



GRANTS PROGRAM



Connected Greenly – Emergency Vehicle Preemption (CG-EVP) Pilot

City of Greeley

PROJECT PARTNERS

City of Greeley Police Department
City of Greeley Fire Department
AECOM
Ironstride



PROJECT CHALLENGE

The pilot would retire the legacy Opticom system and use ATC Controllers and Roadside Units (RSUs) to facilitate safe passage of emergency vehicles and snowplows through signalized intersections and to integrate pedestrian detection at select high pedestrian intersections. The CG-EVP Pilot will install RSUs at 43 intersections, 50 On-Board Units (OBUs) on snowplows and emergency vehicles (i.e., fire and ambulances) and VRU detection systems at three study area intersections in the pilot project study area.

IMPACT

The SMART Grant would support the installation of RSUs and other supporting technology at multiple intersections along 8th Avenue up to 10th Avenue and from 5th Street up to US 85. ADT averages of the signalized corridors in the project area range from 3,500 to nearly 21,000. Deploying traffic signal preemption would reduce the response time of emergency vehicles and increase the service area that can be served by an emergency vehicle. This would prevent the casualties and losses from worsening and thus save lives and costs. From 2010 to 2020, the population of Weld County grew 30.1 percent, making it the fastest growing metro area in Colorado and the fourth fastest growing metro area in the country. Of the population increase, 96 percent were people of color specifically residing in the City of Greeley.

CURRENT STATE OF THE ISSUE

The Greeley Fire Department reports an average response time of 6 minutes, falling short of the national fire response standard of 4 minutes. The existing optical emergency vehicle signal preemption infrastructure is decades old and still in use at 23 of the study area signalized intersections and preemption largely limited to arterial intersections.

STAGE 1 OUTCOMES

The effectiveness of the system will be measured as follows: 1. Decreased response times for emergency operations 2. Decreased number of stops during snowplow operations 3. Increased safety of vulnerable road users.

STAGE 2 VISION

A Stage 2 Grant would facilitate citywide application of the CV technology to include not only all citywide signalized intersections but also other CV applications such as transit signal and/or a VRU warning system of adaptive signal control. The Stage 1 and Stage 2 CG-EVP Pilot results would pave the way for other midsized cities to follow suit and advance their traffic signals with the scope of connecting with future vehicles and devices.