



DEPARTMENT OF TRANSPORTATION

DATE: May 16, 2019

TO: WILMA QUAN, City Manager  
Offices of the Mayor and City Manager

THROUGH: GREGORY A. BARFIELD, Director  
Department of Transportation

FROM: BRIAN BARR, Assistant Director  
Department of Transportation

SUBJECT: AWARD SOLE SOURCE PURCHASE CONTRACT TO OPTICOM/GLOBAL  
TRAFFIC TECHNOLOGIES IN THE AMOUNT OF \$200,331.42 FOR THE  
PURCHASE OF TRAFFIC SIGNAL PRIORITY TECHNOLOGY

**Executive Summary**

The Department of Transportation/FAX seeks to improve bus service and schedule adherence along the Shaw Avenue corridor between Willow Avenue and Polk Avenue. FAX will achieve this by deploying traffic signal priority (TSP) technology along this corridor. To accomplish this, 31 intersections along this corridor will need to have new or upgraded TSP equipment installed. Deploying TSP technology will optimize signal timing at these intersections, which will allow buses to adhere to their schedules more often. Global Traffic Technologies (GTT) is the sole manufacturer, distributor, and configurator of the patented Opticom technology (software and equipment) used by the City of Fresno TSP systems.

**Background**

TSP is an operational strategy that facilitates the movement of TSP equipped transit vehicles through traffic-signal controlled intersections. By using TSP technology, transit delays and travel times can be reduced and transit service reliability can be improved, thereby increasing transit quality of service.

In February 2018, FAX implemented a TSP solution along its Bus Rapid Transit (BRT) route to improve bus schedule adherence and transit operational efficiency. FAX accomplished this by installing new and/or upgrading existing Opticom equipment at 73 intersections, installed on-board vehicle units onto 20 buses, and implemented system management software.

FAX now seeks to advance on this work by improving bus service and schedule adherence along the Shaw Avenue corridor, between Willow Avenue and Polk Avenue, by adding TSP technology along the corridor. The TSP equipment will give preferential treatment to a bus that is running behind schedule by creating a longer/shorter green at the intersection improving the bus ability to maintain and/or achieve schedule adherence. In order for the bus to request and obtain a longer/shorter green, the bus must be able to communicate, via its own onboard TSP equipment, to the TSP technology installed at these intersections. The TSP intersection equipment furnished by this project will also provide priority TSP to transit vehicles and preemption to emergency vehicles.

The TSP technology will include an intersection GPS, 2.4 GHz radio module, connecting cable with an unobstructed range of at least 2,500 feet, and a multimode phase selector that communicates to a TSP module located in the City existing traffic signal cabinets. The new and/or upgraded equipment will be required to be fully inter-operable with the existing City Emergency Vehicle Preemption (EVP) system located at more than 300 existing signals and will conform to the City of Fresno Standard Plans and Specifications for EVP.

The City of Fresno Traffic Operations Center (TOC) wishes to retain control and coordinate operations and maintenance between its existing priority control systems, EVP, and TSP. To accomplish this, the intersection TSP technology must be compatible with the current on-board vehicle TSP technology located on FAX buses, the 363 existing traffic signal controllers utilized by both the City and CalTrans, and the present Central Management System (CMS).

If FAX installs TSP technology at intersections that is not natively compatible with the existing 2.4 GHz spread spectrum radio-based TSP technology, these intersections would not recognize a request from an emergency or transit vehicle. If the intersection TSP equipment does not recognize a request, the intersection would not modify the condition of the signal light to allow the vehicle to move through the intersection, thereby preventing improvements to bus service or schedule adherence.

Opticom Traffic Signal Preemption Equipment is now patented and owned by Global Traffic Technologies (GTT). FAX needs to maintain interoperability and compatibility with existing GTT equipment, which means the intersection TSP equipment can only be sourced from GTT.

On January 3, 2019, FAX released a Request for Information (RFI) to solicit information on qualified vendors who manufacture and provide intersection TSP equipment. The equipment had to be natively compatible with the City current on-board vehicle TSP technology utilized by FAX buses, the existing traffic signal controllers utilized by both the City and CalTrans, and the present CMS.

Advertisements for the RFI were placed in print through the Fresno Business Journal and online with MassTransitMag (<http://www.masstransitmag.com/>).

The RFI closed on January 18, 2019, with one response. It was confirmed through review by FAX staff that this proposer, GTT, is the sole vendor who can meet the specifications of the RFI.

### **Cost Analysis**

FAX completed an Independent Cost Estimate (ICE) using pricing gathered through online research prior to releasing the RFI to the public (Attachment A). As FAX now intends to purchase this equipment directly from the manufacturer, a comparison of recent purchases from outside government agencies through the years of 2017-2018 was completed. The following agencies were used for this comparison: Houston-Galveston Area Council of Governments (H-GAC) (Texas), City of New Rochelle (New York), State of Maryland, and King County, Washington (Attachment B).

- In May 2018, the City of New Rochelle used a General Services Administration contract to purchase the necessary components to complete ten (10) intersections at \$5,809.15 per intersection.
- In August 2017, the State of Maryland established a purchase order to purchase the necessary components at \$5,731.00 per intersection.
- H-GAC established a two-year (August 2013-2017 with extensions) contract, which allows participating governmental agencies to purchase traffic control, enforcement, and signal preemption equipment at a predetermined price. Using the H-GAC contract, an agency could purchase the components needed at \$5,809.15 per intersection.
- In February 2017, King County, WA, piggy backed off of Washington State Department of Enterprise Services Contract #04616 to purchase components at \$5,786 per intersection.

To support the Shaw Avenue TSP project, FAX requested cost information directly from GTT to provide the needed individual intersection components. FAX received a cost of \$6,280.00 per unit, which is 3-4 percent higher than recorded purchases noted in the cost comparison. The higher costs can be explained by a manufacturer base price increase that occurred in January 2019. FAX was expecting a cost increase of 3-4 percent from inflation already; therefore, this base price increase is fair and reasonable.

FAX concluded the cost to purchase intersection TSP components is fair and reasonable based upon recent purchases by FAX and other external agencies and a cost analysis performed by FAX staff.

**Recommendation**

FAX is now requesting approval to dispense with the formal procurement process for the reasons set forth above, to enter into a sole source contract with GTT for the purchase of TSP equipment to complete 31 intersections along the Shaw Avenue corridor. Final pricing will be based on the attached sales quote (Attachment C). This project is federally funded by a Federal Transportation Administration, Congestion Mitigation Air Quality (CMAQ) grant.

Staff requests your approval to request that Council award a sole source purchase in the amount of \$200,331.42 to GTT for TSP units for 31 intersections.

Approve Request

Deny Request

  
\_\_\_\_\_  
Wilma Quan, City Manager


4/26/19  
\_\_\_\_\_  
Date


**Attachments:**

- A: Independent Cost Estimate (ICE)
- B: Cost Analysis
- C: Sales Quote

**ATTACHMENT "A" INTERSECTION TSP EQUIPMENT INDEPENDENT COST ESTIMATE**

<b>SHAW AVENUE TRAFFIC SIGNAL PRIORITY (TSP) PROJECT - Intersection TSP Equipment Independent Cost Estimate (ICE) September 6, 2018</b>					
<b>Item</b>	<b>City of Rochelle GSA 5/2018</b>	<b>State of Maryland 8/2017</b>	<b>City of Houston-Galveston (HGAC)</b>	<b>King Co. WA 2/2017</b>	<b>FAX ICE</b>
Model 764 multimode phase selector	\$2,810.00	\$2,751.00	\$2,810.00	\$2,751.00	\$2,810.00
Model 768 auxiliary interface panel	\$287.15	\$300.00	\$287.15	\$340.00	\$340.00
Model 3100 series mast-mount radio receiver	\$2,712.00	\$2,680.00	\$2,712.00	\$2,695.00	\$2,697.00
	\$5,809.15	\$5,731.00	\$5,809.15	\$5,786.00	\$5,847.00

  
 \_\_\_\_\_  
 Susan Rogers

  
 \_\_\_\_\_  
 September 6, 2018



DEPARTMENT OF TRANSPORTATION  
Fresno Area Express ♦ Fleet ♦ Handy Ride

DATE: February 20, 2019  
TO: SHAW AVENUE TRAFFIC SIGNAL PRIORITY (TSP) PROJECT, FILE  
FROM: Susan Rogers, Capital Development Specialist  
SUBJECT: SINGLE SOURCE COST ANALYSIS TO PURCHASE INTERSECTION TRAFFIC SIGNAL PRIORITY (TSP) EQUIPMENT FOR THE SHAW AVENUE TSP PROJECT

The following describes the cost analysis for the above procurement.

FAX seeks to improve bus service and schedule adherence along the Shaw Avenue corridor between Willow Avenue and Polk Avenue. FAX will to achieve this, in part, by deploying TSP technology along this corridor. To accomplish this, thirty-one (31) intersections along Shaw Avenue from Willow Avenue to Polk Avenue will need to have new or upgraded TSP equipment installed. This technology will optimize signal timing by creating a longer/shorter green at the signal as the bus approaches the intersection.

FAX completed an Independent Cost Estimate (ICE) prior to releasing a Request For Information (RFI) to the public. Pricing was gathered through online research and recent purchases from other government agencies.

January 3, 2019, FAX solicited a Request for Information (RFI) to solicit information on qualified vendors who manufacture and provide intersection TSP equipment. This equipment was required to be natively compatible with the City's current on-board vehicle TSP technology utilized by FAX buses, the existing traffic signal controllers utilized by both the city and CALTrans, and the present Central Management System (CMS).

Advertisements for the RFI were placed in print through the Fresno Business Journal and online with MassTransitMag (<http://www.masstransitmag.com/>).

The RFI closed on January 18, 2019, with one response. It was confirmed through review by FAX staff that this proposer met the specifications of the RFI.

\*\*\*\*\*

## COST ANALYSIS

To support the Shaw Avenue TSP project, FAX requested cost information directly from Opticom/GTT. GTT submitted a quote to FAX with a price of \$5,847.00 per intersection (see quote, attachment "A", for breakdown of individual intersection component).

Tables 1-4 present individual analysis performed on recent, direct product purchases, through GTT compared to the price quote FAX received from GTT for this project.

Table 1: Analysis of City of Rochelle General Service Administration (GSA) Agreement Pricing

Description	City of Rochelle		GTT Quoted
	GSA 5/2018	% Diff	Price to FAX
Model 764 multimode phase selector	\$2,810.00	-1%	\$2,795.00
Model 768 auxiliary interface panel	\$287.15	42%	\$495.00
Model 3100 series mast-mount radio receiver	\$2,712.00	-1%	\$2,695.00
<b>Total Price per complete intersection</b>	<b>\$5,809.15</b>	<b>3%</b>	<b>\$5,985.00</b>

In May of 2018, the City of New Rochelle used a General Services Administration contract to purchase the necessary components to complete ten (10) intersections at \$5,809.15 per intersection.

Table 2: Analysis of the State of Maryland Purchase

Description	State of Maryland		GTT Quoted
	8/2017	% Diff	Price to FAX
Model 764 multimode phase selector	\$2,751.00	2%	\$2,795.00
Model 768 auxiliary interface panel	\$300.00	39%	\$495.00
Model 3100 series mast-mount radio receiver	\$2,680.00	1%	\$2,695.00
<b>Total Price per complete intersection</b>	<b>\$5,731.00</b>	<b>4%</b>	<b>\$5,985.00</b>

In August of 2017, the State of Maryland established a Purchase Order to purchase the necessary components at \$5,731.00 per intersection.

Table 3: Analysis of Houston-Galveston Area Council of Governments (H-GAC) Contract Pricing

Description	City of Houston-Galveston (HGAC)		GTT Quoted
	2013-2018	% Diff	Price to FAX
Model 764 multimode phase selector	\$2,810.00	-1%	\$2,795.00
Model 768 auxiliary interface panel	\$287.15	42%	\$495.00
Model 3100 series mast-mount radio receiver	\$2,712.00	-1%	\$2,695.00
<b>Total Price per complete intersection</b>	<b>\$5,809.15</b>	<b>3%</b>	<b>\$5,985.00</b>

Houston-Galveston Area Council of Governments (H-GAC) established a contract (for years 2013-2017), which allows participating governmental agencies to purchase traffic control, enforcement, and signal preemption equipment at a predetermined price. Using the H-GAC contract, an agency could purchase the components needed at \$5,809.15 per intersection.

Table 4: Analysis of King County WA. Piggyback Purchase Price

Description	King Co. WA 2/2017	% Diff	GTT Quoted Price to FAX
Model 764 multimode phase selector	\$2,751.00	2%	\$2,795.00
Model 768 auxiliary interface panel	\$340.00	31%	\$495.00
Model 3100 series mast-mount radio receiver	\$2,695.00	0%	\$2,695.00
Total Price per complete intersection	\$5,786.00	3%	\$5,985.00

In February 2017, King County, WA. piggy backed off of the Washington State Department of Enterprise Services Contract #04616 to purchase components at \$5,786.00 per intersection.

FAX staff prepared an ICE prior to releasing a RFI for the intersection TSP equipment. Pricing for the ICE was gathered through online research and recent purchases from other government agencies (Table 5 summarizes the pricing gathered for the ICE). In January 2019, GTT gave FAX a quote of \$5,985.00 per intersection based on the purchase of thirty-one (31) intersections. The pricing submitted by GTT is 3% higher than the ICE performed by FAX staff in September 2018.

The higher costs can be attributed to manufacture base price increase as of January 2019.

Table 5: Independent Cost Estimate for intersection TSP equipment.

SHAW AVENUE TRAFFIC SIGNAL PRIORITY (TSP) PROJECT - Intersection TSP Equipment Independent Cost Estimate (ICE) September 6, 2018					
Item	City of Rochelle GSA 5/2018	State of Maryland 8/2017	City of Houston-Galveston (HGAC)	King Co. WA 2/2017	FAX ICE
Model 764 multimode phase selector	\$2,810.00	\$2,751.00	\$2,810.00	\$2,751.00	\$2,810.00
Model 768 auxiliary interface panel	\$287.15	\$300.00	\$287.15	\$340.00	\$340.00
Model 3100 series mast-mount radio receiver	\$2,712.00	\$2,680.00	\$2,712.00	\$2,695.00	\$2,697.00
	\$5,809.15	\$5,731.00	\$5,809.15	\$5,786.00	\$5,847.00

## CONCLUSION

In conclusion, the price quoted to FAX by GTT is deemed fair and reasonable based on recent similar purchases by other agencies. Based upon this information, FAX intends to purchase intersection TSP equipment for thirty-one (31) intersections in the amount of \$208,285.03.

\*\*\*\*\*



Susan Rogers  
Susan Rogers Capital Development Specialist

2/20/19  
Date



# Final Proposal

Direct Customer

Global Traffic Technologies, LLC  
7800 Third St., N.  
Saint Paul, MN 55128  
United States

800-258-4610 or 651-789-7333

Bill To	Customer	NetSuite Opp't	Date	Expires
City of Fresno	City of Fresno	9441	8-Feb-19	16-Apr-19

Ship To	Solution/Purchase Type	Term: For Ongoing Services
City of Fresno FAX 2223 G Street Fresno, CA 93706 Attn: Susan Rogers	Purchase  Transit	1

Intersections	Vehicles
31	

Items	Qty	Description		Price Per Item	Extended Price
<b>Intersection components:</b>					
				USD	USD
	31	Model 760 card rack	78-8114-5300-6	\$ 295.00	\$ 9,145.00
	31	Model 764 multimode phase selector	76-1000-1054	\$ 2,795.00	\$ 86,645.00
	31	Model 768 auxiliary interface panel	76-1000-1059	\$ 495.00	\$ 15,345.00
	31	Model 3100 series mast-mount radio receiver	76-1000-1189-0	\$ 2,695.00	\$ 83,545.00
<b>Proposal notes:</b>					
The proposed system as part of the RFI includes TSP based schedule adherence. The headway management feature is included but can be configured optionally.					
The configuration of the traffic controller to not truncate pedestrian walk is the responsibility of the purchaser. The Opticom system supports this functionality assuming the controller also supports this functionality.					
<b>Total before applicable shipping, duties and/or taxes</b>					<b>\$ 194,680.00</b>

To the extent this proposal is a "Budgetary Proposal," it is to be used for informational purposes only and is not intended to be a binding contract between the Parties. The prices provided in the Budgetary Proposal are estimates only and are based on information and pricing known as of the date of the Budgetary Proposal.

For services, a signed Master Service Agreement ("MSA") must accompany the order, such agreement is available at <http://www.gtt.com/servicesagreement/>. The terms and conditions that govern the MSA are available at [http://www.gtt.com/sales\\_terms/](http://www.gtt.com/sales_terms/).

When included, intersection installation pricing assumes a standard configuration without complications. Not included in this proposal are the following items, which will require additional cost: 1) crushed conduit or any other issues preventing cable from being installed, 2) lane or road closures, 3) police or other resources needed at the installation area, and/or 4) other third-party costs not known at the time of the proposal.

Proposal assumes the intersection cabinets are in good working order and contain wiring diagrams.

Vehicle installation assumes standard installation and does not include: 1) special mounting brackets, 2) excess wiring, and/or 3) swapping out previously installed (replacement) vehicle hardware.

Project management expenses can increase in instances where development, if required, is not fully scoped.

Proposal excludes any activities associated with: 1) traffic control plan, 2) water pollution control plan, 3) changeable message signs/flaggers, 4) permits/bonds/fees, and/or 5) removal/repair/replacement of concrete, asphalt, conduits or wiring.