota/Wisconsin border to Osseo, Wisconsin and included an assessment of the overall project.

Typically, a condition reporting system allows manual and/or automated entry of events to be assembled in a central database within the state. These events may then be viewed by other operators of the reporting system, disseminated to the traveling public as part of a traveler information system, or exchanged with other neighboring states.

One hurdle of committing to a statewide condition reporting system is the need for operators to regularly enter events into the system. Simply put, the information that comes out of the system is only as good as the information entered into the system. In these days of limited staff resources, the commitment to maintain a statewide system can be daunting.

As part of the North/West Passage Project, Wisconsin State Police agreed to conduct a trial of CARS for incident and travel condition management. The intent of this trial was not to evaluate a particular software or approach towards condition reporting, but rather to give State Patrol dispatchers an idea of the level of effort that would be required to enter events into a condition reporting system. Further, it was envisioned that State Patrol dispatchers would have an opportunity to see the value in entering this data in one central location as opposed to responding to multiple requests for information.

## Overview of the CARS System

CARS is a statewide condition system, maintaining a record of all events and situations entered by operators or automatically ingested. Authorized users may enter, view and edit events that affect travel. These events can include roadwork, crashes, delays, travel times, driving conditions, weather, commercial vehicle restrictions, and special events. The primary user interface to CARS is a map-based Graphical User Interface (GUI) that displays all state-maintained roads throughout the state, including Interstates, US Routes and State Routes.



Figure 1 – CARS Map View

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Operators click on a route near the reported incident to create a situation report. The situation report entry-screen allows operators to describe the location, description, time/duration, and other details about the event. An event can be entered for a point on a roadway, an extent along a roadway, a county or counties, or statewide. The event remains “active” until its duration or expiration time is reached, or when it is manually canceled by an operator.

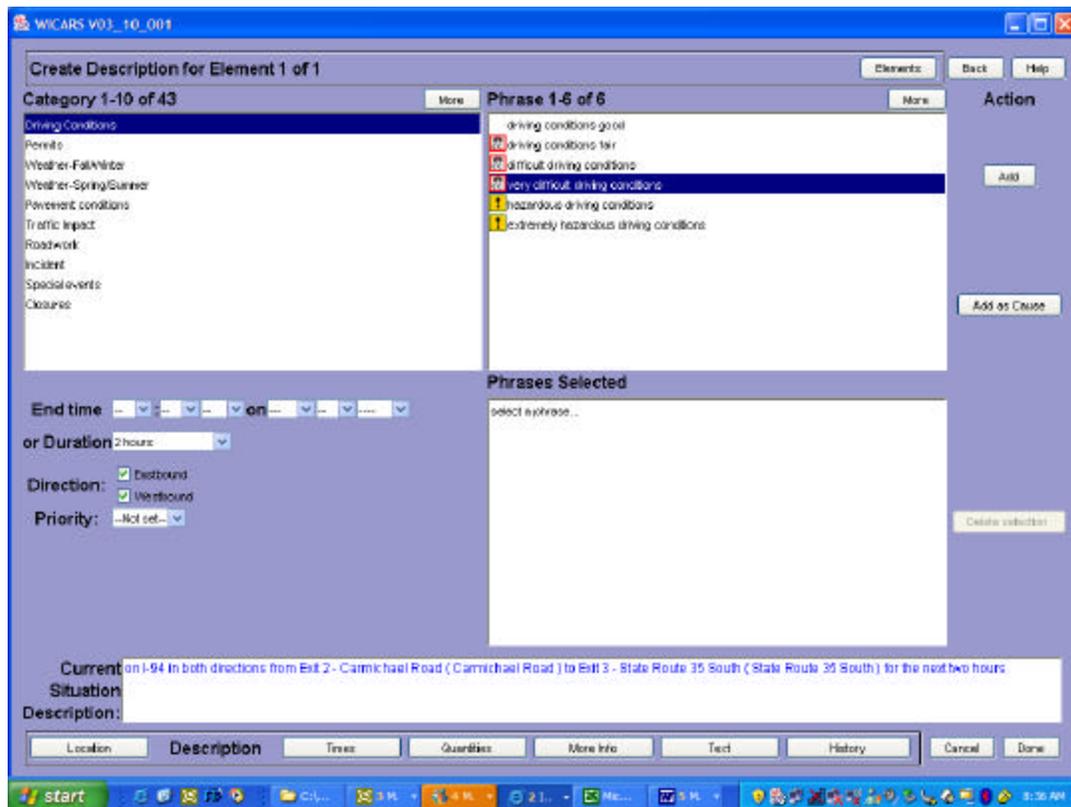


Figure 2 – Example of a CARS Entry Screen

The CARS system provides drop-down “pick-lists” for all descriptions, locations and times. The options available from the pick-lists are defined by national ITS standards, specifically the ITE/AASHTO TMDD (Traffic Management Data Dictionary). Because events are described according to these standards, data entry is uniform and unambiguous. The ITS standards also allow event data to be sent to external systems.

In addition to the map-based GUI, CARS provides an event-list interface for viewing, sorting, and editing events in textual format. The event list allows users to sort active events by various means such as author, time, location or description.

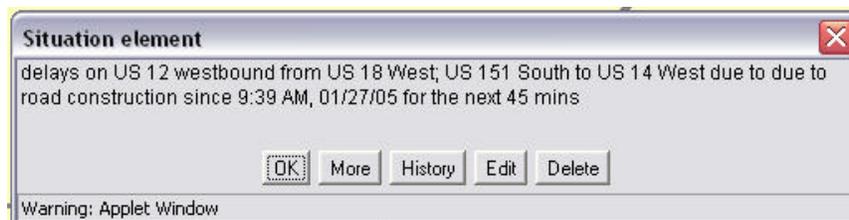


Figure 3 – Example of a CARS Situation Report on WI Route 12

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### Trial Procedure

The Wisconsin State Patrol (WSP) CARS trial was intended to elicit feedback from WSP regarding the feasibility of radio room operators using such a system as part of their daily routine. A prototype of the CARS system was configured and deployed for the trial. The prototype system included all roads in Wisconsin, however the use by Wisconsin State Patrol only included Region 6, centered around the city of Eau Claire.

Before the trial began, a CARS training session was conducted with Wisconsin State Police. Nine State Patrol dispatchers were trained on how to use the system, including how to view, enter and edit situations in CARS.

The trial began on November 15, 2004 and finished on December 15, 2004. During this period, State Police staff was enabled to enter winter driving conditions, snowfall, crashes and other disruptions to travel on a 24x7 basis.

Throughout the test period, system use was monitored and a trial Internet dissemination site was activated where operators could view how the events could be displayed to the traveling public (however this site was not linked for any live viewing by the traveling public).

### Trial Results

After the trial period, members of the North/West Passage Project 1.2 Work Team met in Madison to recap the system usage and to allow feedback and comments from the State Police operators. The following points summarize the thoughts expressed at this meeting:

- Unlike earlier meetings, the general opinion was that a manual input condition reporting system would not be a burden for the dispatchers to enter data;
- The State Patrol noted that operators liked the idea of performing entry into one system and allowing other agencies that need access to view the data (rather than needing to send data to several particular agencies);
- The State Patrol particularly liked the idea that the information input in the condition reporting system could be directly fed to a telephone information system and to an Internet dissemination system;
- The operators reported that the system was quick and easy to use and that using a Condition Reporting System would be entirely feasible for data entry and viewing;
- The State Patrol noted that uptime of the system and the availability of 24X7 support for such a system was an important criteria to be considered if and when WisDOT / WSP pursue such an initiative.

### Conclusions

At the start of North/West Passage Project 1.2, there was much concern and debate about the amount of time a manual condition reporting system would require from operators to keep the data updated and accurate. After the four weeks of trial use, the discussion at the table of the trial recap meeting focused more on 'how' would WSDOT and WSP select a vendor or system for deployment. Therefore, the project seems to have alleviated fears about the time demands of such a system, and demonstrated the value that will be achieved when such a system is operational within the state.