



**CITY OF GLENDALE, CALIFORNIA
REPORT TO THE CITY COUNCIL**

AGENDA ITEM

Report: Glendale Regional Arterial Traffic Performance Measurement System Project and On-Call Fiber Optic Testing, Design, Installation, and Maintenance Services

1. Resolution adopting the Specifications for the Glendale Regional Arterial Traffic Performance Measurement System Project, Specifications No. 3885; and directing the City Clerk to Advertise for Bids.
2. Resolution adopting the Specifications for the On-Call Fiber Optic Testing, Design, Installation, and Maintenance Services, Specifications No. 3886; and directing the City Clerk to Advertise for Bids.

COUNCIL ACTION

Item Type: Consent Calendar

Approved for April 27, 2021 **calendar**

ADMINISTRATIVE ACTION

Submitted by:

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Prepared by:

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Reviewed by:

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Michele Flynn, Director of Finance

Michael J. Garcia, City Attorney

Approved by:

Roubik R. Golanian, P.E., City Manager

RECOMMENDATION

Staff respectfully recommends that the City Council approve the following:

- 1) Resolution adopting the Specifications for the Glendale Regional Arterial Traffic Performance Measurement System Project, Specifications No. 3885; and directing the City Clerk to Advertise for Bids.
- 2) Resolution adopting the Specifications for the On-Call Fiber Optic Testing, Design, Installation, and Maintenance Services, Specifications No. 3886; and directing the City Clerk to Advertise for Bids.

BACKGROUND/ANALYSIS

The City of Glendale is bordered by the cities of Burbank, Pasadena, Los Angeles, and La Canada Flintridge and has a population of over 200,000. The City is located northeast of Los Angeles in the foothills of the San Gabriel Mountains and is traversed by the Ventura (134), Golden State (5) Glendale (2) and Foothill (210) freeways.

The City spans over an area of 32 square miles and has a total of 369 miles of paved roadway. At times Glendale has traffic volumes and congestion, which results in travel delays and bottlenecking on the existing roadways.

The purpose of this project is to implement an arterial performance measurement system in the Glendale Traffic Management Center (GTMC) that will be used to evaluate, improve, and optimize traffic performance on arterial streets. The system will extract information from real-time intelligent transportation systems, such as vehicle sensors and traffic signal systems, save it permanently in a data warehouse, and present this information in various forms to managers, traffic engineers, planners, and researchers. With a performance measurement system, the City traffic engineers can make operational decisions, such as signal timing adjustments, based on knowledge of the current and historical states of the arterial network.

Existing Traffic Signal Network

The City has approximately 240 signalized intersections of which approximately 200 are monitored by the GTMC. The City relies on the GTMC to monitor and adjust signal timing. The communication between the GTMC and field devices are a combination of stranded copper interconnect cables and single mode fiber optic cables in underground conduits. The fiber communication system is based on a Gigabit Ethernet structure and also includes a network based computer system that controls the Central Traffic Signal and Closed Circuit Television (CCTV) systems. The majority of the City's signalized intersections operate with 2070-ATC controllers with McCain 2033 program.

Currently, the City is in the process of developing a traffic signal synchronization model using TrafficWare's Synchro software. The Synchro model will be incorporated into the arterial traffic performance measurement system to allow for necessary operation timing adjustments.

Once the model is developed, specific improvements need to be made within the controller cabinets at existing signalized intersections for the model to be deployable.

The specific improvements consist of:

- 1) Communications Improvements (48 intersections);
- 2) System Detector Improvements (18 intersections); and
- 3) Media Convertor Improvements (15 intersections).

The scope of work for the specific improvements are the following:

- 1) Communications Improvements include a cloud based hosted data service that allows for the retrieval of real-time traffic data information;
- 2) System Detector Improvements include new video detector cameras installed on the traffic signals that are capable of collecting real-time traffic data information, including associated video processors, brackets, and cables that support the video detector cameras; and
- 3) Media Convertor Improvements include communications module installations to allow the recording, processing, and forwarding of the real-time traffic data information collected from video detectors installed on the traffic signals with the GTMC.

The project limits are entirely within the City at 48 existing signalized intersections as shown in Exhibit 1 – Project Map for Proposed Improvement Locations.

On-Call Fiber Optic Testing, Design, Installation, and Maintenance Services

As highlighted earlier, the link between the GTMC and signalized intersections and CCTV systems are through field devices that pass communication through a combination of mainly single mode fiber optic cables and a few remaining stranded copper interconnect cables in underground conduits. As a matter of practice, stranded copper interconnect cables are upgraded to single mode fiber optic cables via capital improvement projects that overlap in the same area.

Although the City has minimal resources to perform minor repairs to damaged fiber optic infrastructures, we do not have the personnel or equipment resources to handle emergency or critical repairs in a timely manner to maintain constant communication throughout our traffic signal network. The majority of the fiber optic infrastructure repairs are handled through current construction contracts via change orders and field change directives, which often carry unanticipated construction markups and higher costs.

This project will provide an opportunity to qualified contractors to participate in a competitive bidding procedure for an on-call contract for a not to-exceed amount of \$500,000 for a period of three years from the contract certification date by the City Manager to keep our fiber optic infrastructure functioning and up to date through as-needed testing, design, installation, repair and maintenance services.

Measure R

Measure R is a half-cent sales tax for Los Angeles County that finances new transportation projects and programs. In November 2008, Measure R was approved by two-thirds majority, committing a projected \$40 billion to traffic relief and transportation upgrades throughout the County over its 30 years' life span. The City's share of Measure R funds for Highway Operational Improvements is approximately \$98.5 million.

The City is required to execute a Funding Agreement (FA) for each of our Measure R funded projects. The FA must be executed in the first year that funds are available and prior to starting any work on the project. They include a general description of the project, the specific work elements to be completed, and the source of all funds. The Glendale Regional Arterial Traffic Performance Measurement System Project and On-Call Fiber Optic Testing, Design, Installation, and Maintenance Services is included in Los Angeles County Metro Board's approved project list in the amount of \$142,000. Staff has completed the design phase of the project, and construction is anticipated to begin four months after advertisement.

2013 Call for Projects Funds

City staff was able to secure funds from the 2013 Call for Project funds to fund a majority of the Glendale Regional Arterial Traffic Performance Measurement System Project and On-Call Fiber Optic Testing, Design, Installation, and Maintenance Services. Metro obligated funds for the design, construction, construction contingency and construction engineering in the amount of \$531,000. As part of this obligation, the City will need to utilize \$142,000 of Measure R Regional Return funds for the required local matching component. The City will construct the project and then invoice Metro for reimbursement. Metro has issued a FA authorizing the City to proceed with the design, construction, and construction management phase of the project.

Americans with Disabilities Act (ADA)

The proposed project includes improvements that will comply with current Federal ADA guidelines.

Environmental Review

This project is Categorically Exempt under the provisions of the California Environmental Quality Act as a Class 1 Exemption pursuant to the California Code of Regulations, Title 14, Section 15301.

Availability of Plans and Specifications

A copy of the plans and specifications is available for review in the City Engineer's Office and on the City website.

Anticipated Project Schedule

The construction of the project is anticipated to begin in August 2021 and be completed by October 2021. The construction of the On-Call Fiber Optic Testing, Design, and Implementation Services is expected to last up to 3 years or up to the not-to-exceed amount.

FISCAL IMPACT

The engineer's estimate for the construction of the Glendale Regional Arterial Traffic Performance Measurement System Project and On-Call Fiber Optic Testing, Design, Installation, and Maintenance Services project is between \$300,000 and \$350,000. Funding for this project has been budgeted from the Measure R Regional Return Fund (2550) and CIP Reimbursement Fund (4090).

Funding for the On-Call Fiber Optic Testing, Design, Installation, and Maintenance Services has been budgeted from the State Gas Tax Fund (4020).

ALTERNATIVES

The alternatives relating to the proposed resolution are as follows:

Alternative 1: Approve the attached Resolution. This project will significantly improve traffic operations by allowing direct control of the intersections to optimize timing and reduce delay. Furthermore, the City can hire a contractor to perform fiber optic repair on an "as-needed" basis in a timely manner without compromising City infrastructure.

Alternative 2: Do not approve attached Resolution. The subject intersection operations will not be optimized and the fiber optic infrastructure will be maintained at marked up costs by current construction contracts via contract change orders.

Alternative 3: The City Council may consider any other alternative not proposed by staff.

EXHIBITS

Exhibit 1: Project Map for Proposed Improvement Locations (Glendale Regional Arterial Traffic Performance Measurement System Project and On-Call Fiber Optic Testing, Design, Installation, and Maintenance Services)