



Delaware Department
of Transportation

Delaware's Integrated Transportation Management System

presented by

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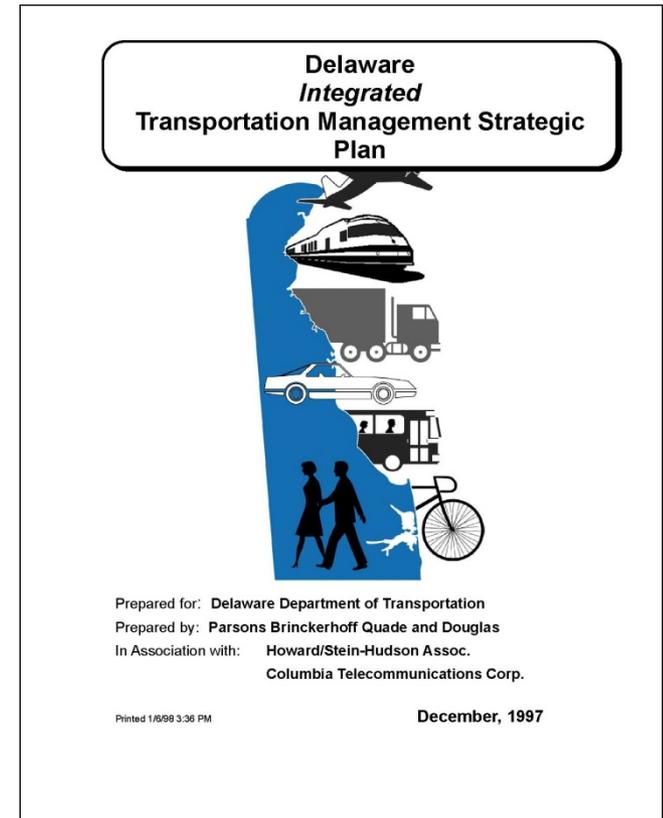
Chief Traffic Engineer

Integrated Transportation Management Program

- 24/7/365 Statewide Transportation Management Center (TMC)
- Integrated Transportation Management System (ITMS) – planning, design, implementation, operations and maintenance of statewide intelligent transportation system (ITS)
- Transportation Incident and Event planning and operations
- Transportation Homeland Security planning and operations
- Project Specific Transportation Management Plans

Integrated Transportation Management Strategic Plan (1997)

- Required a foundation for a shared mission and vision between all of Delaware's Transportation Management System stakeholders.
- The plan defined Delaware's Transportation Management:
 - Mission
 - Vision
 - Goals
 - Strategies for Implementation
- Defined a Statewide Transportation Management Program managed from a central transportation management center (TMC).



Transportation Management Program Priorities

FY11-15:

- Expand the Statewide Signal System and Transportation System Monitoring Devices
- Transportation Homeland Security and Incident Management
- Providing Customer Information
 - Agency to Agency
 - Media
 - Public
- Transit Schedule Adherence System
- Telecommunications

Transportation Management Center (TMC)

- 24/7/365 Statewide Operation
- Coordinates DeIDOT's response to any incident or event that impacts Delaware's multimodal transportation system
- Plans, Monitors and Controls all ITMS intelligent transportation systems
- Transportation Incident and Emergency Management Planning and Operations
- Transportation Homeland Security Planning and Operations



Critical Functions

Monitoring

- *How long is the back-up?*
- *Did the tow truck arrive?*

Control

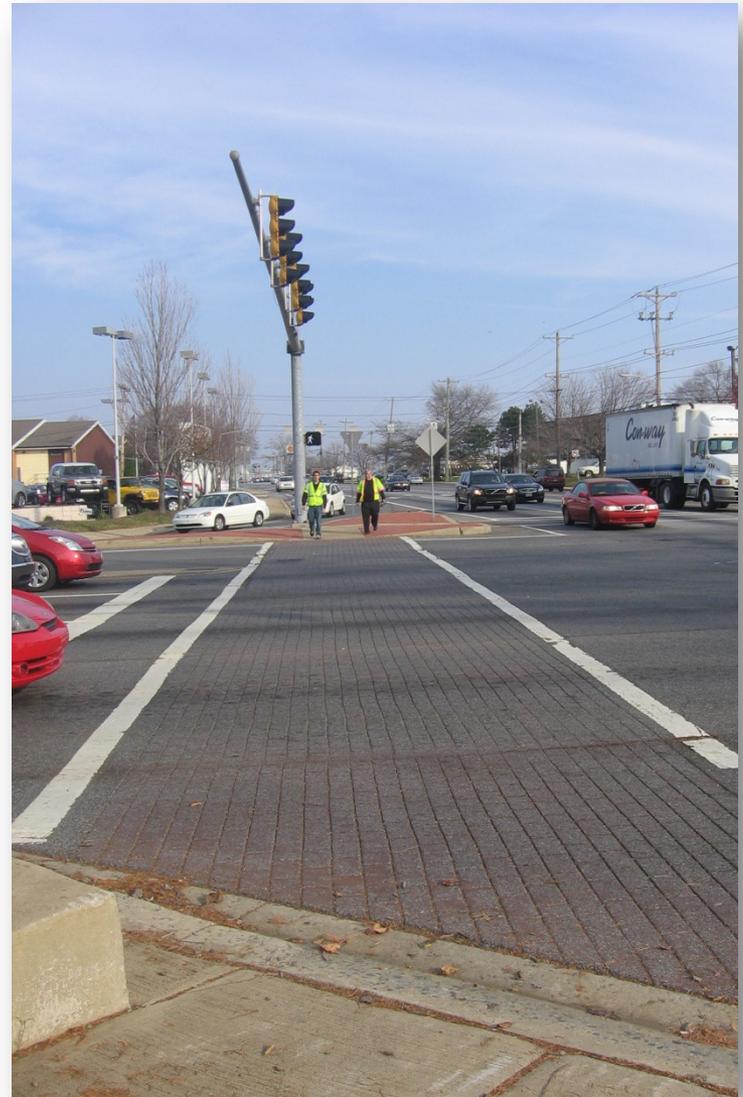
Information

- *Adjust traffic signals to manage the detour route*
- *Staff on scene to control traffic*

- *Is the public informed?*
- *Have conditions changed?*

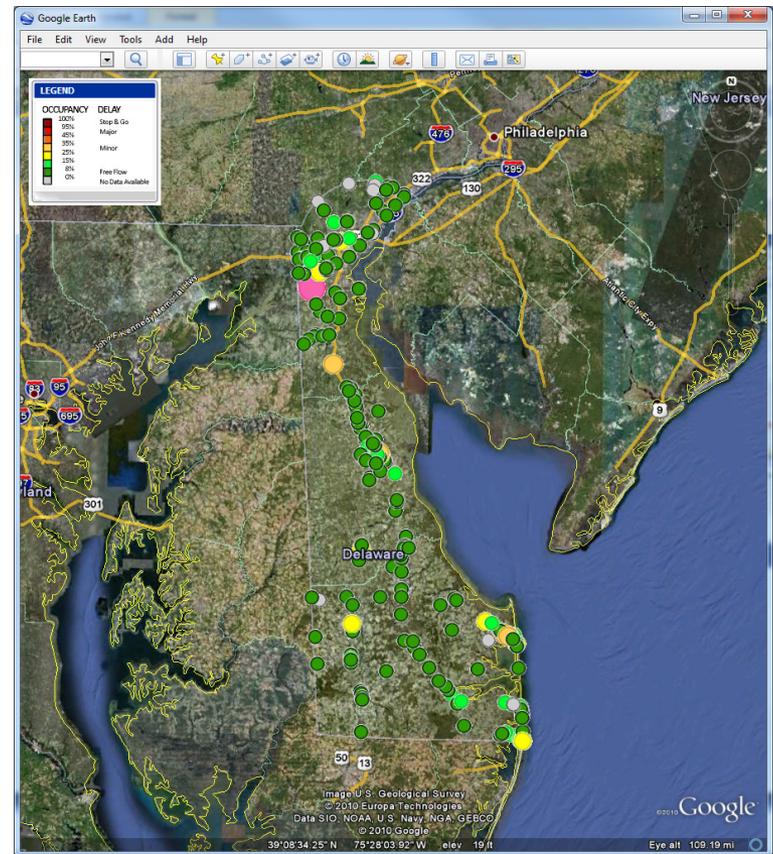
Traffic Signal Operations

- Signal Optimization Projects
- TACTICS Conversion
- Communications
- Evacuation Routes



Transportation System Monitoring

- Statewide Electronic Monitoring Network – Fixed and Portable:
 - Video Monitoring System
 - Roadway Weather Information System (RWIS)
 - Signal System Loop Detectors
 - Microwave (Radar) Detection on Freeways
 - Automated Traffic Recorders statewide
 - Bluetooth Detection
 - Near real-time road status
 - 400+ locations and growing



Monitoring Systems

Traffic

- Traffic Volume
- Occupancy
- Speed
- Classification
- Travel Time
- Origin and Destination

- Real-time
- Predictive

Weather

- Air Temperature
- Barometric Pressure
- Relative Humidity
- Precipitation Type & Volume
- Pavement Temperature
- Subsurface Temperature
- Pavement Surface Dry, Wet, Ice
- Stream & River Depth and Velocity
- Tide Height

Transit Schedule Adherence System

Transit Schedule Adherence and AVL System

- Fixed Route
- Paratransit
- Bus Stop Electronic Message Signs
- Web
- 511

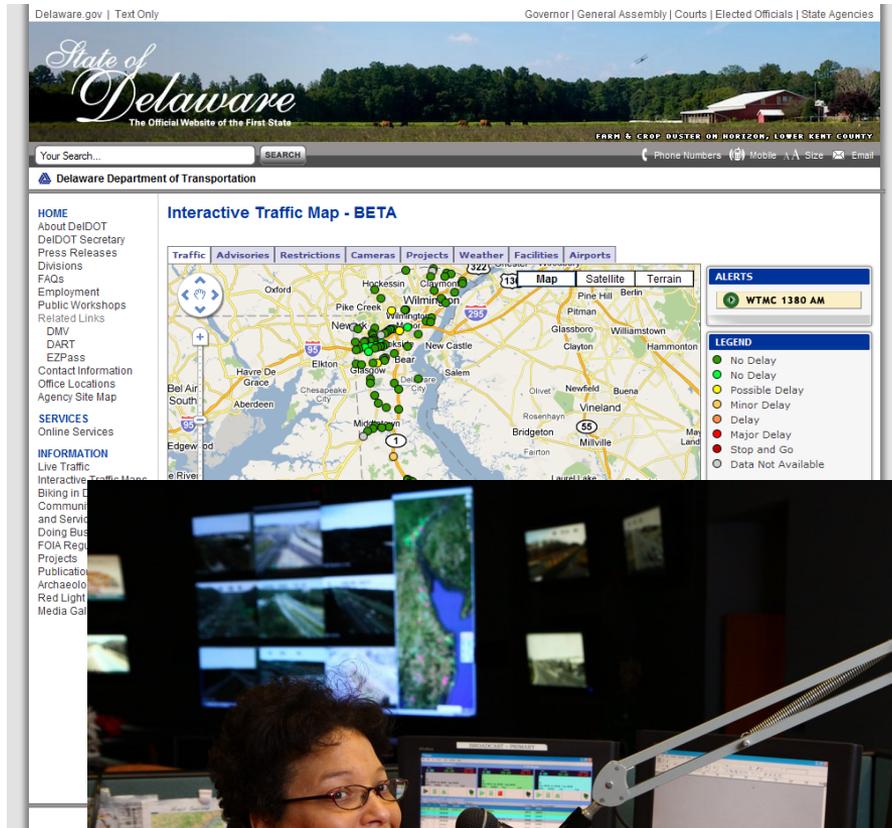


Delaware 511 Plus

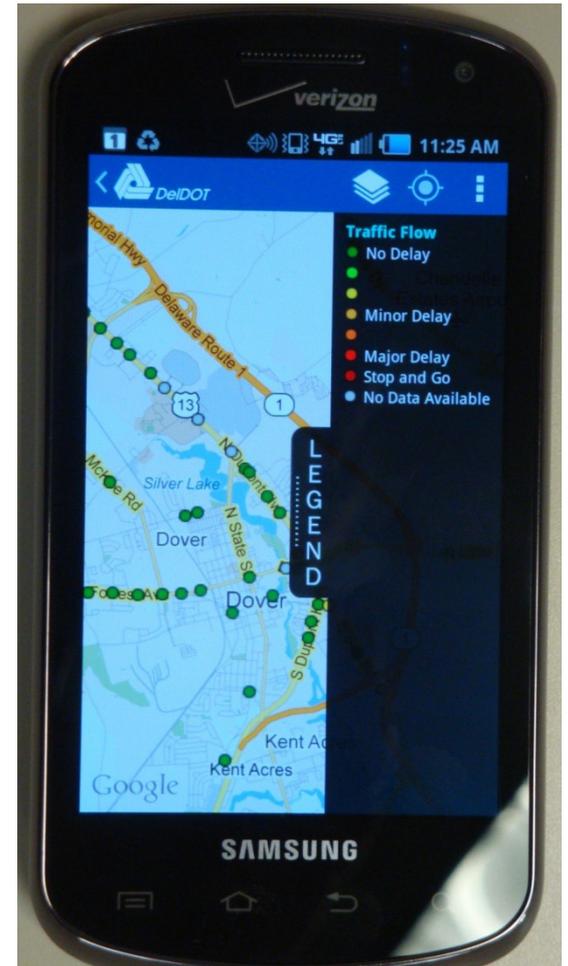
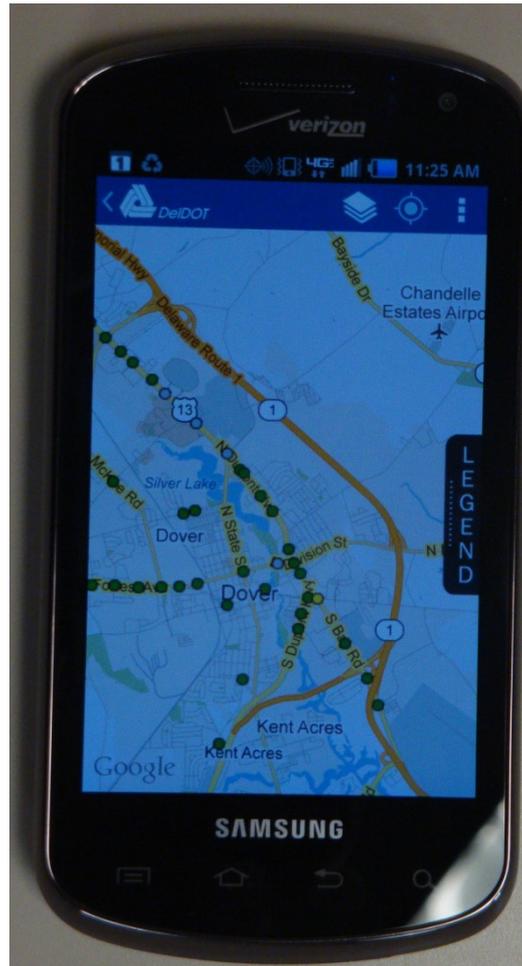
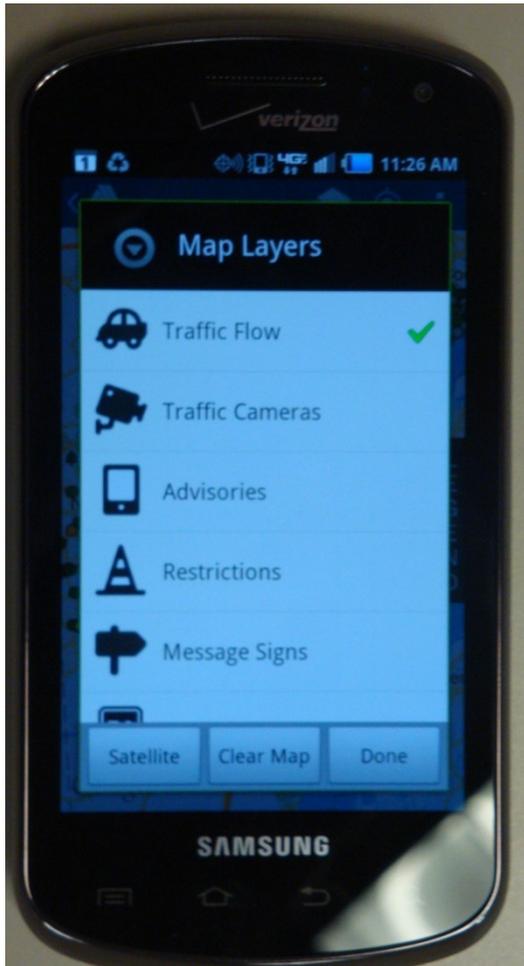
- Vendor selected
- Single Portal for all Traveler Information Statewide
 - Voice Recognition System
 - Multi-Modal (Traffic and Transit)
 - Telephone, Web and Mobile access
 - Customer Notifications and Alerts
 - Location Based
- Personalized Traveler Services / My511

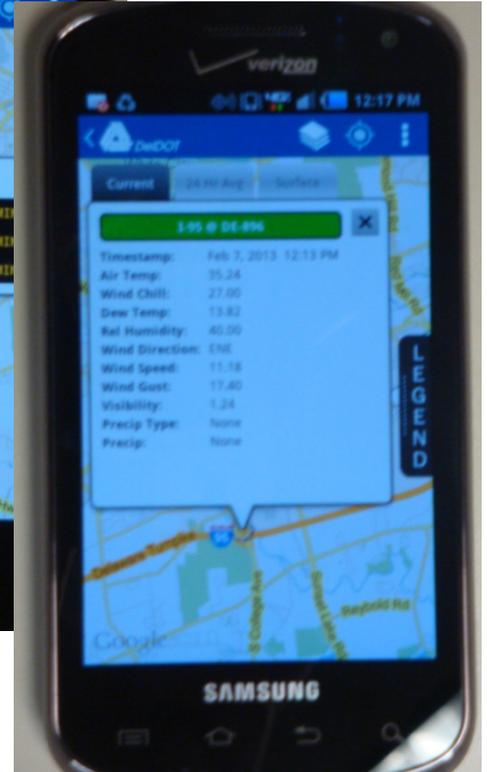
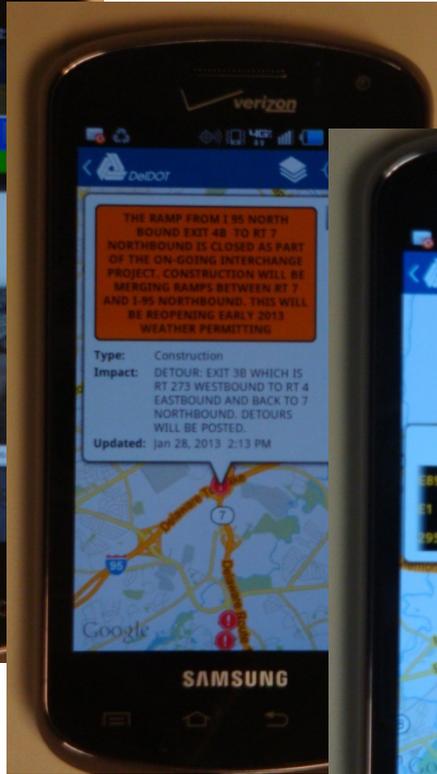
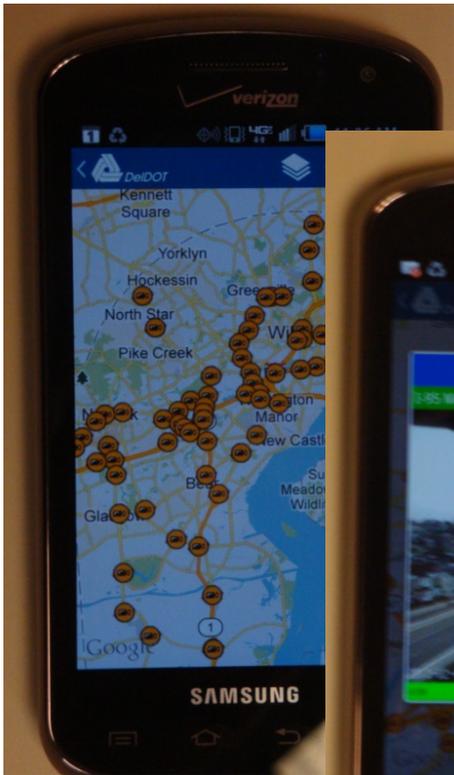
Real-Time Traveler Information

- **WTMC 1380 AM – primary license**
 - Synchronized Repeater Sites being installed statewide
- **Real Time Web Site**
 - <http://www.deldot.gov>
 - Interactive Traffic Maps
 - Incidents, cameras, closures, roadway weather, traffic delay
 - Freeway Travel Times
 - Arterial Travel Times (coming soon)
 - <http://deldot.gov/mobile>
 - Live Traffic Cameras
 - WTMC 1380 AM
- **Twitter, Facebook**
- **Smartphone Applications**
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- **Electronic Changeable Message Signs**









Transportation Homeland Security and Incident Management

- Monitoring of Work Zones, Emergencies and Planned Events
 - Portable Microwave Detector
 - Portable WTMC (1380 AM) Travelers Advisory Radio
 - Video Monitoring
 - Fixed Locations
 - Portable Video Monitoring System

Transportation Homeland Security and Incident Management

- Portable Monitoring of Work Zones, Emergencies and Planned Events



CMS



Radar Detector



Video Camera



WTMC 1380 AM

Management of Major Weather Events

- Roadway Weather Information System (RWIS)
- Developing specifications for enhanced hydrological statewide monitoring system.
- Transportation Incident and Event Management Plan (TIEMP)
- Evacuation Plans
- Statewide Weather Monitoring Working Group



Hurricanes Irene & Sandy

- Decisions based on real time and accurate data
 - Volumes
 - Delay
 - RWIS weather data
 - Bridge closures
 - Signal System automatically adjusted to demand on evacuation routes

Contacting DeIDOT TMC

– Telephone

- 302-659-4600
- 1-800-324-8379
- #77 (From Cell Phone in Delaware)

– FAX

- 302-659-6128

– Email

- TMC1@state.de.us (Critical)
- deldottmc@state.de.us (non-critical)