



GRANTS PROGRAM



Enabling Trust and Deployment Through Verified Connected Intersections

Utah Department of Transportation

PROJECT PARTNERS

Crash Avoidance Metrics Partnership (CAMP), LLC
Security Credential Management System (SCMS) Manager, LLC
Panasonic Corporation of North America

Athey Creek Consultants
The Narwhal Group
Wall Consulting Group



PROJECT CHALLENGE

The automotive industry does not have a mechanism to trust that Infrastructure Owner-Operator deployed connected intersections are broadcasting accurate, consistent, reliable, and secured messages that can support in-vehicle safety applications. This effort is developing and testing a reproducible process to verify connected intersections coupled to the issuance of security credentials, a process for detecting misbehavior and re-testing intersections, and conducting a field deployment demonstrating verified broadcasts.

IMPACT

The Stage 1 planning and prototyping are to be conducted at three state-owned corridors in Utah. The benefits of this project will occur when connected intersections are operational and production vehicles are operating safety applications. This project will enable that future. A large penetration rate of connected vehicles is not needed for benefits to be recognized, as deployment in even one vehicle could result in a warning to the driver that avoids a serious collision.

CURRENT STATE OF THE ISSUE

Original equipment manufacturers (OEMs) have identified concerns over the data broadcast by connected intersections (CIs) as a barrier towards implementation of in-vehicle safety applications. There is still not a complete set of information available to agency deployers about what specifically is needed to fully achieve OEM trust in their CIs, including what the process consists of, the tools available, and estimated costs to accomplish it. ns (CIs) to have accurate, consistent, reliable, and secure messages?

POLICY QUESTIONS

What is needed for original equipment manufacturers (OEMs) to trust connected intersections (CIs) to have accurate, consistent, reliable, and secure messages?

STAGE 1 OUTCOMES

The key outcome of this effort is a verification process (and supporting tools and processes) that will enable original equipment manufacturers (OEMs) to trust that connected intersections (CIs) deployed by infrastructure owner operators (IOOs) are broadcasting accurate, consistent, reliable, and secured messages that can support in-vehicle red light violation warning (RLVW) and other safety applications.

STAGE 2 VISION

A Stage 2 effort would expand the use of the verification process to more corridors in Utah and other states, further engage original equipment manufacturers (OEMs) and SCMS Manager to expand the verification process to accommodate more participating agencies and increase readiness for OEM introduction of safety applications in production vehicles.