



CITY OF CONCORD

REPORT TO MAYOR AND CITY COUNCIL

FROM: Michael Bezanson, P.E. City Engineer

DATE: January 24, 2024

SUBJECT: CIP #283 Traffic Signal and Traffic Operations Improvements - Resolution appropriating and repurposing funds for the purpose of design and construction of traffic signal upgrades and pedestrian improvements at the intersections of North State/Centre Streets and North Main/Washington/Ferry Streets

Recommendation:

1. Accept this report;
2. Set for public hearing, on March 11, 2024, the attached resolution appropriating the sum of \$880,000 in CIP #283 Traffic Signals and Traffic Operations Improvements Project for the design and construction of traffic signal upgrades and pedestrian improvements at the intersections of North State/Centre Streets and North Main/Washington/Ferry Streets, authorizing the issuance of bonds and notes; and,
3. Repurposing the amount of \$101,221.97 of unencumbered available fund balance from the CIP #283 State/Pleasant Street Intersection subproject for this purpose.

Background:

The City of Concord maintains traffic signals at 54 intersections, some dating back to the mid 1980's. Traffic signal mast arms are typically designed for a 40-year design life; and, other components such as controllers and detection systems have a much shorter design life. Capital Improvement Program Project #283 (Traffic Signal and Traffic Operations Improvements) has been programmed to upgrade or replace aging components of these signals throughout the City.

Over the past year, the vehicle detection system for the traffic signal at the North Main/Ferry/Washington Street intersection failed. Additionally, one of the traffic signal mast arms located at Centre and North State Street intersection also failed. Temporary emergency repairs were made to keep both intersections operational.

Following these events, staff, working with one of the City's on-call engineering consultants, performed as structural assessment of traffic signal mast arms and poles located at approximately 30 City-owned intersections. Said intersections were selected as mast arms at said locations were estimated to be 25-years of age, or older.

The structural assessment determined that the mast arm pole located at the northeast corner of the North Main/Ferry Street intersection required immediate replacement due to structural deficiencies at the pole base and risk of critical failure thereof. A temporary replacement mast arm pole was installed on January 11, 2024.

The recently complete structural analysis of the 30 traffic signals noted above have identified infrastructure concerns and needs for equipment at several signalized intersections throughout the City. As such, City Administration plans to propose updates to CIP #283 as part of the upcoming FY2025 Capital Improvement Program to establish a routine maintenance and replacement program for traffic signal infrastructure city-wide.

Discussion:

Although short-term repairs were implemented at the North State/Centre Streets and North Main/Washington/Ferry Streets intersections, permanent repairs must be implemented at both intersections. Permanent repairs will include replacement of all poles and mast arms at each location. Presently, traffic signal mast arms are a long-lead item, and typically take 8+/- months to receive once an order is placed.

These extensive repairs will be trigger compliance with Americans with Disabilities Act (ADA) requirements. As such, sidewalk ramp and other improvements will be required at these intersections.

The estimated cost for the design and construction of traffic signal upgrades and pedestrian improvements at these two intersections is \$1,053,000.

Presently, CIP #283 includes a total of \$71,830 (FY2021 & FY2024) for upgrades to the North Main/Washington/Ferry Streets intersection.

Additionally, \$101,221.97 of surplus funds is presently available from the recently completed replacement of the signalized intersection at Pleasant and State Streets, which could be repurposed to support improvements at these two intersections.

After said available funds, an additional \$880,000 would need to be appropriated to complete the full upgrade of these two intersections.

Given long lead times to receive traffic signal components, and potential negative impacts to public safety and traffic operations if additional equipment failures occur at these high trafficked locations, City Administration is requesting these funds to advance full replacement of traffic signals at the North State/Centre Streets and North Main/Washington/Ferry Streets intersections. If funded, staff hopes to construct these projects in late calendar year 2024 or spring 2025.

MSB/kmh