FALL TEXITE MEETING

ITS and Weather Events

Photo by Liam Frederick
Agenda

- TxDOT & TransVision Fort Worth
- Weather Statistics
- TxDOT’s weather response
- NWS Alerts/Lonestar Software
- Future Projects:
  - IH 20 ITS
  - Weather Stations
Who we are

Transportation Operations for the Fort Worth District of TxDOT

- 9 Counties
- Approximately 60 employees
- Traffic Engineering
- ITS
- Traffic Operations

STOP

Footer Text Date
24/7 TRAFFIC MANAGEMENT CENTER

- Covers 9 Counties in our District
- Dispatch center for Traffic Signals
- Currently handles after hours support for 3 districts.
  - Waco, Abilene, and Brownwood.
- Partner connections with multiple agencies.
  - City of Arlington
  - City of Fort Worth
  - City of Grand Prairie
  - Medstar
  - Tarrant County Sherriff’s Office
  - North Tarrant Express

TransVISION Stats
ITS Devices

- 200 CCTV Devices
  - WTI and COHO
  - Both Fiber and Wireless connections

- 70 Three Line Dynamic Message Boards
- 9 One Line Dynamic Message Boards
  - Full Color Matrix

- 200 Wavetronix Sensors
  - Volume
  - Occupancy
  - Speed
  - Vehicle Classification
Day and Life of an TransVISION Operator

You never know what's going to happen on the roadways at TxDOT. From 18 wheeler fires, to visitors at our camera locations! No day is the same.
Severe Weather
Weather Stats

- Normal Operations: 16 accidents/day
- Rain: 35 accidents/day
- Ice/Snow: 60/day

In the US, there are approximately 5.7 million vehicle crashes a year. About 22% of these crashes are weather related, with 73% of them happening on wet pavement (2005-2014 NHTSA data).
Why?

TxDOT Severe Weather Response

- Public Information
- Pre-Treatment/Treatment of roads
- ITS

Provide the travelling public with the most up to date information & keep roads as safe as possible
Severe Weather Initiative

How can severe weather alerts be provided to our operators?

- North Central Texas Council of Governments
- TxDOT
- National Weather Service
Lonestar Software

- Need to incorporate NWS alerts into Lonestar
- Integrate existing Environmental Sensor Stations into Lonestar
- Composition of message in response to Severe weather

- State owned software suite for TxDOT’s Advanced Traffic Management Software
- Houses CCTV, DMS, and Sensor devices
- Map driven platform for ease of use
- Licensing Agreements
• National Oceanic and Atmospheric Administration (NOAA) provides shape files with state and county boundaries.
• These contains alerts such as flooding, high winds, or winter weather
• Each County has a specific code

• Using these codes and the shape files, an alert can be defined and drawn
Event: Flood Warning

Alert:

...The Flood Warning continues for the following areas in Texas...
- East Fork Trinity River At McKinney Affecting Collin County
- Chambers Creek Near Rice Affecting Navarro County
- Trinity River At Dallas Affecting Dallas County
- West Fork Trinity River Near Boyd Affecting Wise County
- Denton Creek Near Justin Affecting Denton County
- The Flood Warning continues for the Trinity River At Dallas.

- At 0800 AM Wednesday the stage was 30.79 feet.
- Flood stage is 30 feet.
- Minor flooding is occurring and minor flooding is forecast.

- Forecast...The river will continue rising to a crest near 35 feet by Friday morning then begin falling but remain above flood stage.

Instructions: Do not drive cars through flooded areas. Caution is urged when walking near riverbanks. Stay tuned to NOAA All Hazards Radio for the latest river forecasts.

Target Area: Dallas

Forecast Office: NWS Dallas-Fort Worth (Dallas - Forth Worth)
Types of Alerts

- Tornado Warning/Watch
- Winter Storm Warning/Watch
- Winter Weather Advisory
- Severe Thunderstorms
- Flash Flood Warning/Watch
- Red Flag Warning
- Heat Advisory
- Dense Fog
- Extreme Wind Warning
- Freezing Rain Advisory
- Ice Storm Warning
- Shelter In Place Warning

- Subscribe by County
Messaging

Base Response Plan: ICE - STAGE 1

Message 1
- IH20 EB Bonnie View
- IH20 EB Duncanville
- IH20 EB Hampton
- IH20 EB Mountain Creek
- IH20 WB Cedar Ridge
- IH20 WR Fish Creek

DMS Message Info
- Proposed Message
- WX Advisory: 50
- Beacons: Pending

ICY CONDITIONS MAY EXIST

TORNADO WARNING IN THIS AREA
TORNADO WARNING FOR MORE INFORMATION TO LOCAL RADIO
• Working with Brownwood District, TxDOT was able to install cameras and DMS at Ranger Hill on IH 20

• Planning on adding more 3 more DMS on WB IH 20 and identifying needs on EB side
Weather Stations

- San Antonio has installed Flood Sensor/Weather Stations
- Integrated into Lonestar
- When the road is flooded, the master unit automatically deploys the gate and beacons.
Weather Stations

- Mounted on a pole with a camera.
- Barometer, wind gauge, infrared to measure pavement temperature

- 2 will be installed on IH 30 between IH 35W and IH 820 (let Sept ‘17)
- Will eventually be integrated into Lonestar Software
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