



Project Summary

Traffic Signal Technologies and ITS Corridor Enhancements

Applicant: Carver County
May 15, 2020

Project Overview

Carver County uses traffic signals to support safe and efficient multimodal transportation for County residents, businesses, employees, and visitors. The County is requesting a federal grant to upgrade obsolete and add to existing traffic management and intelligent transportation systems (ITS) throughout Carver County, with a focus on CSAH 18-Lyman Boulevard (Chanhassen/Carver), CSAH 14-Pioneer Trail (Chanhassen/Carver), CSAH 59-Main Street (Waconia), and other intersections. The project scope will include:

- A new Advanced Traffic Management System (ATMS)
- Central signal system software with expanded remote access and operations
- Upgraded traffic signal controllers and cabinets
- Conflict monitors
- Upgraded timing plans, coordination, and video detection systems
- ITS devices including CCTV cameras
- Communications and fiber optic cable upgrades & connections

Project Benefits

The roadway system management project will provide a more responsive, efficient, future-minded, and smart traffic control system. The project will:

- Link and improve coordination, operation, and interoperability of County-owned signals and with other jurisdictions
- Reduce traffic-related crashes, minimize travel time, and better support incident management and special events
- Support environmental sustainability and air quality by improving traffic flow
- Include innovative treatments such as flashing yellow arrows and vehicle detection at traffic signals consistent with Regional ITS Architecture and best practices
- Improve bicycle and pedestrian access and safety by installing accessible pedestrian signals

Project Schedule

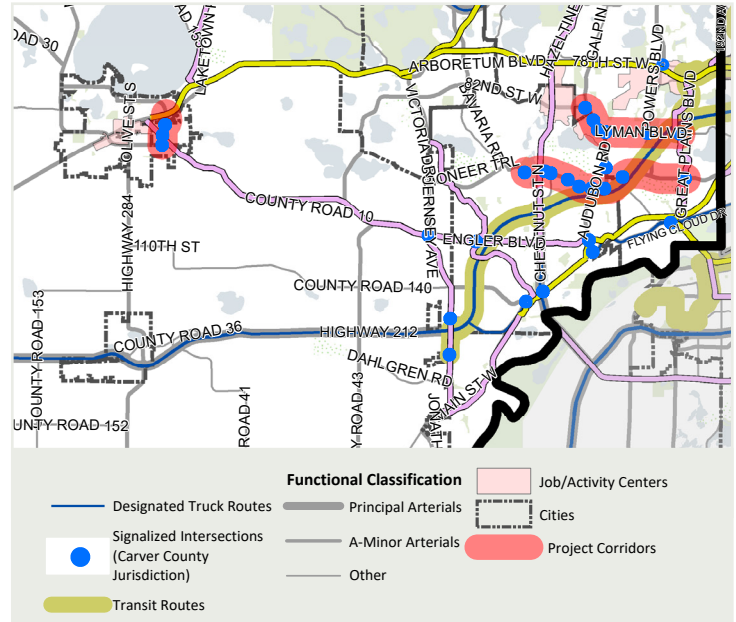
- **Design:** Summer 2021-Summer 2024
- **Right-of-way:** Not anticipated
- **Bidding:** Fall 2024-Winter 2025
- **Construction:** Spring-Fall 2025

Requested Federal Amount

\$1,580,000

Total Project Cost

\$1,975,000



Project Area



Existing Carver County Traffic Signal

CONTACT:

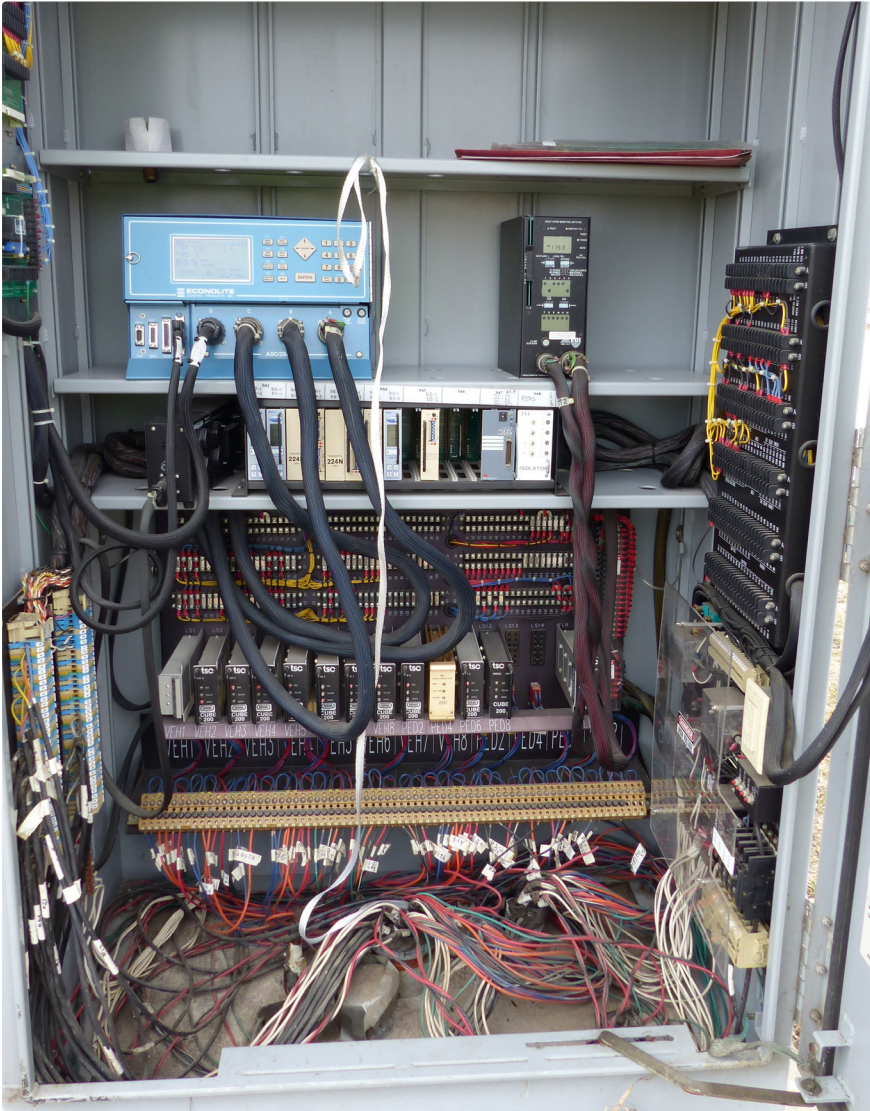
Dan McCormick, Transportation Manager

Carver County Public Works

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<https://www.co.carver.mn.us/departments/public-works/projects-studies/traffic-signal-technologies-project-plan>



Existing Carver County Signal Cabinets

CONTACT:

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<https://www.co.carver.mn.us/departments/public-works/projects-studies/traffic-signal-technologies-project-plan>

DALE STREET TRAFFIC SIGNAL MODERNIZATION

PROJECT ELEMENTS AND BENEFITS

The Dale Street Traffic Signal Modernization project would reconstruct traffic signals, install fiber-optic interconnect, and install traffic cameras along Dale Street in the City of Saint Paul. Dale Street (CSAH 53) is classified as an A Minor and B Minor Arterial in the project area. The proposed elements of the project and some of the benefits of each include:

- Reconstruction of four traffic signals along Dale Street at Grand Avenue, Summit Avenue, Selby Avenue, and Marshall Avenue.
 - With an average age of 35 years, taken from the last major revision, these signals are consistent maintenance issues, and require significant staff time and materials to maintain operation.
 - Replacement of the signals will allow for the implementation of improved safety treatments and increased efficiency. The new signals will provide overhead indications for all approaches, audible pedestrian push buttons, countdown timers, and twelve-inch indications.
- Replacement of aging fiber-optic interconnect along Dale Street between Grand Avenue and Front Street (CSAH 32), and upgrade of traffic signal controllers where needed. The fiber-optic cable along this corridor was installed in 1996 and has surpassed its useful life.
 - Replacement of interconnect will allow the City to continue to remotely monitor and modify the operation of these signals, providing more rapid response to outages and improved ability to adjust settings.
 - Replacement of fiber-optic interconnect will allow for the continued coordination of closely spaced signals along this corridor, reducing stops and delay while improving safety.
 - Replacement of the legacy 170 traffic signal controllers will allow for the use of signal performance measures, responsive traffic signal control, and many other benefits.
- Installation of traffic cameras at multiple locations in the area.
 - The ability to remotely observe traffic conditions, combined with the other improvements, will allow for real-time monitoring and adjustment of traffic operations and management of events and incidents.
 - Cameras will be integrated with the City's existing system, allowing for access by Saint Paul Police and Public Works.

APPLICATION DETAILS

APPLICANT

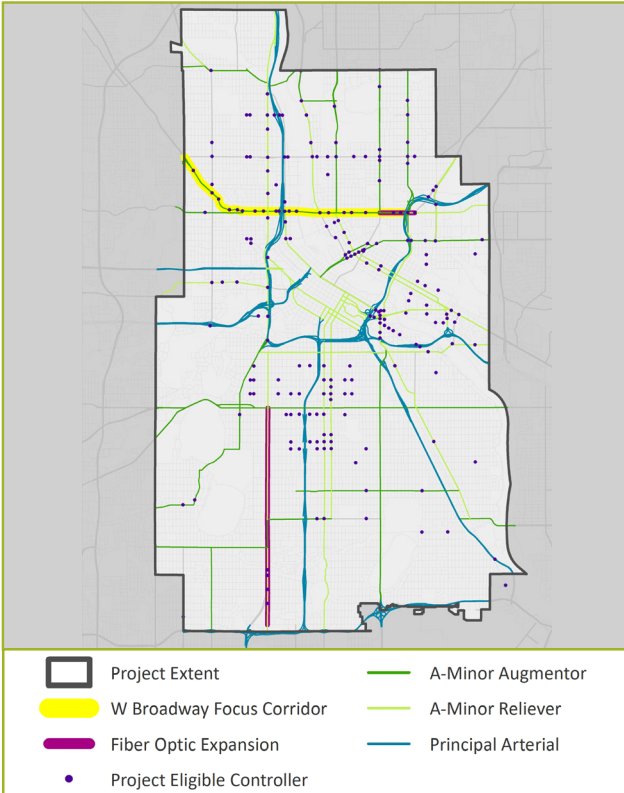
Mike Klobucar	651.266.6208
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Department of Public Works	

PROJECT COST

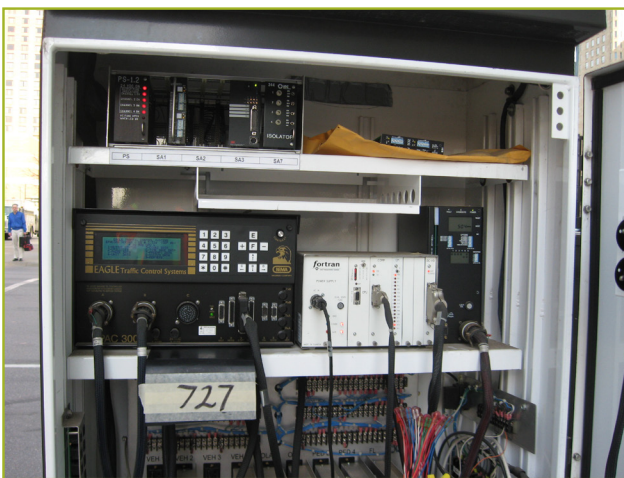
Total project cost: \$2,501,000	Federal request amount: \$2,000,800
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MINNEAPOLIS ITS UPGRADES AND ENHANCEMENTS

PROJECT MAP:



BEFORE PHOTO:



PREPARED BY:



APPLICANT:

City of Minneapolis

PROJECT AREA:

- City of Minneapolis
- Focus Corridor: W Broadway Avenue

CITY WHERE PROJECT IS LOCATED:

Minneapolis

COUNTY WHERE PROJECT IS LOCATED:

Hennepin

REQUESTED AWARD AMOUNT:

\$3,000,000

TOTAL PROJECT COST:

\$3,750,000

PROJECT DESCRIPTION:

The proposed project will upgrade and enhance existing traffic management and intelligent transportation systems (ITS) in areas throughout the city of Minneapolis. The City of Minneapolis is collaborating with Hennepin County, MnDOT, and Metro Transit to enhance the city's traffic control system, with a focus on West Broadway Avenue. The City's ITS currently serves roadway users throughout the metro area, providing services such as arterial dynamic message signs (DMS), real-time surveillance cameras (CCTV), and transit signal priority (TSP) capabilities. Upgrades to ITS, such as expanded remote access and operations, installing new traffic signal controllers and cabinets, conflict monitors, video detection system, additional CCTV devices, vehicle-to-infrastructure (V2I) devices, improvements to the Traffic Management Center (video server, video wall), dedicated short range communications (DSRC) radio (high-volume wireless data transmission), and investing in fiber optic cable to increase bandwidth and reliability, will result in a nimble traffic control system with the ability to adapt to daily and non-recurring traffic events. Once implemented, ITS enhancements will improve interfacing among the Police, Public Works, and Public Safety officials – integrating traffic monitoring with safety. In this way, upgrades will help keep the city's street and highway network functioning efficiently and with more flexibility and multipurpose use. The focus on West Broadway Avenue will improve operations on a key multimodal arterial connecting north and northeast Minneapolis – increasing safety and efficiency for transit, freight, bicycle, pedestrian, and general traffic.

PROJECT BENEFITS:

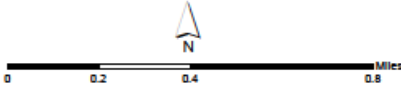
- Improves operational efficiency for all modes of travel on the city's streets
- Improves safety for all users of the city's streets
- Improves functionality and flexibility of the city's existing ITS network
- Prepares the city for near-future connected vehicle technology

Mounds View Boulevard (CSAH 10), County Road H to Pleasant View Drive Roadway Spot Mobility Proposal

- Replace Obsolete Traffic Signals and Upgrade Functional Signals to Current ADA Standards with Flashing Yellow Left-Turn Arrows Pedestrian Countdown Timers and ADA-Compliant Pedestrian Stations.
- Replace Deficient Signing.
- Federal STP Funding Request- \$2,536,085; Local Match- \$634,021



 Project Location



Project Overview

The Minneapolis City-wide Signal Retiming project will optimize all traffic signal timing throughout the City, including and not limited to vehicle signals, pedestrian signals, and emergency response infrastructure. Lake Street from West River Parkway to France Avenue South, including Lagoon Avenue from Dupont Avenue South of East Bde Maka Ska Parkway was selected as the focus corridor to illustrate the project benefit resulting throughout the City. Lake Street and Lagoon Avenue are A-minor Augmenters. The retiming will be completed utilizing the City's existing signal system; obsolete equipment (e.g., controller, cabinet) will be upgraded where it inhibits the signal timing upgrades. The project improvements will include:

- Optimization of all traffic signal timing throughout the City, including and not limited to vehicle signals, pedestrian signals, and emergency response infrastructure
- Construction of a protected one-way, on-street curb-protected bicycle lanes on Hennepin Avenue from between 17th and 16th Street to 12th Street.
- Replacement of existing painted on-street lanes and elevation of the lanes to the level of the sidewalk at intersections.
- Updates to traffic signal and pedestrian crossing throughout the corridor.

Benefits

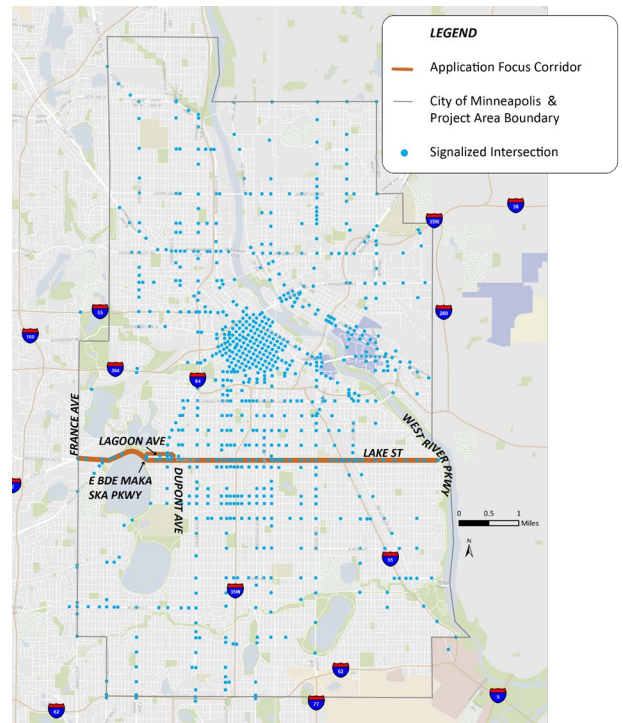
Maintaining an interconnected and coordination network throughout the City will preserve its ability to monitor signal outages, change signal sequences quickly in specific corridors, and manage traffic patterns throughout the City. This improves safety, mobility, and communication between the City, County, MnDOT, and neighboring communities that own and operate the roadway, bicycle, pedestrian, transit, freight, and emergency response networks.

Requested federal amount: \$2,500,000

City of Minneapolis match: \$625,000

Total project cost: \$3,125,000

Project Schedule



Project Area



Before Photo

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Minneapolis City-Wide Signal Retiming Project

2020 TAB Regional Solicitation for Federal Funding in FFYs 2024 and 2025

Before Photos

