PUTTING RESEARCH TO WORK

BRIEF

Understanding the decision-making process for drivers faced with lane restrictions or closures on Wisconsin highways

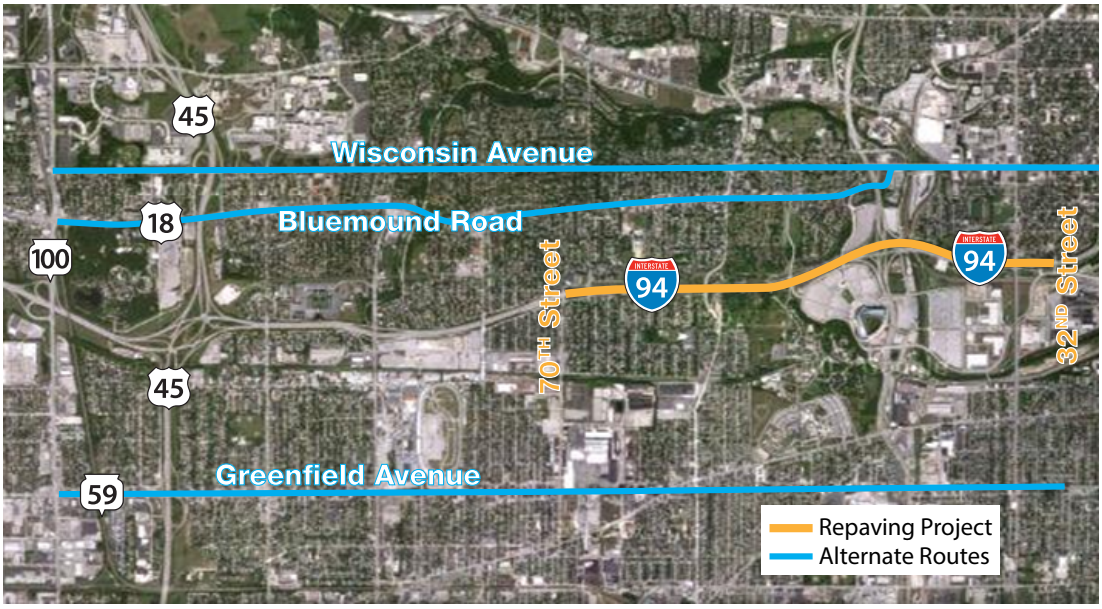
The Wisconsin Department of Transportation (WisDOT) owns and operates a state highway network of 12,000 miles, which carries approximately 80 percent of vehicle miles traveled in the state. Because of the heavy traffic volumes carried, lane restrictions or closures on state highways have the potential to significantly impact drivers.

What's the Problem?

WisDOT has developed numerous strategies for identifying alternate routes that drivers can use when highway travel times are affected by planned or unplanned events. Many of these routes are marked with trailblazer signs, and WisDOT has made significant efforts to communicate information to drivers regarding traffic conditions, incidents and closures along the state highway network and to provide recommendations regarding alternate routes. Despite these efforts, WisDOT has observed that many alternate routes are underused, even when those routes would save drivers significant travel time.

Investigator

Laura Higgins
Texas A&M Transportation Institute
l-higgins@tamu.edu



Example of alternate routes during construction in the Milwaukee area

Research Objectives

The objective of this project was to examine the decision-making processes of drivers using Wisconsin roadways regarding route selection, including their decisions to use (or not use) an alternate route instead of the primary highway network. Factors examined include:

- How and when drivers make initial decisions about a preferred route, for both familiar and unfamiliar trips.
- The factors that influence their decisions to divert or not divert from their usual (or current) route to an alternate route.
- The sources they would most likely consult for travel and route information.

Methodology

The researchers conducted focus groups with Wisconsin commuters, interviewed commercial drivers, and conducted surveys of both travelers and commercial drivers to learn about their overall route selection decisions, the factors that make them more or less likely to divert to an alternate route, and the information sources that they currently use and that they would prefer to use for travel and alternate route information.

Recommendations

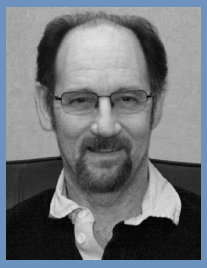
The research team developed a set of recommended communication strategies that WisDOT can use for informing and encouraging drivers to take alternate routes when those alternate routes would be advantageous.

- Increase promotion efforts on the www.511Wi.gov website. The commuter focus groups and the traveler survey indicated that a majority of Wisconsin residents are unaware of this resource, but when made aware many indicated this would be a valuable tool.
- Use Dynamic Message Signs (DMS) to provide additional messages about delays and alternate routes. Focus group and survey participants considered the DMS along Wisconsin's highways to be a valuable source of travel time and incident information, and the survey results indicate that DMS could also be effective for additional messages about highway delays and route alternatives.
- Use Manual on Uniform Traffic Control Devices (MUTCD)-approved signs for alternate route identification/trailblazing. The custom-designed "Blue Route" signs that were used to designate alternate routes in the Madison area were not understood by focus group participants, while "ALT" or "ALTERNATE" placards added to highway route number signs were well understood.
- Update/improve Highway Advisory Radio (HAR) message delivery. Few focus group or survey participants had made use of the HAR system for roadway information, and the focus group participants who had tuned to an HAR station found the automated messages difficult to understand. Potential improvements to HAR include upgrading the auditory quality of the messages by improving the clarity of computer-generated messages and/or substituting an actual voice recording where feasible.

Implementation

The researchers "toolbox" of communication strategies draws on successful practices from other states and localities, as well as feedback from drivers in Wisconsin regarding what factors influence their route decisions both prior to and during a given trip. The recommendations are intended to maximize the effectiveness of WisDOT's current communications media while offering ideas for new media such as smartphone applications.

Project Manager



Brian DuPont
WisDOT
State Traffic
Operations Unit
brian.dupont@
dot.wi.gov

This brief summarizes Project 0092-11-15, "Understanding the Decision-making Process for Drivers Faced with Lane Restrictions or Closures on Wisconsin Highways."

Wisconsin DOT, Policy Research Program *http://wisdotresearch.wi.gov/policy-research-program*