


COUNCIL COMMUNICATION

 CITY OF DES MOINES OFFICE OF THE CITY MANAGER	Number:	23-529	Meeting:	December 4, 2023
	Agenda Item:	7A	Roll Call:	23-1677
	Submitted by:	Steven L. Naber, P.E., City Engineer		

AGENDA HEADING:

Ordering construction of the following: Intelligent Transportation Systems Upgrade - Phase 4 - Receiving bids, (12-19-23), and Setting date of hearing, (1-8-24). (Construction Estimate - \$1,224,000).

SYNOPSIS:

Recommend the City Council order construction of the improvement and set dates to receive bids and hold a public hearing, as required by Iowa Code, utilizing the method of financing referenced below. The project includes upgrading the communications infrastructure, communications network, traffic signal cabinet/controller and Intelligent Transportation Systems (ITS) equipment of the traffic signal system along major corridors. The existing traffic signal controllers have outdated technology and will be replaced with 2070 ATC controllers, which is the new modern standard controller.

FISCAL IMPACT:

Amount: \$1,224,000 City Engineer's Estimate

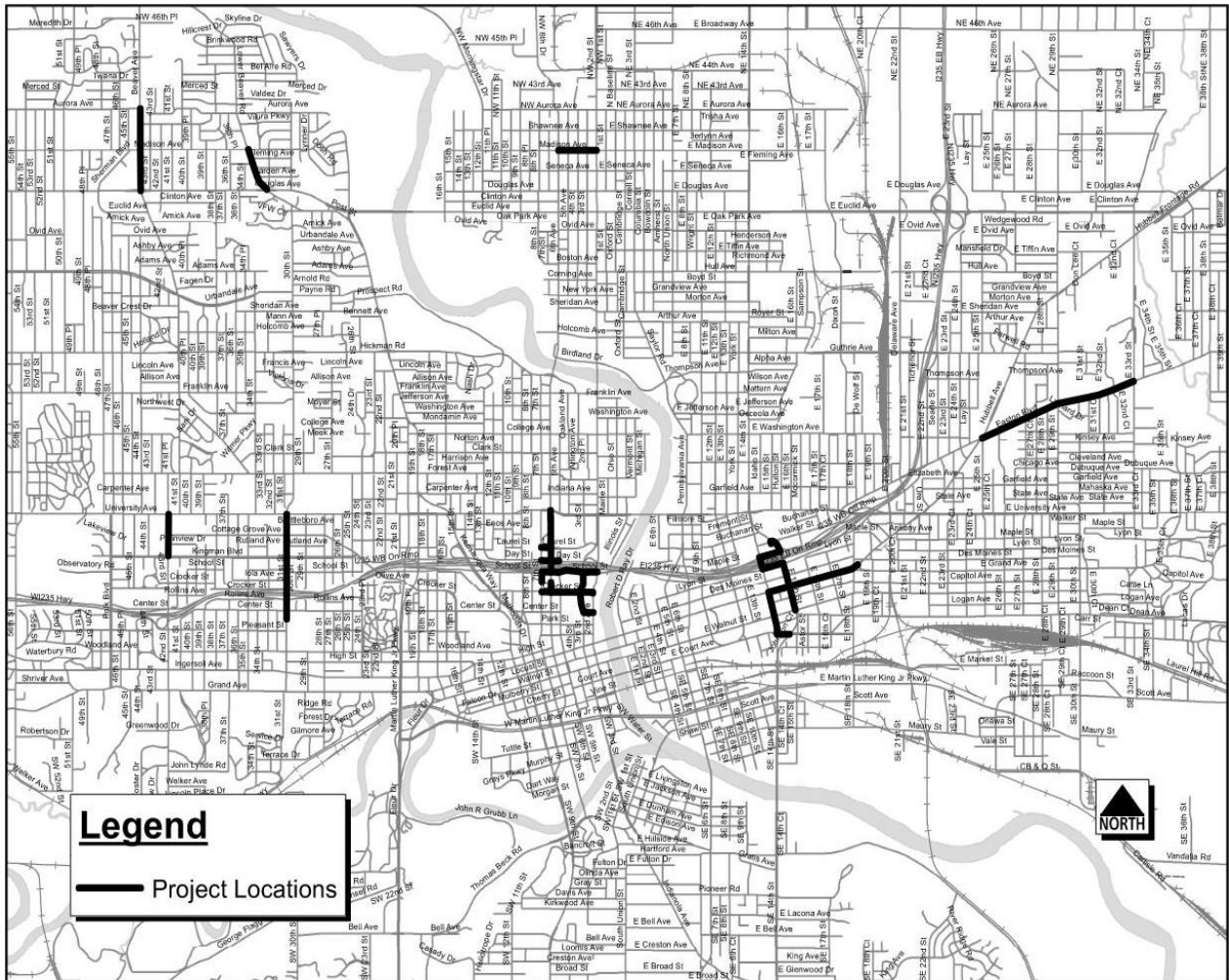
Funding Source: 2023-2024 Capital Improvement Program (CIP), Page 178, Traffic System Operation Improvements, TR097, Being: \$500,000 (Maximum) Surface Transportation Block Grant (STBG) program Federal-aid funds up to 80% of eligible construction costs under STP-U-1945(872)--70-77, and the remaining \$724,000 in G.O. Bonds

ADDITIONAL INFORMATION:

- The Engineering Department has prepared plans, specifications, form of contract documents, and City Engineer's estimate for the construction of the ITS Upgrade - Phase 4, Activity ID 04-2023-017. The improvements include upgrading the communications infrastructure, communications network, traffic signal cabinet/controller and ITS equipment of the traffic signal system, removal of sidewalk and driveways, Portland Cement Concrete (PCC) sidewalks, PCC driveways, and surface restoration, all in accordance with the contract documents, including Plan File No. 657-001/100 located along:
 - Beaver Avenue from Douglas Avenue to Aurora Avenue
 - Lower Beaver Road from Euclid Avenue to Madison Avenue
 - 42nd Street from Kingman Boulevard to University Avenue
 - 31st Street from Pleasant Street to University Avenue

- Madison Avenue from 6th Avenue to 2nd Avenue
 - Easton Boulevard from Hubbell Avenue to East 33rd Street
 - 7th Street from Crocker Street to School Street
 - 6th Avenue from Crocker Street to University Avenue
 - 3rd Street from Center Street to School Street
 - Laurel Street from 7th Street to 6th Avenue
 - Day Street from 6th Avenue to 5th Avenue
 - School Street from 7th Street to 2nd Avenue
 - Crocker Street from 7th Street to 2nd Avenue
 - Center Street from 3rd Street to 2nd Avenue
 - East 14th Street from East Court Avenue to East Grand Avenue
 - East Court Avenue from East 14th Street to Johnson Court
 - East 15th Street from East Walnut Avenue to East Grand Avenue
 - East Grand Avenue from East 14th Street to Des Moines Street
 - Lyon Street from East 14th Street to East 15th Street
 - Maple Street from East 14th Street to East 15th Street
 - Johnson Court from Maple Street to Walker Street
- The ITS Master Plan was adopted as a framework for the City of Des Moines future traffic management and communication system infrastructure at the November 19, 2018 Council meeting.
 - The ITS Master Plan addresses major components: signal system hardware and software, work order system, fiber communications infrastructure, video observation cameras, and dynamic message signs.
 - The current ITS infrastructure for the City of Des Moines primarily consists of antiquated technologies, including traffic signal controllers using 1970's technology and video observation cameras that are often not operable.
 - The ITS Master Plan is broken into eight (8) phases with an estimated total cost of \$12.5 million. These eight (8) phases are prioritized on vehicle volumes, roadway capacity, annual crashes, truck/transit route needs, existing operational issues, and conditions of existing communications.
 - Phase 1 and Phase 2 construction is complete and Phase 3 construction is anticipated to be completed by spring 2024.
 - Phase 4 includes upgrading 39 traffic signal locations located primarily north and east of downtown as illustrated in the map below. At each intersection, Phase 4 improvements will include the following activities:
 - Communication infrastructure upgrades.
 - Communication network upgrades.
 - Traffic Signal Cabinet/Controller/ITS Device Upgrades.

- Phase 4 work includes upgrading 39 traffic signal controller systems, 9 (nine) uninterruptable power supply system installations, 39 ethernet switch installations, 8 (eight) Pan-Tilt-Zoom Camera Traffic Monitoring System installations, 115 feet of new conduit installation, 10 handhole installations, and replacing or installing nearly 50,955 feet of fiber optic cable.
- The estimated construction cost is \$1,224,000. The proposed plans, specifications, and form of contract documents are available for public inspection in the Des Moines City Engineer's Office.
- Construction of Phase 4 is anticipated to be completed by spring 2025.



PREVIOUS COUNCIL ACTION(S):

Date: August 7, 2023

Roll Call Number: [23-1066](#)

Action: [Approving](#) and authorizing the execution of the Iowa Department of Transportation (IDOT) Agreement for the ITS Upgrade – Phase 4. ([Council Communication No. 23-367](#)) Moved by Gatto to adopt. Second by Boesen. Motion Carried 6-1. Absent: Sheumaker.

BOARD/COMMISSION ACTION(S): NONE

ANTICIPATED ACTIONS AND FUTURE COMMITMENTS:

Anticipated actions include public hearing, receive and file bids, designate lowest bidder, and approve contract and bond; also partial payments to the contractor and final acceptance of work.

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