Provide Specific Expert Training To Rural Engineers And Technicians To Build Their Professional Capacity In Intelligent Transportation Systems (ITS) Field Equipment.

Develop the appropriate courses taught by subject matter experts which update the students’ skills for new and constant evolving technologies in ITS.

WHAT IS THE NEED?

Rural communication engineering remains a mission critical skill that most engineers in the state have limited experience with. Lacking these skills, engineers and technicians have a difficult time designing and maintaining reliable and robust communication networks for rural Intelligent Transportation Systems (ITS) field equipment.

As new technologies emerge, engineers and technicians will be required to understand the reality of what is possible to achieve from these technologies versus the unrealistic claims from a vendor. This is phase IV of this project and is a continuation of phases I, II, and III to provide specific expert training to rural engineers and technicians to enable them to gain the skills necessary to design and maintain robust communication networks for rural ITS field equipment.

WHAT ARE WE DOING?

A panel composed of members from California Department of Transportation (Caltrans) rural area districts and headquarters was formed in phase I of this project. The panel members identify and decide the skill areas that need to be updated or improved, to develop the appropriate courses taught by subject matter experts. These courses update the students’ skills for new and constant evolving technologies in ITS.
WHAT IS OUR GOAL?

The outcome and end product from this research will be delivery of courses to Caltrans rural engineers and technicians to train them in the skills they lack, which are necessary for them to design and maintain robust communication networks for rural ITS field equipment.

This project will build the professional capacity of rural ITS engineers and technicians through an applied, hands-on educational experience that brings together the latest/most recent information into a comprehensive, one-stop shop for rural ITS communications.

WHAT IS THE BENEFIT?

The benefits of this research will be Caltrans engineers and technicians who will gain the capacity to successfully design, implement, and maintain reliable and robust communication systems in rural and remote areas for rural ITS field equipment.

WHAT IS THE PROGRESS TO DATE?

The following courses have been successfully delivered to Caltrans in phase IV:

- Three hands-on classes on Transmission Control Protocol/Internet Protocol (TCP/IP) Fundamentals;
- Four hands-on classes on Telecom Wireless Fundamentals;
- One hands-on class on Advanced Internet Protocol(IP)/Networks;
- One hands-on class on Small Data Center Design, Structured Cabling, and Grounding.

Next step: This task ends on June 30, 2019 and the research team is working on the draft final report to be delivered to Caltrans. The Caltrans Project Technical Advisory Panel will review the draft final report and provide comments for the researchers to revise and finalize the final report.