

# ATMS Signal System Upgrade (Phase 1)

## Project Objective

Wylie would like to implement a comprehensive ATMS project to proactively monitor its traffic signal system. Wylie recently took over 16 traffic signals from TxDOT on two highly congested corridors of regional significance, SH 78 & FM 544. The City currently doesn't have any communication or ATMS to maintain the signal system. The objective of Phase 1 of the project would be to implement a traffic signal system to increase efficiency in traffic operations, reduce congestion and improve mobility, increased safety and security, incident management, and greatly enhanced mobility on regional corridors.

## Project Scope

1. Install ATC signal controllers
2. Install central and local ATMS software
3. Install and develop a signal communication system
4. Install CCTV at select intersections
5. Incorporate citywide school zone flasher system
6. Install a small video wall TMC

## Key Partnerships

1. City Departments (Utilities, Parks, IT, Police & EMS)
2. Collin County
3. TxDOT
4. Freight (Kansas City Southern Intermodal) on SH 78

## Key Project Elements:

1. ATMS System will have an architecture that will support center-to-center data and video sharing with adjacent agencies
2. Extends ATMS (Fills gaps) on Key Regional Corridors
  - a. Signals on FM 544 (Plano Parkway) are maintained by the City of Plano to the west (who has a robust ATMS). TxDOT maintains the signals in Murphy and has a system. Wylie is the only agency that doesn't have a system on FM 544.
  - b. Signals on SH 78 are maintained by the City of Garland to the south (who has a robust ATMS). TxDOT maintains the signals in Sachse and Lavon and has a system. Wylie is the only agency that doesn't have a system on SH 78.
3. Communicates with other departments
  - a. The communication system will be an open architecture system that will also be utilized by the water department and parks department
4. Video and data sharing with first responders
  - a. The project will provide shared video and monitor capabilities with Wylie PD and EMS.
5. System will be designed using the preferred NCTCOG regional architecture
6. Signal system will provide enhanced operations on SH 78 and can leverage the NCTCOG Freight Mobility Study. In the NCTCOG 2022 critical urban freight corridors scorecard, SH 78 was the third highest rated freight corridor.

# ATMS Signal System Upgrade (Phase 2)

## Project Objective

Phase 2 of the ATMS Signal System Upgrade will include implementation of additional ITS field devices for enhanced signal control, incident management, data sharing, travel time dissemination, and signal performance measures. The project will install CCTV at strategic locations, install weather stations, and install enhanced vehicular detection to replace legacy systems.

## Project Scope

1. Install CCTV cameras
2. Replace legacy vehicular detection systems
3. Install roadway weather systems
4. Provide signal performance measures, regional data sharing, and travel time information

## Key Partnerships

1. City Departments
  - a. Utilities
  - b. Parks
  - c. IT
  - d. Police & Fire
2. TxDOT
3. Collin County

## Key Project Elements:

1. Enhanced vehicular detection systems will increase safety by utilizing dilemma zone protection on SH 78 & FM 544 and provide additional video to TMC for incident management
2. Signal performance measures will be used to improve signal diagnostics, signal timing enhancements, and improve signal operating efficiency
3. Weather stations will be located at key locations for improve safety and provide warnings for severe weather
4. Additional CCTV cameras will be used for improved safety and incident management