

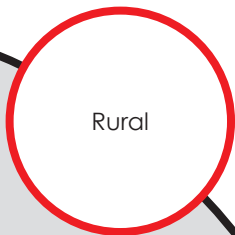


Caltrans Division of Research,
Innovation and System Information

Research



Results



Rural

Professional Capacity Building for Communication Systems Phase III: Telco Wireless Communications

Provided highly specialized expert hands-on training in Telco wireless communications to rural engineers & technicians to build their professional capacity.

WHAT IS THE NEED?

Rural communication engineering remains a mission critical skill for which most engineers in the state have limited experience. As new technologies emerge, engineers and technicians will be required to understand the reality of what is possible versus the hype from a vendor. Understanding what communication technologies exist and how the underlying principles work will allow an engineer to design a communications network that will work reliably when needed most—during an incident. Often, because an engineer does not have the underlying knowledge of a communication technology, a less than reliable network is designed, often with undesirable results based on claims from a vendor or unrealistic expectations from technologies that were not designed to perform the task at hand.

Professional capacity building was needed in order to provide rural engineers and technicians with the necessary skills needed to designing and maintain reliable and robust wireless communication networks for rural Intelligent Transportation System (ITS) field equipment.

WHAT WAS OUR GOAL?

The goal was to develop and provide a highly specialized expert hands-on training in Telco wireless communications to rural engineers and technicians to build their professional capacity and to provide them with the skills needed in designing and maintaining reliable and robust communication networks for rural Intelligent Transportation

MAY 2019

Project Title:

Communication Technologies for Rural ITS Professionals

Task Number: 1747

Start Date: July 1, 2014

Completion Date: December 29, 2015

Task Manager:

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DRISI provides solutions and knowledge that improves California's transportation system

System (ITS) field equipment.

WHAT DID WE DO?

Caltrans contracted The Western Transportation Institute (WTI) at Montana State University to research, develop and deliver a comprehensive training curriculum for transportation communication systems to build the professional capacity of rural intelligent transportation system (ITS) engineers and technicians.

A formal limited solicitation process was conducted to secure appropriate subject matter expert training providers to deliver a course in Telecom Wireless Fundamentals to rural engineers and technicians.

WHAT WAS THE OUTCOME?

A specialized course was developed and delivered by a subject matter expert to train rural engineers and technicians in Telecom Wireless Fundamentals.

This course builds the professional capacity of rural ITS engineers and technicians to provide the skills necessary to successfully design, implement, and maintain reliable and robust communication systems in rural and remote areas.

Additional specialized training in other ITS areas by subject matter experts is recommended for the follow-on phase of this project.

WHAT IS THE BENEFIT?

The benefit resulting from this phase of the project is that Caltrans will have a well-

trained rural workforce of engineers and technicians who can successfully design, implement, and maintain reliable and robust ITS communication systems in rural and remote areas.

LEARN MORE

Caltrans Final Report

<https://dot.ca.gov/-/media/dot-media/programs/research-innovation-system-information/documents/final-reports/ca16-1747-final-report-all.pdf>

Western States Rural Transportation Consortium

<http://westernstates.org/Projects/PCB/Documents/>

IMAGES



Image 1: Twelve Caltrans ITS engineers and technicians gathered in March 2015 at the Ron LeCroix Training Center in Woodland, California, for a course on Telecom Wireless Fundamentals.



Image 2: Caltrans Staff Left to Right: Michael Mullen (District 3), Sean Campbell (DRISI), and Mike Beyer (District 2), Jeremiah Pearce (District 2) and Brian Finck (District 1).

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