CITY OF BRYAN
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ACTION FORM
BRYAN CITY COUNCIL

Meeting Date (?) 02/23/2016

Subject Matter* (?) Traffic Signal radios and switches
This must match rolling agenda entry

Department of Origin* ENGINEERING DEVELOPMENT

Submitted By* W. Paul Kaspar

Type of Meeting* ○ BCD ○ Special ◉ Regular

Classification* ○ Public Hearing ◉ Consent ○ Statutory ○ Regular

Ordinance* ◉ None ○ First Read ○ Second Read ○ First & Only Read

Strategic Initiative* ☑ Public Safety ☐ Service ☐ Economic Development ☑ Infrastructure ☑ Quality of Life

Agenda Item Description* Consider authorizing the City Manager to purchase twenty-five (25) switches and twenty-five (25) 5.8 GHz ethernet radios for total cost of $66,625.00. This purchase will bring twenty-three (23) traffic signal controllers on the City's communication network and allow communication between those signal controllers and the new central control software that staff uses to make changes to the traffic signal timings and remotely check the condition of each traffic signal.

Summary Statement *

This past year the City of Bryan standardized its Traffic Signal components, including communication equipment, and uses the same equipment as the City of College Station to offer greater ease of cross city communication between signal systems. Both Bryan and College Station have recently installed the same central software (Iteris Tactics) for controlling traffic signals that have either radio or fiber optic communication back to each cities' traffic operations center.

The City of Bryan has 69 intersections controlled with traffic signals. These signals are controlled by sixty-seven (67) signal control boxes of which forty-one (41) are on the City's network thirty-seven (37) wireless and four (4) fiber optic). As seen on the attached map, the City of Bryan has thirty-seven (37) traffic signals using radio communication. The Traffic Operations Division, with the help of the Information Technology Department, has recently connected four (4) signals with fiber optic communication, which can handle more data and is a quicker, but more expensive, connection method. This update leaves twenty-six (26) signals remaining in the City's inventory that staff is trying to get on the communication network. Three (3) of those signals are scheduled for replacement in 2017 with the Highway Safety Improvement Grant (Turkey Creek/Finfeather, Carson/S. College, and S. College/Villa Maria). Those three (3) locations will have new equipment installed with the new signal. Twenty-three (23) signals will receive these radios and the remaining two (2) radios will be used to replace the existing radios located on top of the Luza Street water tower that act as the collection point for the traffic signal radios in order to increase their bandwidth. The installation of these radios and switches will be performed by City staff from the Traffic Operations Division and the Information Technology Department.

A quote was obtained from Texas Highway Products through Texas Smart Buy for the twenty-five (25) radios and totals $42,475.00. A quote for the twenty-five (25) cisco switches needed to connect the radios to the traffic signal controllers was obtained from Centre Technologies through the Texas Department of Information Resources (DIR) cooperative contracting and totals $24,150.00. The total cost for these components is $66,625.00. The Traffic Department has funds available within its FY16 operating budget and had planned to spend it on this project.

On a related note, staff currently has a consultant analyzing major thoroughfares through Bryan to develop new traffic signal timing routines that will be implemented this spring. In addition to improving traffic progression through these corridors, staff will be installing additional routines to improve off-peak performance of the signals by allowing the minor legs of the intersections to receive a green light quicker. This model has proven to be a more safe and industry standard way of handling off peak traffic rather than previous flashing yellow and red lights that cities historically used. This change will be a big improvement over what is currently in place today, which is the same timing routines used twenty-four (24) hours a day.

Staff Analysis & Recommendation *

Staff recommends authorizing the City Manager to purchase twenty-five (25) switches and twenty-five (25) 5.8 GHz ethernet radios for total cost of $66,625.00 that will be used to bring twenty-three (23) traffic signal controllers on the City's communication network. These improvements will allow communication between the new signal controllers and the new central control software that staff uses to make changes to the traffic signal timings and remotely check the condition and efficiency of each traffic signal.

Options *

(In Suggested Order of Staff Preference)
1. Authorize the purchase.
2. Do not authorize the purchase and provide direction to staff

Funding Source *

$66,625.00 - General Fund – Traffic Operations – 001-0841-430-33-06 (as budgeted)

Attachments

Traffic Signals Attachments.pdf 1.09MB

Please detail attachments and note attachments available for viewing in City Secretary's Office:
(all attachments are in a single pdf)

1. Map showing traffic signals with radio & fiber optic communication and proposed signals to receive radio communication with this purchase
2. Quote for radios from Texas Highway Products, LTD
3. Quote for switches from Centre Technologies

Dept. Head Signature	
Deputy City Manager Signature	
City Manager Signature	
City Attorney Signature