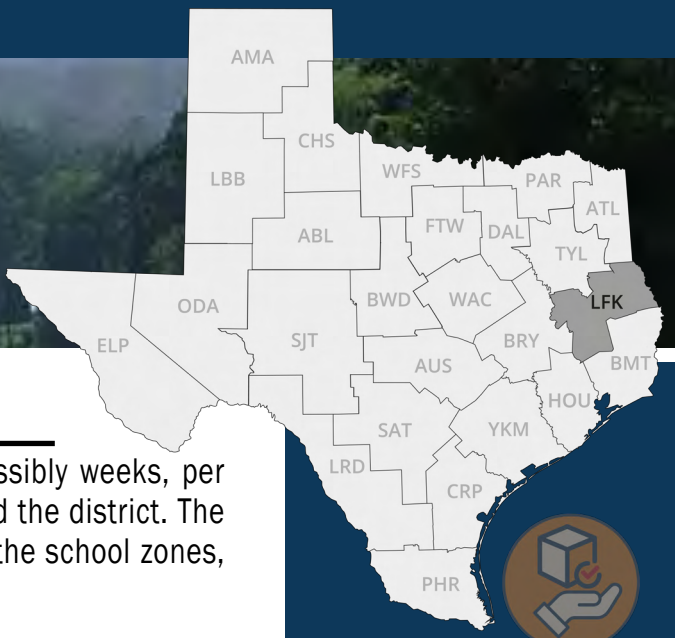
TxDOT Innovations and Technology Deployment Briefs

Remote Connection to School Zone Flashers



PROBLEM

The Lufkin District Traffic Signal Crew spends several days, possibly weeks, per calendar year programming times into school zone clocks around the district. The majority of this time is spent in the truck, traveling to and from the school zones, to program the times by hand.

SOLUTION

Installed Cellular Modems provide remote connection to school zone clocks, allowing the clocks to be programmed from the office.

BENEFITS

These modems allow for improved response time to troubleshoot calls from schools. Reduce time spent traveling to make adjustments to school times. Time spent in the field working on school zone timing is also reduced. A dashboard allows the signal crew to identify certain issues from the office. The dashboard also allows the crew to more easily program in holidays, early release days, or other special conditions that the school may request.

KEY TASKS

- Identify the need and justify the cost of installing the connected system:
- Look at average time and resources spent per year programming and maintaining school clocks. Also consider the safety benefit of reducing employees' time behind the wheel and in the field.
- Determine which third-party system best fits the district's needs.
- Identify funding for the modems and data plans: Original plan was to pursue safety funding; however, additional district maintenance money became available at the end of fiscal year 2021.
- Determine an action plan for which school zones to connect with the first wave of installation.
- Work with signal maintenance contractor to execute a change order to supply and install the school zone systems.

PROJECT DELIVERY

CUSTOMER FOCUS

FOSTER STEWARDSHIP

PRESERVE ASSETS

OPTIMIZE PERFORMANCE

PROMOTE SAFETY

VALUE EMPLOYEES

Texas Department of Transportation

District: Lufkin **December 2022**

Remote Connection to School Zone Flashers

DATA SOURCES

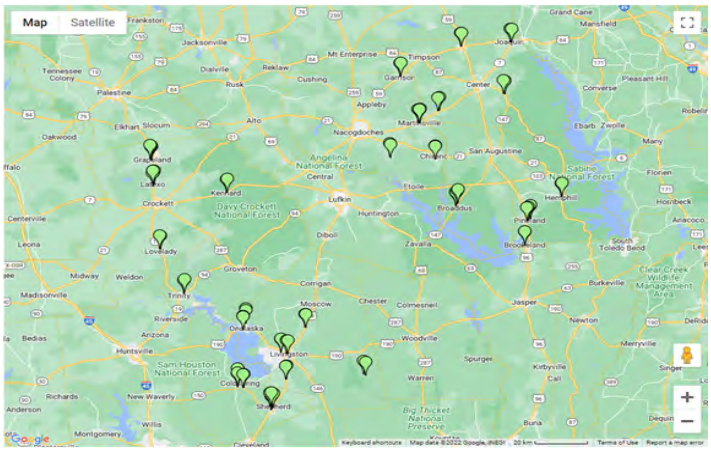
The district captured time and resources dedicated to programming and maintaining school clocks around the district. The school zone locations in the district were then mapped using the field data previously collected and a plan of action was developed to connect the furthest school zones first.

PROACTIVE APPROACH

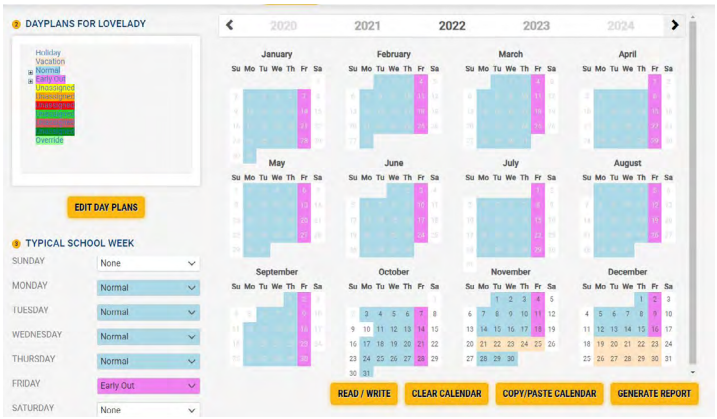
The software platform chosen allows for easy monitoring of the device health of the school zone flashers. In most cases, an issue with the school zone flasher will be noticed before the public detects it, and the issue can be corrected before receiving any trouble calls. Additionally, connecting the school clocks allows them to run off a central clock. This ensures that none of the clock times "drift," which could cause a flasher to run at the incorrect times.

ADDITIONAL NOTES

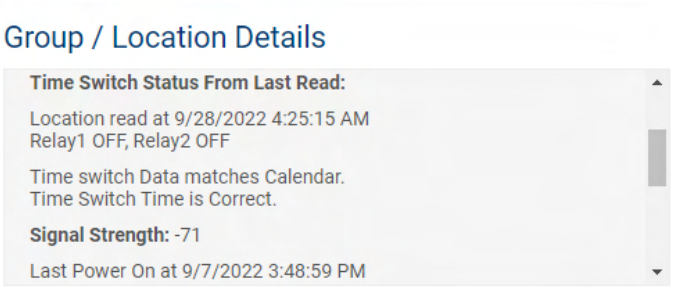
The Lufkin District has the goal to modernize traffic systems, beginning with school zone flashers.



Location map of connected school zone flashers.



Example calendar and timing plan.



Clock/modem data in the dashboard.

POINT OF CONTACT

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