



CITY OF RICHMOND

Department of Planning & Development Review *Staff Report*

Ord. No. 2022-008- To request the Chief Administrative Officer, for and on behalf of the City of Richmond, to make a formal request to VDOT for the programming of a Congestion Mitigation and Air Quality (CMAQ) Project [Signal System – East, North, and West of the City (UPC 105890)], and authorize the Chief Administrative Officer or his Designee, to execute all necessary City/State agreements for this federally funded project.

To: City Planning Commission
From: Land Use Administration
Date: January 18, 2022

PETITIONER

Enrique Burgos, Signal Systems Engineer

LOCATION

East, North, and West of the City (UPC 105890)]

PURPOSE

To request the Chief Administrative Officer, for and on behalf of the City of Richmond, to make a formal request to VDOT for the programming of a Congestion Mitigation and Air Quality (CMAQ) Project [Signal System – East, North, and West of the City (UPC 105890)], and authorize the Chief Administrative Officer or his Designee, to execute all necessary City/State agreements for this federally funded project.

SUMMARY & RECOMMENDATION

Letter of request dated August 23, 2021 from Haley Robertson, Right of Way Agent at the Virginia Department of Transportation (VDOT). The purpose of this request is to correct an historical defect in the property lines separating VDOT right of way from City right of way such that all of the existing VDOT roadway(s) at the intersection of W. Leigh St. and Belvidere St. are completely within the VDOT right of way.

In accordance with VDOT construction allocation procedures, it is necessary that a request by Council Resolution be made in order for VDOT to allow the City administration of this project.

On August 10, 2005, the President signed into law the Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). With guaranteed funding for highways, highway safety, and public transportation totaling \$244.1 billion, SAFETEA-LU represents the largest surface transportation investment in our Nation's history. SAFETEA-LU builds on the initiatives established by ISTEA and TEA-21. This legislation stresses mobility and protection of the environment, community preservation, sustainability and livability. Part of this approach is the Congestion Mitigation and Air Quality Improvement (CMAQ) Program. The CMAQ program was implemented to support surface transportation projects and other related efforts that contribute air quality improvements and provide congestion relief.

Signal System – East, North, and West of the City (UPC 105890)

This is the third of three phases that comprise the Richmond Signal System (RSS) project;

- Phase one completed in June 2014 for the amount of \$5.3 million – Downtown, Fan and West End
- Phase two to start construction in spring 2015 for the amount of \$10.0 million – south of the James River
- Phase three to start design by 2017 for the amount of \$6.3 million – east, north and west of the City.

As part of the CMAQ program, the City applied for a grant to extend the traffic signal system to the east, north, and west of the City. The MPO has recommended the State to fund this project through the CMAQ Funds which are included in the FY 2017-2020 Transportation Improvement program (TIP).

The Transportation Engineering Division operates and maintains 471 traffic signalized intersections of which 299 are currently connected to the Richmond Signal Systems (RSS). Additional funds will allow the City to expand the signal system network by adding existing signalized intersections in the west, north and east of the city to the RSS. Proposed connection of additional signals to the RSS includes the installation of new conduits for the fiber optic communication cables and spread spectrum wireless communication. Additional controllers, cabinets and cameras (CCTV) will be included as part of the project scope.

The RSS will have its largest impact behind the scenes. Once the program is fully completed, the City will have an integrated system that will allow city staff to communicate with the entire traffic signal system from the City's Traffic Control Center (TCC) located at City Hall and Traffic Signal Shop. This will enable staff to address transportation issues on a real-time basis. If a complaint is received, that complaint can be investigated immediately without having to wait for a technician to reach the intersection. In today's environment, technicians are sent out to a traffic signal to investigate all calls that are received. Once the new system is in place, technicians would only be dispatched on those occasions when the problem could not be fixed remotely. This allows the technicians more time to address preventive maintenance issues, which will in turn reduce the number of complaints that are received. Additionally, the new system will have built in alarms that automatically notify staff when there is a problem (such as a signal being on flash or a vehicle detector not working).

The combination of the current intersection status with views of the roadway network from both CCTV cameras and video detection cameras will allow engineers to make timing adjustments to better accommodate the traffic flow. These adjustments can be in response to either recurring daily congestion patterns or an incident that is diverting traffic. The system will provide the ability to address changes in traffic demands to keep traffic moving as smoothly as possible. As a result of the traffic signals communicating with the TCC, timing patterns that have been programmed at each traffic signal will operate as intended. When the TCC has the ability to set the clock at each intersection to exactly the same time, better synchronization of the traffic lights can be achieved.

The total project estimate is \$6,300,000, of which 90% (approximately \$5,670,000) will be federal funded, and 10% (approximately \$630,000) will be state matching funds.

VDOT has allocated the funds for this project as follow:

- FY 2017 - \$ 500,000
- FY 2018 - \$1,500,000
- FY 2019 - \$1,500,000
- FY 2020 - \$2,212,000
- FY 2021 - \$ 600,000

City Administration recommends approval of this request.

FINDINGS OF FACT

SITE DESCRIPTION

Public Right-of-Way

PROPOSED USE FOR THE PROPERTY

Public Right-of-Way

MASTER PLAN

Public Right-of-Way

ZONING

Public Right-of-Way

SURROUNDING AREA

Public Right-of-Way

Staff Contact:

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