The Ups And Downs Of Automated Gates

Texas Floodplain Management
Annual Conference
March 10, 2022
Barry Fulfer, CFM

Speaker
Barry Fulfer, CFM
Public Works Emergency Mgmt / CRS Coordinator

Presentation Overview

• History of gate locations
• How the gates came to be and install challenges
• How the gates operate
• Camera operation
• Public information
• Signage
• Maintenance issues
• Pros and cons
History

- First location is a major 4 lane divided, roadway is low lying, area with 2 creek crossings, and is approximately ½ mile long.
- Has been prone to flooding for 30+ years
- The two creeks merge to 1 creek in the park just east of this road location approximately 900ft
- The only ingress and egress to a townhome community

History Continued

- Second location is downstream of first location with a single crossing on a 2-lane roadway.
- Has also been prone to flooding for 30+ years
- Street elevation is slightly higher than first location.

Gate Location

Gates and flashing lights

SW 3rd St
Carrier Pkwy
McFalls Park
Dickey Rd
Phillips Ct
Gate Install Carrier Pkwy

- City won a FEMA HMGP grant to add automated gates to Carrier Pkwy location after the 2015 floods in north Texas.
- We ran into many obstacles with this install
- Gates were installed and tested in October 2017.
- Grant close out was in March of 2019.

Gate Install SW 3rd

- Funded as an upgrade in FY20 budget.
- Project got delayed due to another road project in the area and supply chain issues.
- Project install was completed in January 2022.

Operation

1. Water is measured at both master sites by PT’s. When water gets on the road, the gates sound an alarm, flash the red lights on the gate arms and close. In addition to the gates all remote flashers also turn on in this location.

2. 4–25ft gates block NB and SB traffic off at the highwater area on both the ingress and egress side.

3. In the event that a car gets trapped between the gates, a loop detector system has been installed to open the gate when a vehicle triggers the loop.

4. While the gates close automatically, they will not reopen automatically. This is intentional because City staff needs to check the road conditions and clean up limbs/debris before opening the road to traffic.
Maintenance issues

- Car accidents
- Storm damage
- Preventive maintenance
- Debris cleanup
Storm Damage

Storm Damage

Debris
Automated Gate

**Pros**
- Close on their own
- Faster response time when water gets over the road vs. sending crews to close the road.
- 100% solar so they work even if the power is out.
- Compared to just placing barricades you don’t have cars going around these barriers.

**Cons**
- You need a way to monitor proper operation (a camera or send someone out to verify)
- High cost to install and reinstall due to MVA.
- High wind and gates don’t mix well
- Need to educate everyone about the gates.

Remember

Questions
Contact Info

• Barry Fulfer, CFM
• Office 972-237-8443
• bdfulfer@gptx.org