



Innovative Transportation Solution Project

Bannock Transportation Planning Organization

PROJECT PARTNERS

City of Pocatello,
City of Chubbuck
Idaho Transportation Department
Iteris Velocity
Wavetronix Matrix
Cubic Transportation Grid Smart

Currux
DERQ Insight
Hemispheric Detection Camera
Cyberkey Smart Key
J-U-B Engineers, Inc.
Pine Top Engineering, LLC



PROJECT CHALLENGE

The Innovative Transportation Solutions Project addresses vehicle congestion and pedestrian safety through an integrated improvement of detection. Vehicle delay, travel times, and pedestrian safety can be improved by implementing radar and video detection technology to improve the detection of vehicles and pedestrians. Advanced radar technology will improve the ability and information to update signal coordination when delays and travel time drop below baseline data. The radar and video detection technology will detect the presence of pedestrians for passive service calls and adjust the walk clearance by allowing the conflicting phase to change once the pedestrians have cleared the intersection.

IMPACT

The project is on an eight-mile section of the Yellowstone Corridor (US-91) that passes through the Cities of Pocatello and Chubbuck in Bannock County, Idaho. The project will benefit residents by improving safety and travel times along the busiest corridor in the region. Historically Disadvantaged Communities near the Idaho State University Campus will benefit from improved crosswalk safety and reduced travel times.

CURRENT STATE OF THE ISSUE

The travel times along the Yellowstone Corridor from Oak Street to Chubbuck Road at the PM peak (3:00 pm to 6:00 pm) show a travel time six minutes slower than the off-peak times. The travel time index for the corridor segment varies from 1.35 to 1.40. Zero percent of the 22 signals along the corridor have pedestrian detection.

POLICY QUESTIONS

Can improved detection of pedestrians and vehicles be incorporated into signal retiming to reduce vehicle delays and improve reliability? Can average pedestrian walk speed be calculated using radar or video technologies? Can the pedestrian clearance times be adjusted by detecting if a pedestrian is still in the crosswalk?

STAGE 1 OUTCOMES

The potential outcomes of the innovative Transportation Solutions Project are improved travel times and reduced delays along the corridor. The improved vehicle and pedestrian detection will allow for an accurate understanding of the traffic delays along the corridor and an improved ability to adjust signal timing plans.

STAGE 2 VISION

The vision for stage 2 is to use the technology and lessons learned to improve the identification of vehicles and pedestrians to anticipate traffic patterns and fine-tune timing in response to regional traffic pattern change. Pedestrian detection will allow for better management of pedestrians and traffic throughout the region.