



Responding to Dust Storms on State Highways

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Response Strategies

- Preparation
- Field Tactics
- Technology
- Public Education

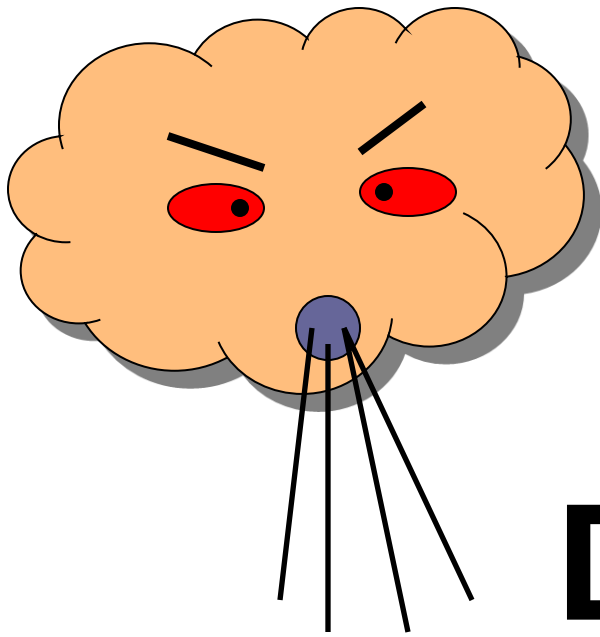
Preparation

- Alert & trained DOT crews & DPS patrol officers
- Experience: location, season, conditions
- Weather reports: forecasted wind speed, gusts, & direction
- Communication protocol
- Ready to go?

Field Tactics

- Patrolling & reporting observations
- Slow & go or close & detour?
- Overhead variable message signs (DMS)
- Arizona & New Mexico coordination





**Do We Need a
Dust Storm
Warning System?**

Technology

FHWA & ADOT Partnership

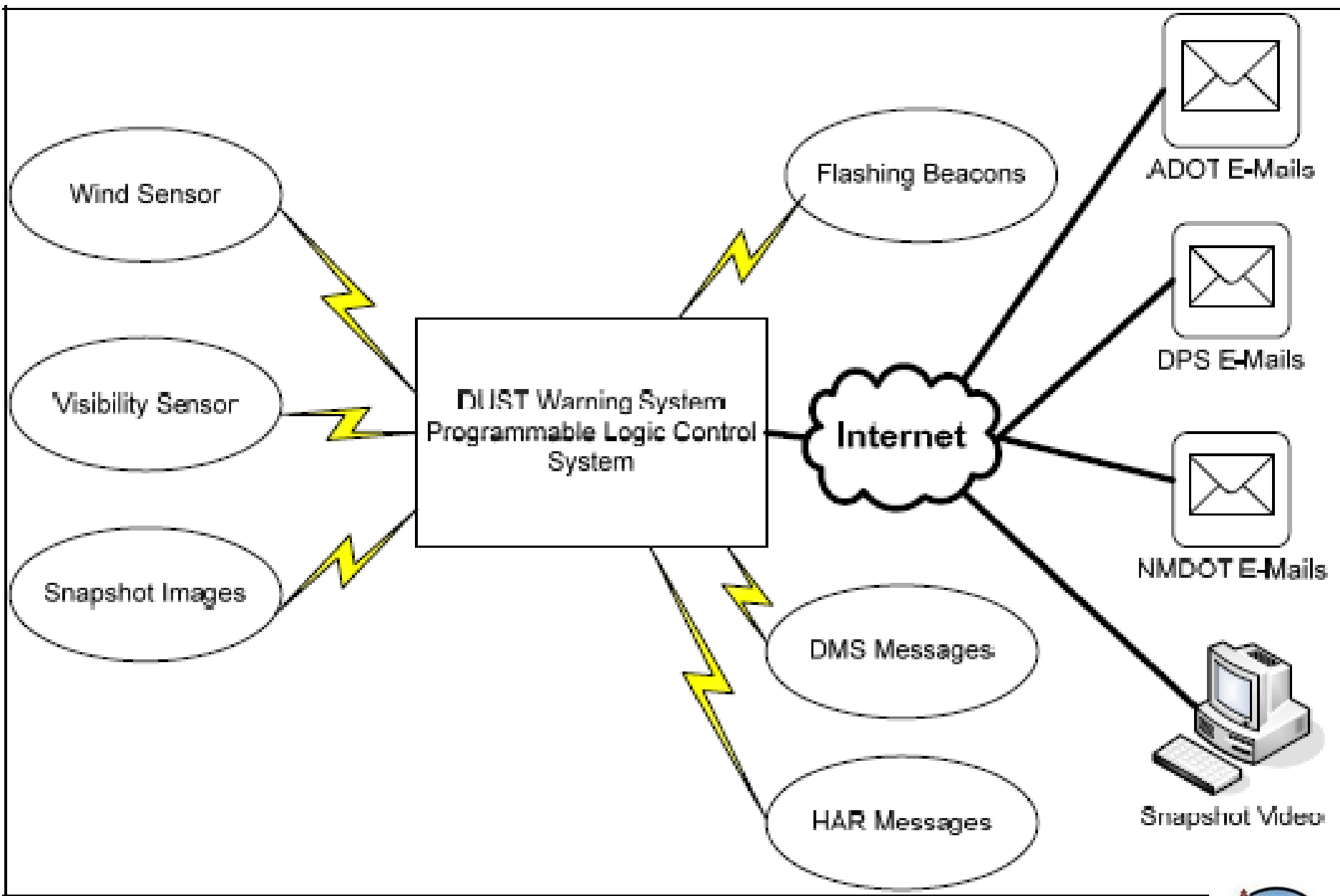
- Rural Innovation Safety Grant
- \$600,000 in 2008
- Installed in 2011; one year evaluation



Technology

Sensory Instrumentation

- RWIS
 - Wind speed: average & gusts
 - Wind direction
 - Visibility
- Cameras



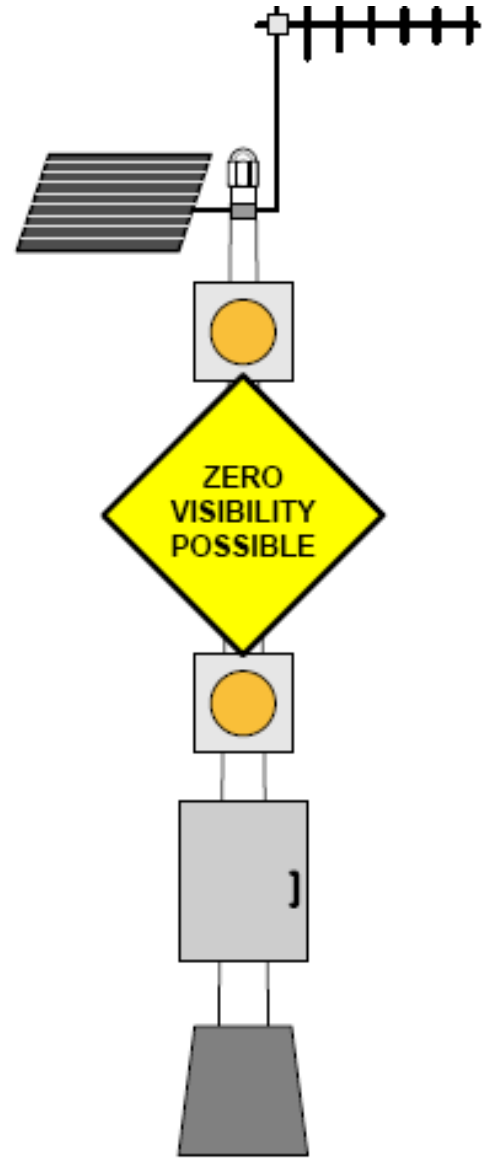


Dragoon <input type="button" value="Camera"/>	Temp 75.4 ° 	Barometer (InHg) 25.05 	Relative Humidity 43.96 % 	Wind Speed 4 MPH Visibility (mi.) 	Wind Direction SW 	Dew Point 56.8 ° 	Precipitation Type None Precipitation Rate 0.00 in/hr
	<input type="button" value="Beacon Control"/>	<input type="button" value="EB Beacons"/> <input type="button" value="WB Beacons"/>	Setpoints: Wind / Visibility 	Wind Speed 8 MPH Visibility (mi.) 	<input type="button" value="HAR Control"/> <input type="button" value="HAR Status"/> HAR Wind Warning <input type="button" value="On"/> HAR Dust Warning <input type="button" value="On"/>	<input type="button" value="HAR Beacon"/>	<input type="button" value="DMS Control"/> <input type="button" value="DMS Status"/> DMS Wind Warning <input type="button" value="On"/> DMS Dust Warning <input type="button" value="On"/>
Bowie <input type="button" value="Camera"/> <input type="button" value="Off Delay"/> 1 Min.	<input type="button" value="Auto"/> <input type="button" value="On"/>			3 MPH 	<input type="button" value="Auto"/> <input type="button" value="On"/> <input type="button" value="On"/>	<input type="button" value="On"/>	<input type="button" value="Auto"/> <input type="button" value="On"/> <input type="button" value="On"/>
San Simon <input type="button" value="Camera"/> <input type="button" value="Off Delay"/> 1 Min.	<input type="button" value="Auto"/> <input type="button" value="On"/>			5 MPH 	<input type="button" value="Auto"/> <input type="button" value="On"/> <input type="button" value="On"/>	<input type="button" value="On"/>	<input type="button" value="Auto"/> <input type="button" value="On"/> <input type="button" value="On"/>
Olga Road <input type="button" value="Camera"/> <input type="button" value="Off Delay"/> 1 Min.	<input type="button" value="Auto"/> <input type="button" value="On"/>						
Arizona Department of Transportation Highway Dust Monitoring System							

Technology

Warning the Public

- Static signing
- Signing with flashing lights
- Dynamic message signs
- HARS



Technology

Informing the Agencies

- Email to ADOT, DPS, & NMDOT
- Data collection
- TOC

Technology

Issues

- Snap shot with very localized view
- HARS questionable
- Reliability of instrumentation & com gear
- Capital + O&M costs
- Budgets, B/C Ratios
- Crews gone home & not checking email
- Both accidents & weather are random
- Needs further evaluation!

Public Education

- Public Service Announcements thru commercial radio, ADOT internet, etc.
- Roadside warning signs





Questions?