



Caltrans Division of Research,
Innovation and System Information

Research

Results

Rural

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Project Title:

California and Oregon Advanced
Transportation System (COATS) V

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Developing and Promoting Intelligent Transportation Systems in Rural Environments

COATS supports interstate collaboration to investigate technology that addresses rural transportation challenges

WHAT IS THE NEED?

Since 1998, the California Oregon Advanced Transportation Systems (COATS) program encourages regional, public, and private sector cooperation between California and Oregon organizations to facilitate and maximize the planning and implementation of Intelligent Transportation Systems (ITS) in a rural bi-state area extending from south of Redding, California to north of Eugene, Oregon. COATS serves as an incubator for technological innovation, with each phase focusing on particular projects. Numerous systems and approaches have been developed and evaluated over the years, providing information on which to base future deployment decisions. Several initial systems are still in place, addressing the concerns they were designed to answer.

As COATS and its products have matured, Washington and Nevada have witnessed the benefits. For Phase V, the COATS region now encompasses the Western States Rural Transportation Consortium (WSRTC), which includes California, Nevada, Oregon, and Washington.

WHAT WAS OUR GOAL?

The goal was to improve rural travel by promoting technology transfer, using Bluetooth readers to estimate chain-up area delays, synthesizing information on automated safety warning devices, and developing guidance for the planning of regional Integrated Corridor Management (ICM).



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WHAT DID WE DO?

COATS Phase V focused on four areas.

- Survey of Western States Safety Warning Devices—Addressed the absence of an inventory of deployed safety warning systems, which alert drivers of hazardous conditions, such as ice and high winds, by documenting where various devices are located across western states and their function.
- Regional ICM Planning—Examined existing ICM efforts in the WSRTC region, summarized each state's Emergency Operations Center protocols and plans, and reviewed the U.S. Department of Transportation's ICM planning approach.
- Chain-up Delay Tracking with Bluetooth—Identified locations to deploy Bluetooth loggers to estimate travel time and delay through the affected area.
- Western States Rural Transportation Technology Implementers Forum—Delivered high-quality technology transfer and networking opportunities to professionals working in designing and maintaining ITS technologies in rural environments.

WHAT WAS THE OUTCOME?

The projects completed during COATS Phase V contribute to the future development and deployment of systems and approaches that will benefit rural areas. The chain-up delay tracking project identified the sites needed to provide sufficient data to accurately determine delay. The list of in-place safety warning devices allows practitioners to learn about the benefits of available systems and avoid past pitfalls. The regional ICM planning work addressed the absence of information in a rural context. The development of a regional ICM planning process has provided a framework to identify alternative routes in the event that a corridor is closed or has restricted traffic flow. The WSRTC fosters the opportunity to pursue efforts geared toward outreach and technology transfer.

WHAT IS THE BENEFIT?

COATS provides a forum for member agencies to work together to produce a multimodal transportation network that benefits travelers, movement of freight, economic activity, and transportation systems operators. It promotes increased safety, mobility, traveler comfort, environmental quality, and operational efficiency and productivity. The collaboration leverages research activities in a coordinated manner to respond to rural transportation issues among western states related to technology, operations, and safety.

LEARN MORE

To view the complete report:
www.dot.ca.gov/research/researchreports/reports/2014/final_report_task_1752.pdf

For more information about COATS, visit:
www.westernstates.org/Projects/COATS/Default.html

IMAGES



Figure 1: Chain-up delay tracking for trucks using Bluetooth wireless technology on I-5 north of Redding developed during COATS Phase V.