



City of Denton

City Hall
215 E. McKinney Street
Denton, Texas
www.cityofdenton.com

AGENDA INFORMATION SHEET

DEPARTMENT: Capital Projects

CM/ DCM/ ACM: Mario Canizares

DATE: May 7, 2018

SUBJECT

Receive a report and hold discussion on the Fiber Optic Communications Master Plan for the City's traffic signal system.

BACKGROUND

The City of Denton applied for Regional Toll Revenue (RTR) funding from State Highway 121 tolling proceeds for several major transportation projects in August 2007. Subsequently, the City was selected to receive funding for implementing Intelligent Transportation System (ITS) Fiber Optic Communication Trunk Lines within the City. Even though the City was awarded the funding for the Fiber Optic project it took couple of years for the state to authorize the funding. Additionally, the funding required an 80/20 match from the City which was not available at the time. In 2010, the City match was approved through supplemental budget process. Using these funds, a consulting firm was hired in 2014 to develop the City's Master Communication Network Design that was outlined in three distinct phases (Exhibit 1). Later, in 2017 staff engaged the services of an engineering firm to design Phase 1 of the Master Plan. The design for the first phase (Exhibit 2) was completed and was bid out for construction in January 2018.

Traffic Operations has limited or no connectivity for existing signalized intersections. The intersections currently on line utilize antiquated 900MHz wireless technology or 5.8MHz with limited bandwidth. This funding opportunity will provide for fiber optic communications lines to the City's traffic signals from the Traffic Operations Center located at 801 Texas Street, as well as allowing the City to complete the design and operation of its Automated Traffic Management System (ATMS) that is currently in place. The new fiber optic communication line connectivity should enable the City's ATMS to improve mobility through the synchronization of traffic signals and timing to reduce idling times as well as carbon emissions, fuel consumption and delays, and to improve regional air quality.

The implementation of phase 1 of the fiber optic plan will begin in summer and will connect major intersections along the Bell Avenue corridor, Loop 288 and Brinker Road will be connected to the Traffic Management System. Installation of this system will enable staff to remotely program and control intersections which will result in lowering response time to traffic signal issues. Staff will continue to build the remaining phases through federal and state funds in the near future in order to implement the overall master plan.

ESTIMATED SCHEDULE OF PROJECT

Approximately six (6) months to implement phase 1 in accordance with federal and state requirements.

PRIOR ACTION/REVIEW (Council, Boards, Commissions)

In July 2014, the City Council approved the engineering design services for the City of Denton Master Communication Network.

FISCAL INFORMATION

Local match of \$392,900.00 from the City of Denton has already been approved through a supplemental package in FY2010-2011.

STRATEGIC PLAN RELATIONSHIP

The City of Denton's Strategic Plan is an action-oriented road map that will help the City achieve its vision. The foundation for the plan is the five long-term Key Focus Areas (KFA): Organizational Excellence; Public Infrastructure; Economic Development; Safe, Livable, and Family-Friendly Community; and Sustainability and Environmental Stewardship. While individual items may support multiple KFAs, this specific City Council agenda item contributes most directly to the following KFA and goal:

Related Key Focus Area: Public Infrastructure

Related Goal: 2.2 Enhance connectivity and seek solutions to improve mobility

EXHIBITS

1. AIS
2. Fiber Optic Communications Master Plan
3. Master Plan – Phase 1

Respectfully submitted:

Pritam Deshmukh

City Traffic Engineer

(940) 349-7710