SMART
GRANTS PROGRAM

Cleveland Complete Corridor Project
City of Cleveland

PROJECT PARTNERS

Cleveland State University

Greater Cleveland Regional Transit Authority

PROJECT CHALLENGE

In Cleveland, a network of key arterial corridors serves as the foundation of the transit system, accounts for a large share of fatal and serious injury crashes and carries recommendations for priority bicycle connections. This project is deploying smart traffic signals to simultaneously address safety issues at signalized intersections, prioritize transit and multimodal road users over private vehicles, and enhance emergency response times through dynamic signalization that can efficiently and safely manage these diverse and variable flows.

IMPACT

The Stage 1 project targets signalized intersections on one to two corridors with frequent transit service, safety issues, bicycle and pedestrian demand, and frequent usage by emergency vehicles. The project benefits communities by prioritizing lower-cost, more accessible, and more climate-friendly transportation modes such as riding transit, walking, or riding bicycles; reducing idling and improving air quality; reducing crashes and improving safety outcomes; and improving emergency vehicle response times in historically disadvantaged communities.

CURRENT STATE OF THE ISSUE

The City of Cleveland maintains over 1,000 traffic signals and does not use an advanced traffic management system, with connectivity varying by intersection. Forty-five percent of serious injury and fatal crashes occur at signalized intersections, and 71% are on arterial roadways that are also priority corridors for high-frequency transit service, bikeway connections, and emergency services.

POLICY QUESTIONS

1. What is a general specification for connected, intelligent, vendor-agnostic traffic signal equipment that can be implemented on other multimodal corridors in Cleveland and adopted by jurisdictions across the country to advance goals around complete streets and reductions in serious injuries and fatalities from crashes? 2. How can communities with limited resources sustain recurring costs such as connectivity and software subscriptions?

STAGE 1 OUTCOMES

Anticipated outcomes include: improved transit service (on-time performance, dwell times, route efficiency), improved safety for drivers, bicyclists, and pedestrians (reduction in serious injuries and fatalities, short-term reduction in near-crash interactions); more efficient intersection operations; and eventual mode shift because of enhanced convenience, efficiency, and safety for multimodal users.

STAGE 2 VISION

Project expansion will scale up the smart, connected intersection solution to additional priority transit corridors citywide, improving citywide transit efficiency as well as enhancing safety and emergency response times across the city's arterial network.