

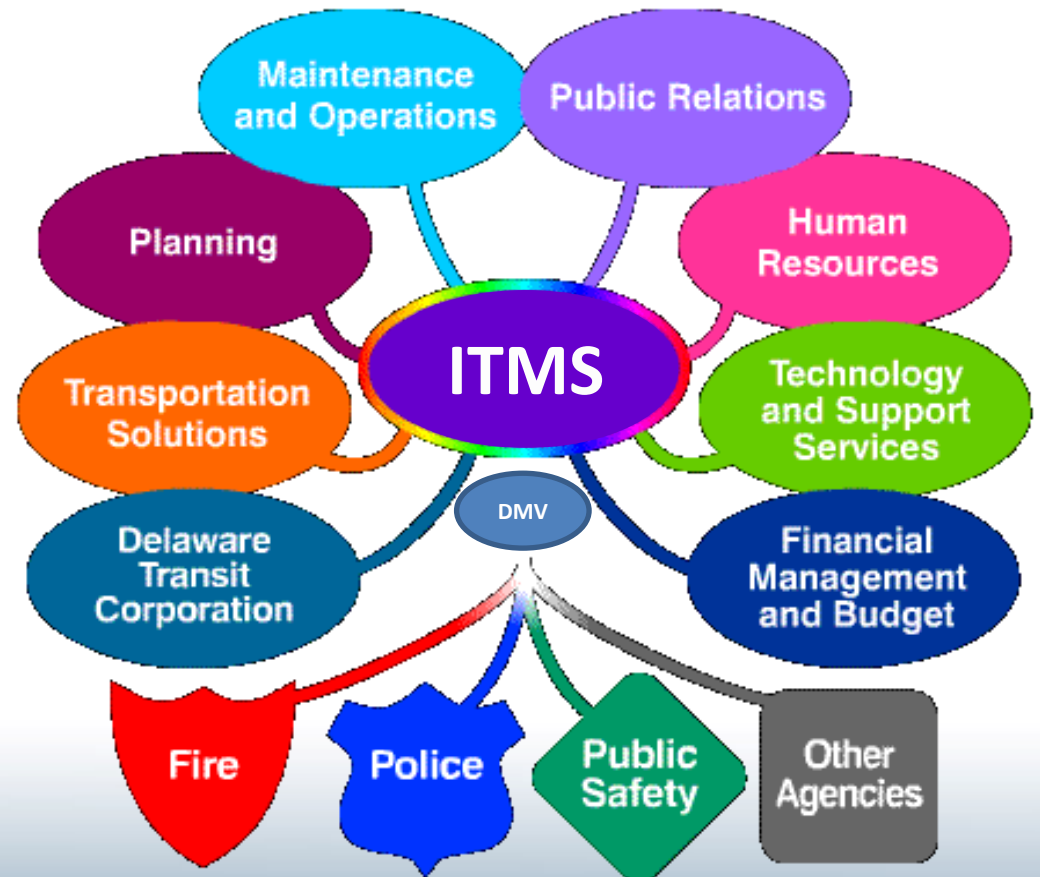


# Delaware Department of Transportation Transportation Management Program

*Delmarva Freight & Goods Movement Task Force Meeting*

*December 4, 2013*

- ITMS Background
- Relationship to Freight and Goods Movement
- ITMS priorities





# Transportation Management Program Background

# What is ITMS?



Answer: *Delaware's Integrated Transportation Management System*

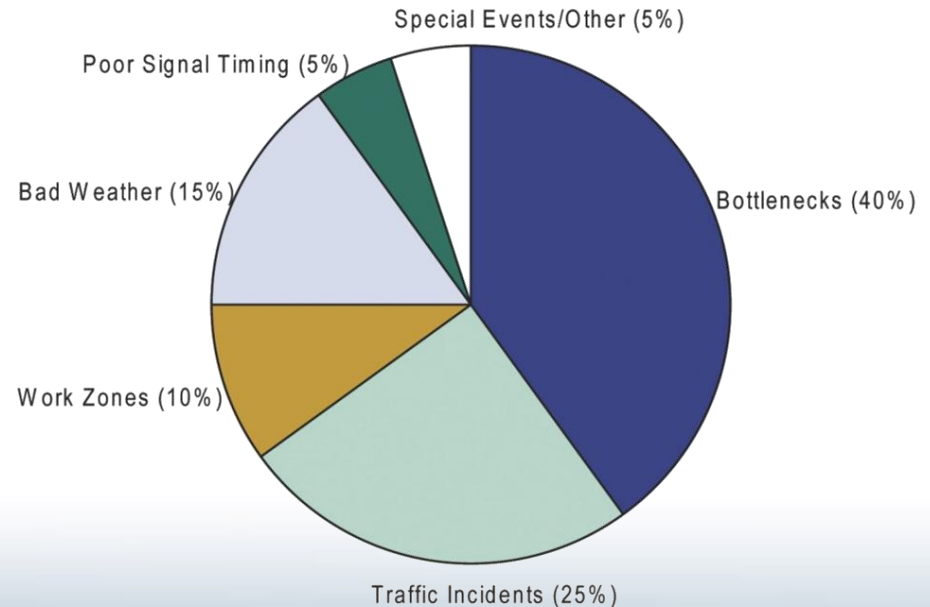
- ITMS is Delaware's ITS program. Delaware emphasizes ***integration*** and ***management***, just as much as ***technology***.

# Congestion is Increasing Faster than Capacity...

...and most congestion (60%) is for reasons other than a traditional “bottleneck”.

*In 2010, the nation spent 4.8 billion hours and 1.9 billion gallons of fuel sitting in traffic, which resulted in a congestion cost of \$101 billion dollars*

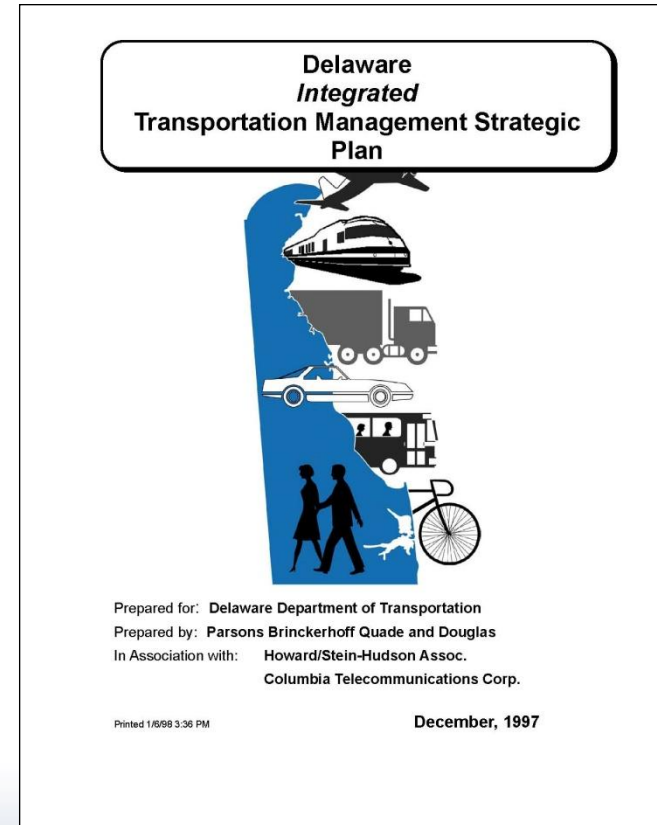
*2011 Urban Mobility Report, Texas Transportation Institute*



*Note: Based on latest available information*

# 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).

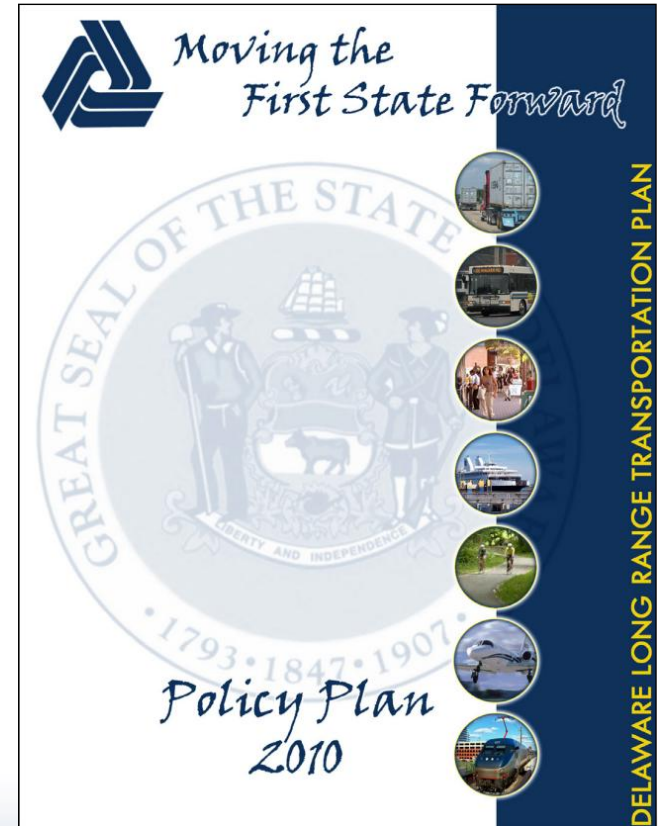


# Delaware Long Range Transportation Plan 2010

## Policy Principle #4:

### Cost-Effective Objectives:

- “Use cost-effectiveness as a key indicator when prioritizing projects or choosing among alternatives optimizing the investment of resources across all modes and balancing fiduciary responsibilities”
- “Maintain and use existing resources and equipment as a means toward cost effectiveness”
- “Take advantage of technology as a means of providing efficient service”



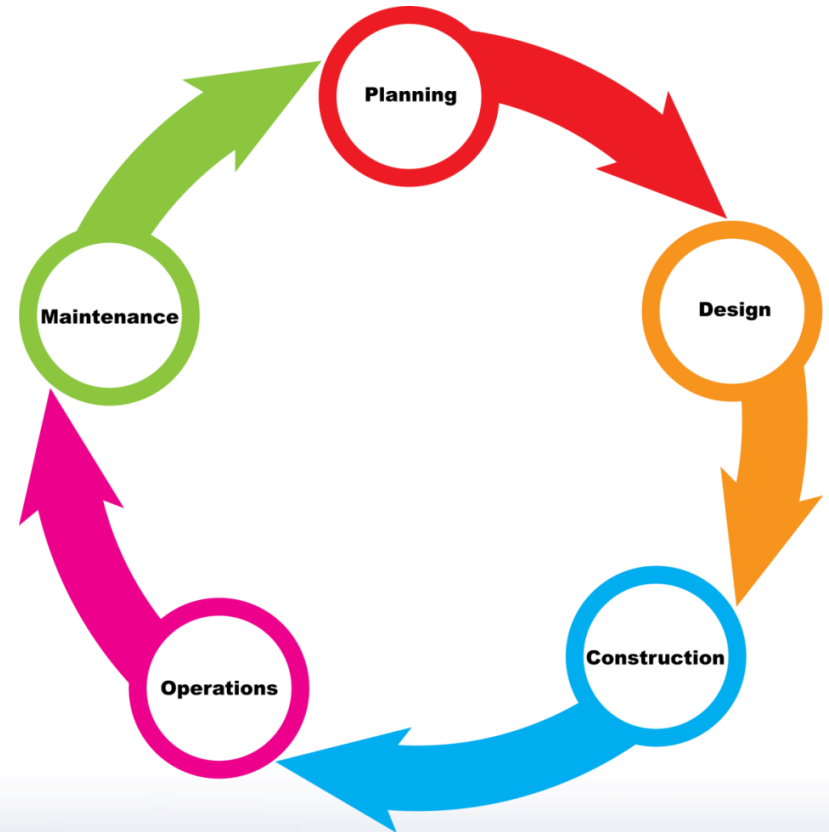
- Designing for Operations
- Active Traffic Management and Managing Travel Demand (ATDM)
- Every Day Counts
- Planning for Operations
- Real-Time Traveler Information
- Road Weather Management





# Transportation Management Program

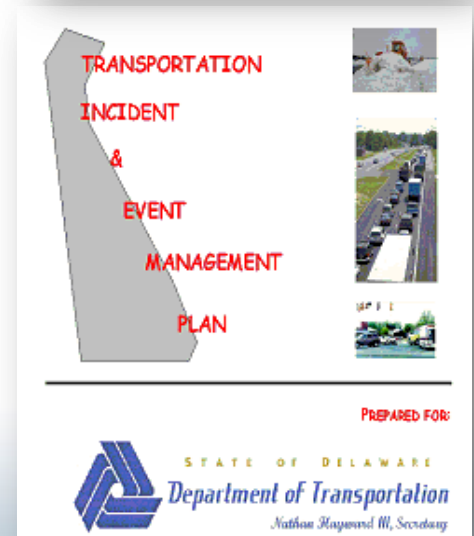
- Capital Transportation Program (CTP) Project includes:
  - 24-hour statewide Transportation Management Center (TMC)
  - Integrated Transportation Management System (ITMS) – planning, design, implementation, operations and maintenance of statewide intelligent transportation system (ITS)
  - Transportation incident and event planning and operations
  - Transportation Homeland Security planning and operations



# Transportation Management Operational Concept

## Transportation Incident and Event Management Plan (TIEMP)

- Defines how DeIDOT will operate during incidents and events.
- Establishes the Transportation Management Team (TMT) concept.
  - Provides for the safe movement of persons and vehicles from the affected area(s).
  - Provides access for emergency responders.
- Defines the responsibilities and guidelines for TMTs.
  - Communication
  - Response
  - Resources



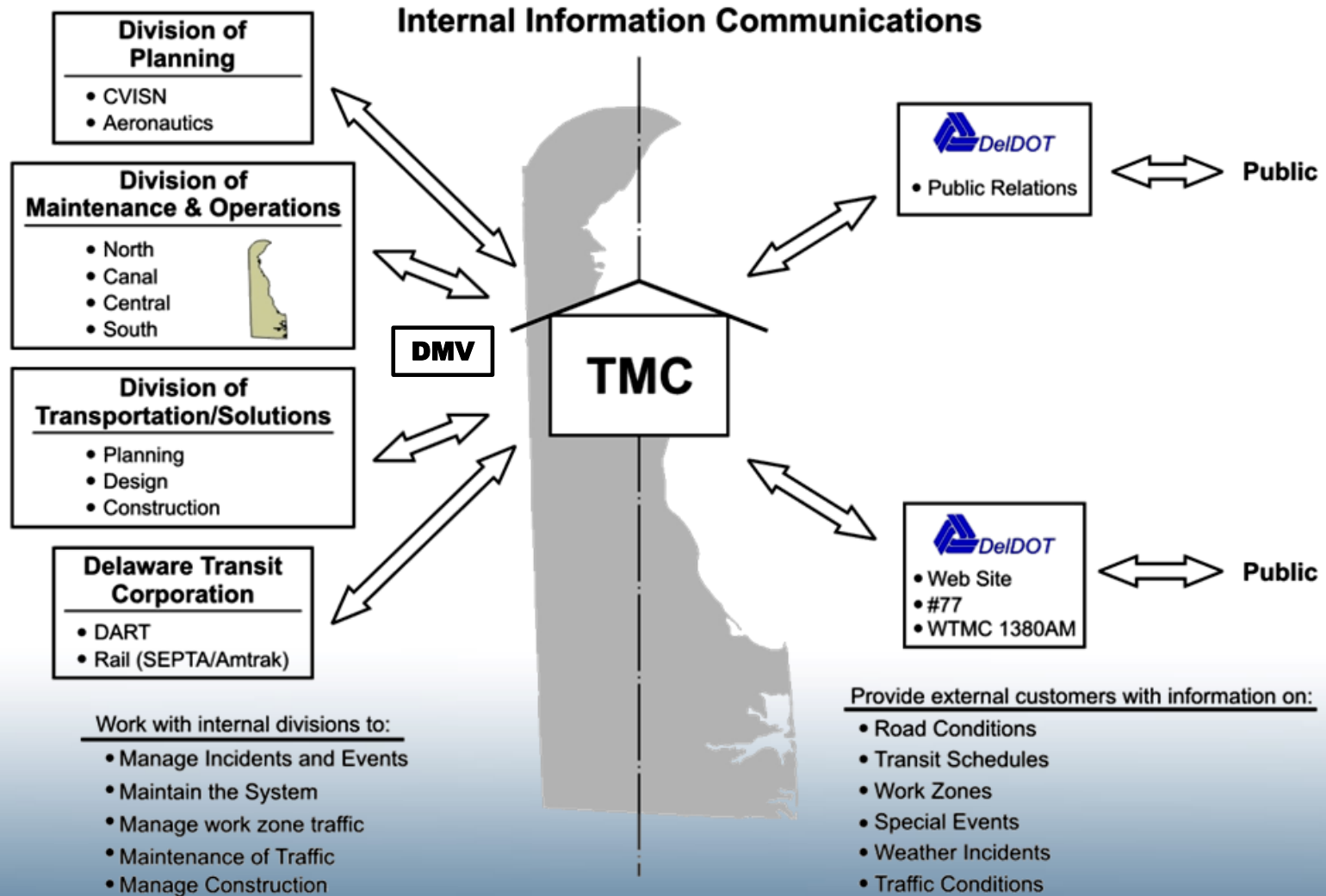
*This plan is available online – look for “Project Documents”*  
<http://tmt.deldot.gov>

# Transportation Management Center (TMC)

- 24/7 statewide operation
- Coordinates and manages DeIDOT's response to any incident or event that impacts Delaware's multimodal transportation system
- Monitors and controls all ITMS intelligent transportation systems
- Transportation incident and emergency management planning and operations
- Transportation Homeland Security planning and operations

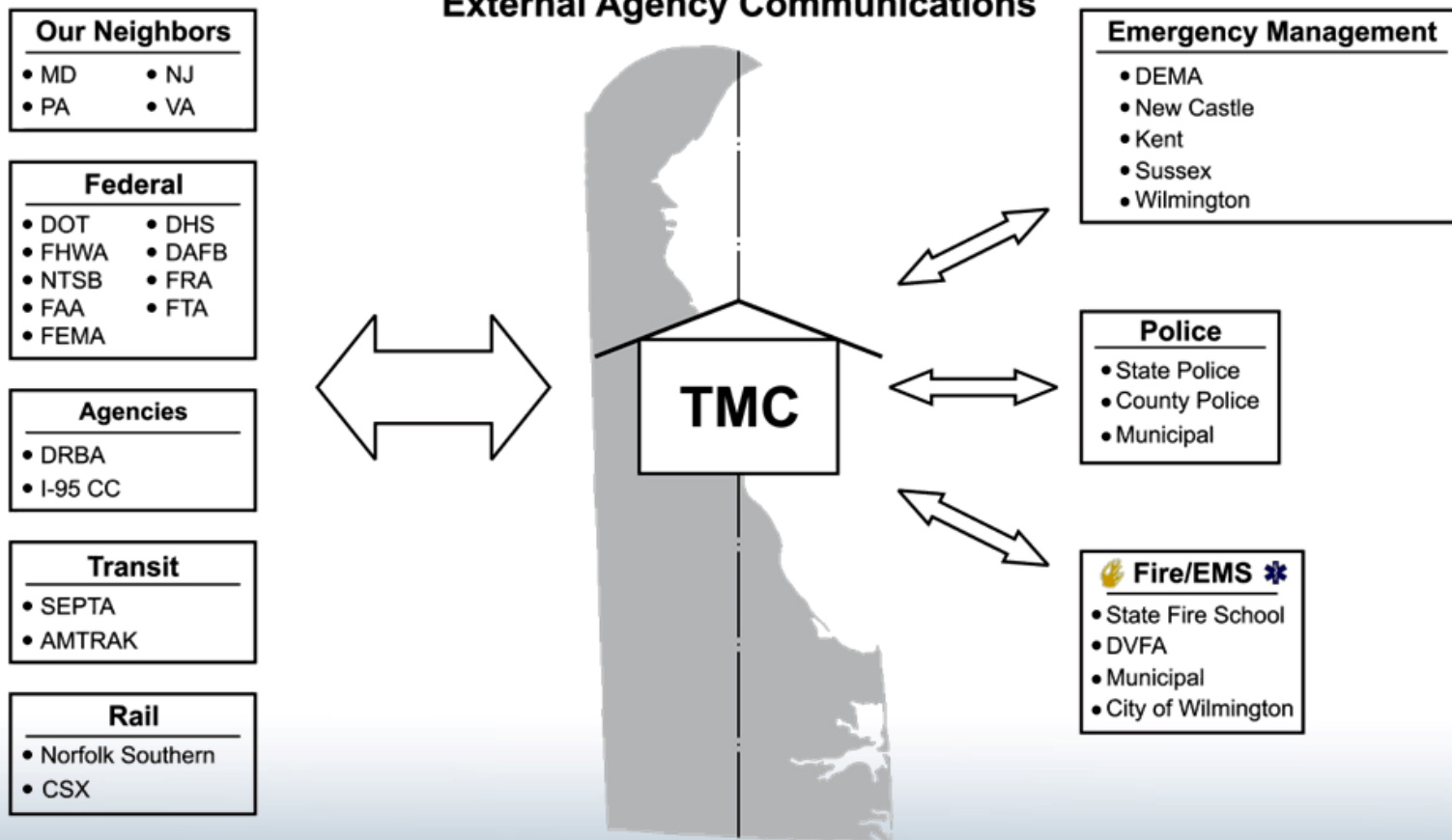


# ITMS Relationships - Internal



# ITMS Relationships - External

## External Agency Communications



Work with external agencies to share information and to manage Incidents, Events and Homeland Security Issues.

Work with Police, Fire/EMS and Emergency Management Agencies to manage incidents, Events and Homeland Security issues.

# The TMC Performs Three Critical Functions

## Monitoring

*Did the tow truck arrive?*

*Have conditions changed?*

## Control

*Adjust traffic signals to manage the  
detour route*

*Staff on scene to control traffic*

## Information

*Is the public informed?*

*Have conditions changed?*



# Relationship to Freight and Goods Movement

# Transportation Management Benefits All Travelers

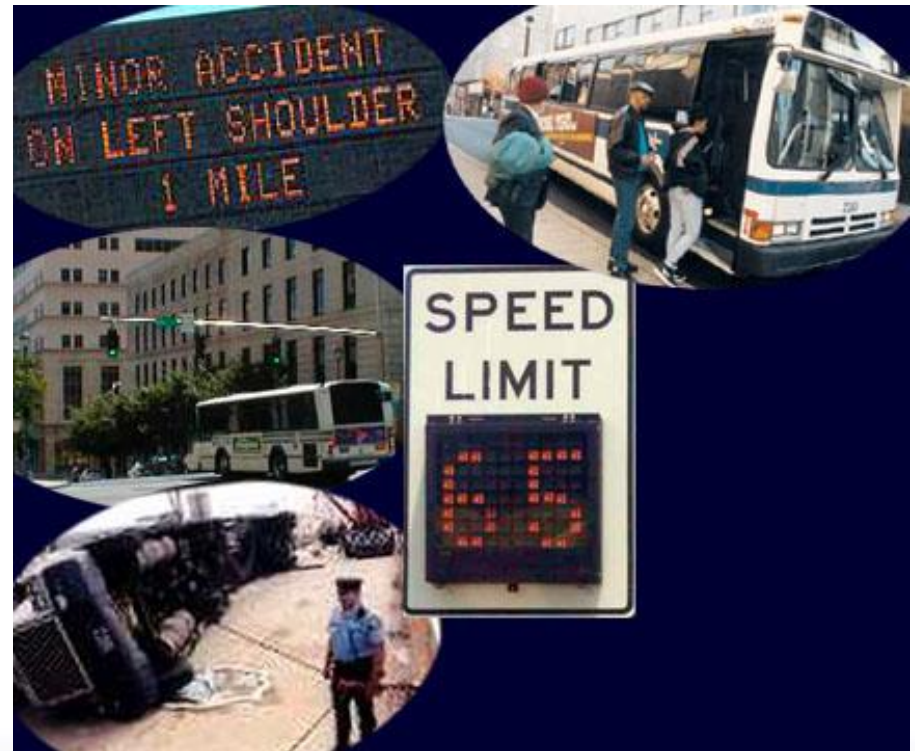
- 24-7 Operations
  - Control
  - Monitoring
  - Information
- Planning and Teamwork
  - Transportation Management Teams
  - Incident Plans and Procedures





# Control Systems

- Traffic signal system
- Transit schedule adherence/AVL system
- Gate control monitoring
- Variable speed limit sign system
- Incident/event management system
- “Back office” administration



- CVISN is a collection of state, federal, and private information systems and communications networks that support commercial vehicle operations in three key areas:
  1. **Electronic Credentialing:** Allows carriers to apply for and receive credentials electronically
  2. **Safety Information Exchange:** Improves the exchange of safety and credential information among state agencies and between states & FMCSA
  3. **Electronic Screening:** Automatically screen vehicles at roadside and allow safe and legal vehicles to bypass weigh stations without stopping (*E-ZPass* for trucks)

- Integrates Commercial Vehicle Registration Process and Motor Carrier Safety Improvement Process (MCSIP)
  - Identify motor carriers and hold responsible for safety of their operations
  - Track performance of unsafe carriers
  - Treatment ranges from “Warning Letters” to **revocation of registration** for unsafe carriers by State of Delaware & FMCSA

# CVISN Vision: Safe & Efficient Shipping Operations



**Automated Fleet and Freight Administration**

HAZMAT

**Electronic Tag  
Mobile Comm  
Safety Equipment**

**Onboard Computer  
Onboard Monitors  
Onboard Navigation**

**"Paperless" Vehicle**

**Electronic Screening**

Weigh-In-Motion

**Seamless Intermodal Operations**

**Automated Inspections**

**International Border Clearance**



- **Traffic**

- Traffic volume
- Occupancy (delay)
- Speed
- Classification
- Travel time
- Origin and destination
- Real-time
- Predictive

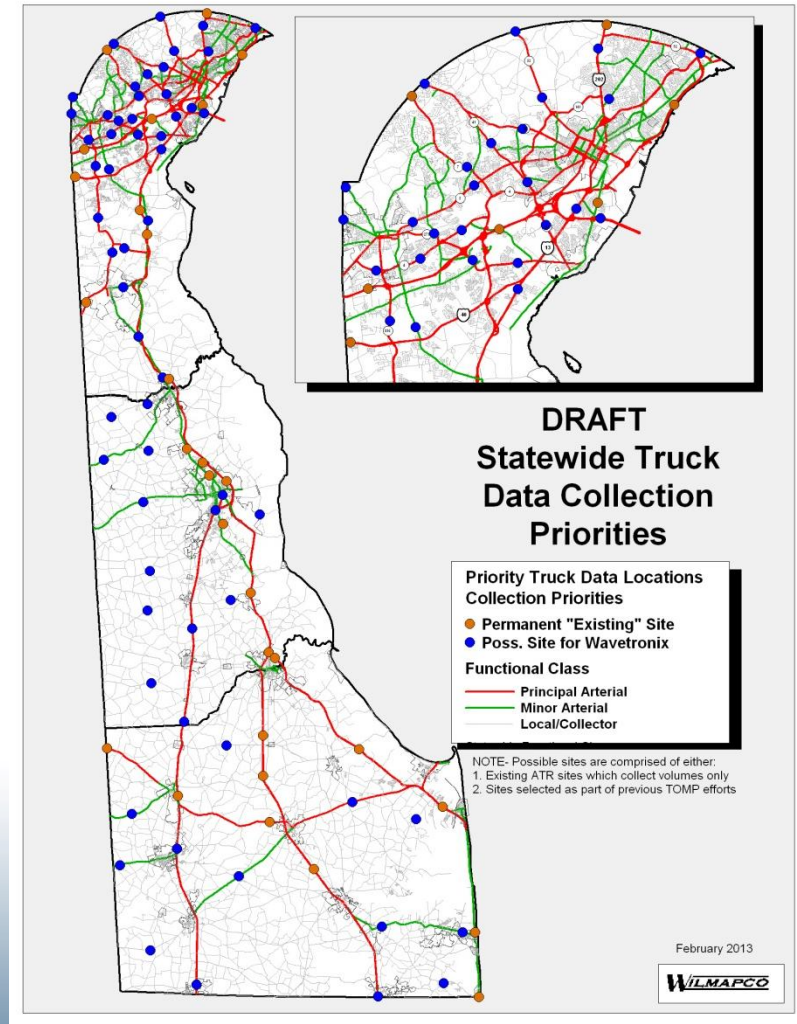
- **Weather**

- Air temperature
- Barometric pressure
- Relative humidity
- Precipitation type & volume
- Pavement temperature
- Subsurface temperature
- Pavement surface
  - Dry, wet, ice
- Stream & river
  - Depth & velocity
- Tide height



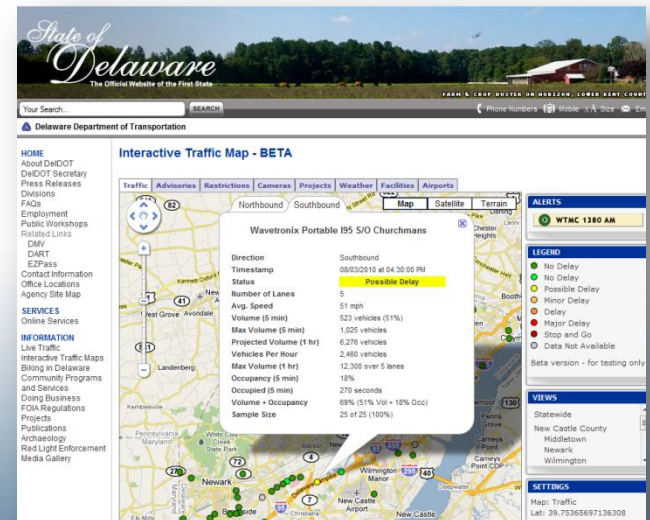
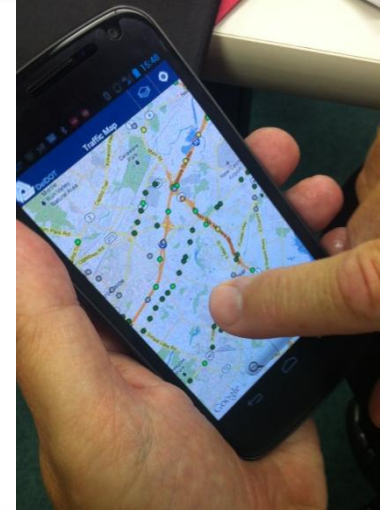
# Freight Traffic Monitoring

- Truck data types
  - Length
  - FHWA classification (by axle)
  - Weight
- Frequency of collection
  - Full-time/real-time
  - Full-time/historical
  - Temporary studies



# Providing Customer Information

- WTMC 1380 AM – primary license
  - Statewide synchronized repeater sites
- Real-time website
  - <http://www.deldot.gov>
  - Interactive traffic maps
    - Incidents, cameras, closures, roadway, weather, traffic delay
    - Freeway travel times
  - <http://deldot.gov/mobile>
  - Live traffic cameras
  - WTMC 1380 AM
- Twitter, Facebook
- Smartphone applications
  - Android and iPhone
- Electronic Changeable Message Signs





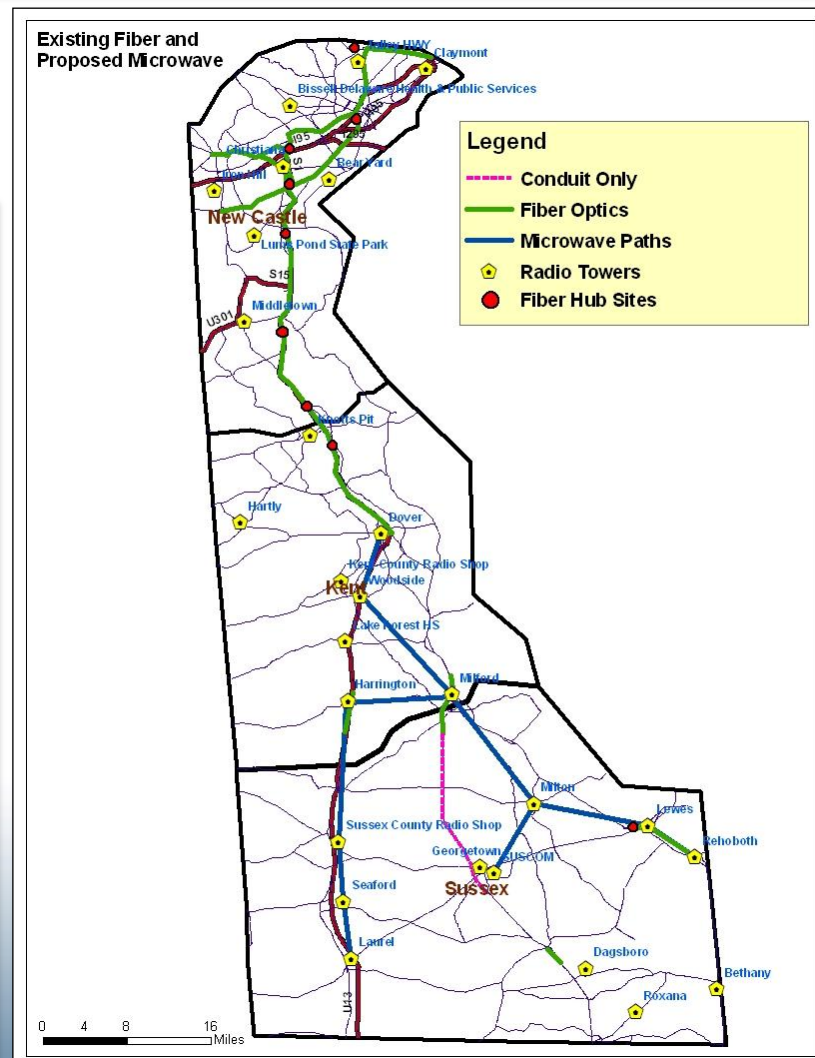
# Multi-Agency Electronic Information Exchange

- Email groups
- New world Computer Aided Dispatch (CAD)
- Incident master
- Electronic Operations (EOPS) application
- Smartphone applications
- Extranet



# Statewide Telecommunications

- Fiber and wireless:
  - Field devices
  - TMC
  - Emergency Operations Centers
  - State police barracks
  - DeIDOT buildings
  - Other states



# Transportation Homeland Security and Incident Management

- Partnerships and relationships
  - Continue improving transportation management teams
  - Delaware Intelligence Analysis Center (DIAC)
  - Continue regional coordination
    - I-95 Corridor Coalition
    - Integration with adjoining states (MD, PA, NJ)
  - Event planning
- Training
  - TMC staff
  - DeIDOT 1<sup>st</sup> responders



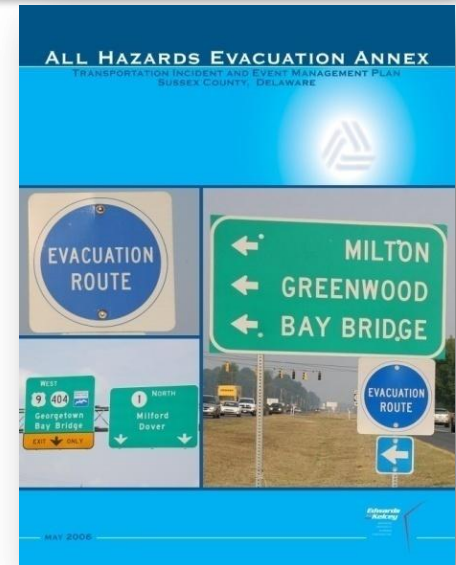
# Transportation Management Teams

- Multiagency responders collaborating on transportation-related incident management
- Meetings to discuss incidents, construction projects, detours, special initiatives
- Improving incident management reduces congestion and travel delay



# Because of These Relationships

- ITMS is critical for planning and managing:
  - Emergencies
  - Evacuations
  - Planned Special Events

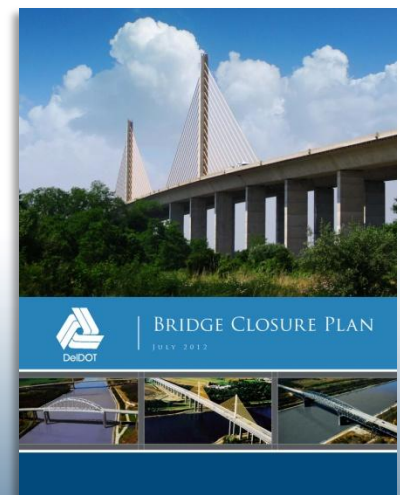
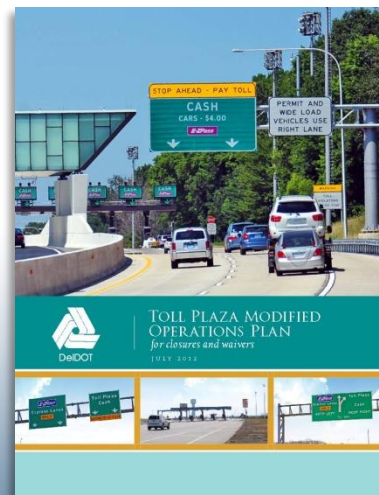
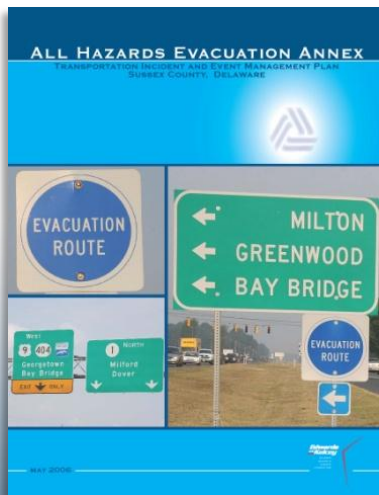


DOVER INTERNATIONAL SPEEDWAY



# Incident Plans and Procedures

- Response plans for natural/manmade events
- Emergency operations and communications
- Routing, detour, and traveler information to facilitate the movement of people and goods



# Transportation Homeland Security and Incident Management

- Portable monitoring of work zones, emergencies and planned events



VMS



Radar Detector



Video Camera



WTMC 1380 AM



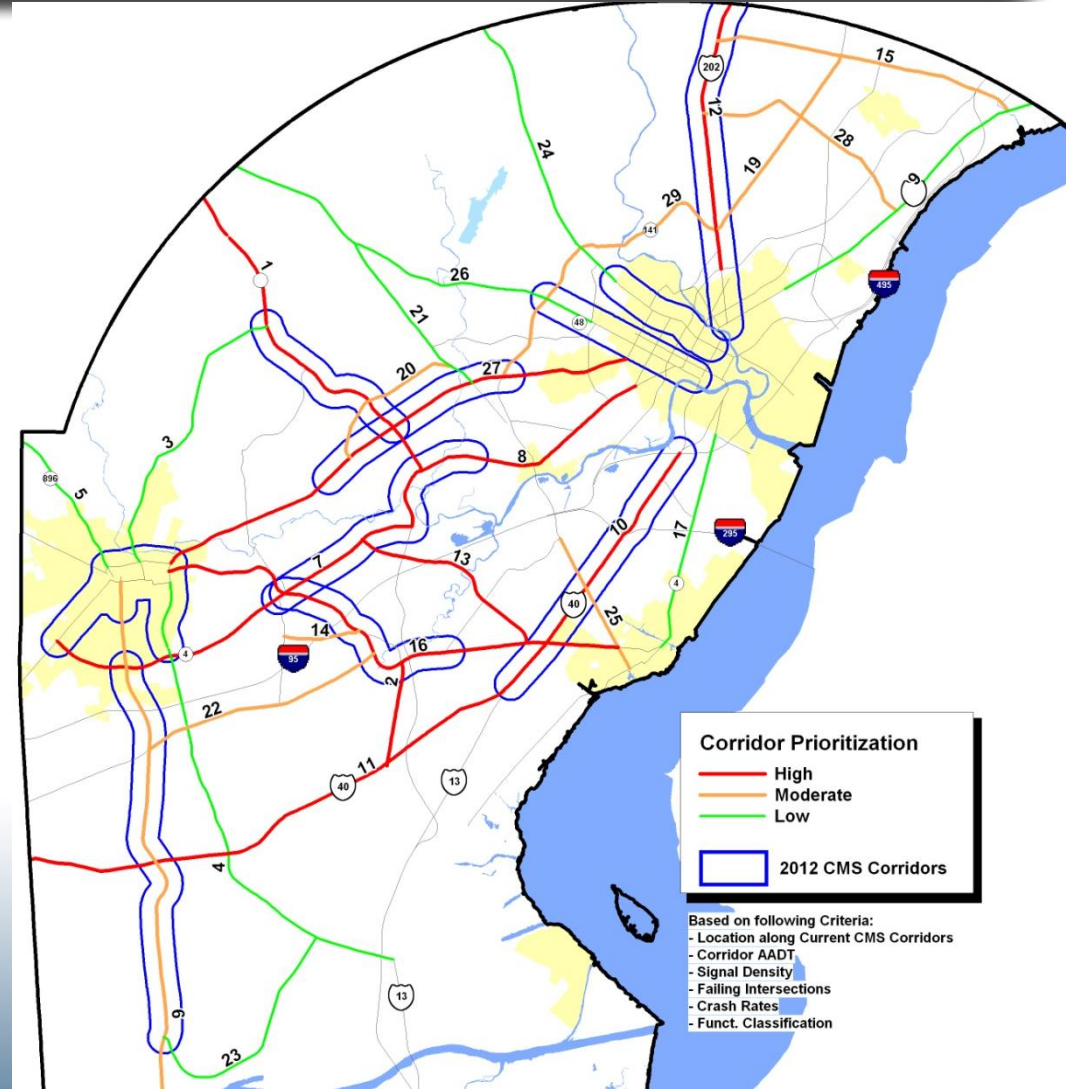
# Transportation Management Priorities



1. Keep existing systems working
2. Expand/enhance existing systems
3. Implement new systems

# ITMS Priorities

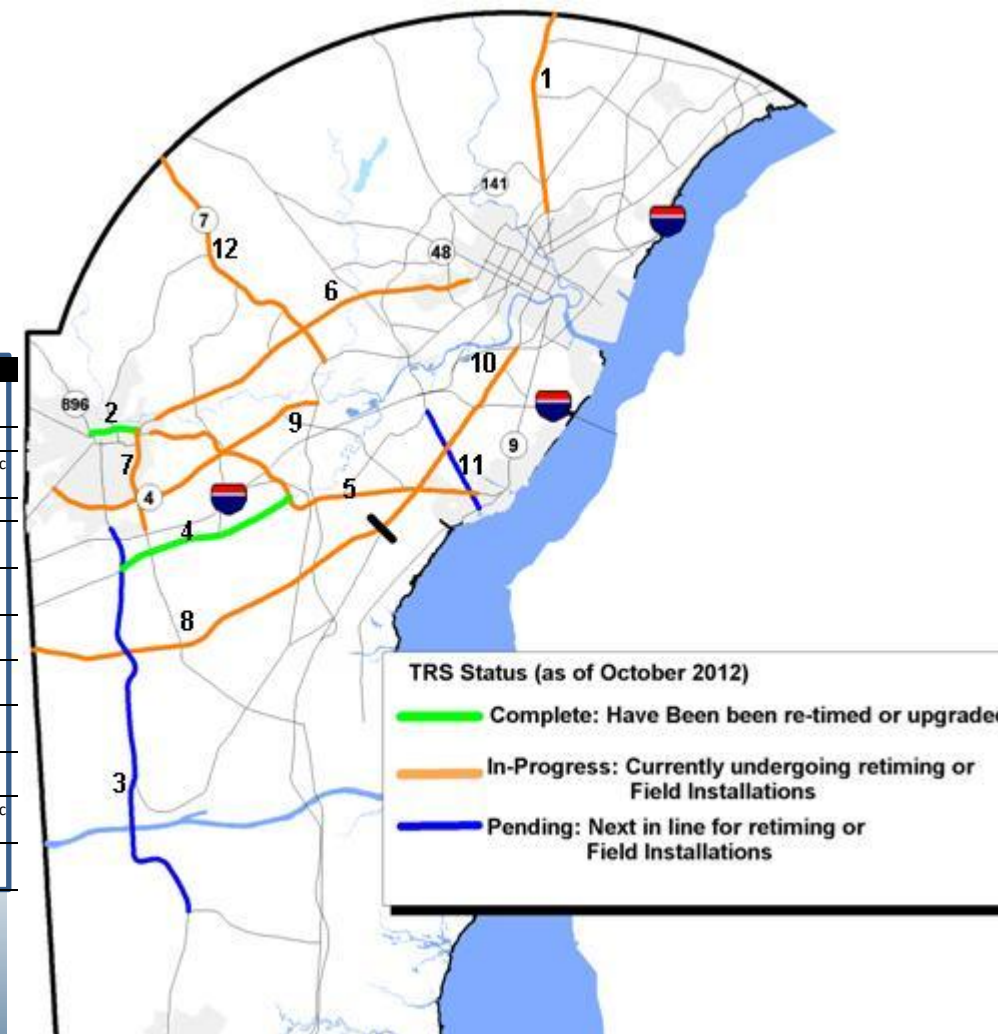
ID	Route	Segment limits	Segment Length
12	US 202	Wilmington Line to PA line	5.1
27	SR 2 (Kirkwood Highway)	Newark to Wilmington Line	9.54
8	SR 4	SR 7 to Wilmington Line	5.79
2	SR 7	SR 273 to US 40	1.93
16	SR 273	SR 273(Newark) to SR 141	9.4
10	US 13	South of Wilmington, I-495 to US 40 split	5.25
7	SR 4	Elkton Rd. to SR 7	7.48
11	US 40	MD line to US 13 split	9.93
1	SR 7	SR 4 Split to PA Line	6.65
13	Churchmans Rd.	SR 4 to SR 273	3.89
25	SR 141	SR 37 to SR 9	2.76
15	SR 92 (Naamans Rd.)	US 202 to US 13	5.7
29	SR 141	SR 2 to US 202	6.00
22	Old Baltimore Pike	SR 896 to SR 273	4.62
19	Foulk Rd.	US 202 to Naaman's Road	3.99
14	Chapman Rd.	Salem Church Rd. to SR 273	1.43
28	Silverside Rd	US 202 to US 13	4.56
20	Milltown Rd.	SR 2 to SR 41	2.94
6	SR 896	South of Newark to Boyd's Corner	12.92
21	SR 41	PA line to SR 2	6.15
4	SR 72	South of Newark to US 13	9.06
26	SR 48	SR 41 split to Wilmington border	4.83
9	US 13	North of Wilmington to PA line	5.89
18	SR 299	US 301 to US 13	3.71
17	SR 9	Terminal Ave. to Chesnut St.	4.17
3	SR 72	North of Newark	5.61
24	SR 52	Wilmington border to PA line	5.51
5	SR 896	North of Newark	2.92
23	SR 71	US 13 to SR 896	4.73



# ITMS Priorities



Map ID	Corridor	Length (mi)	TRS/DSTEP	Status
1	US 202	5.1	TRS	In Progress—undergoing retiming and/or field installations for traffic responsive operation
2	Cleveland Avenue	1.2	DSTEP	Completed in 2010
3	DEL 896	10.8		Pending— next in line for retiming and/or field installations for traffic responsive operation
4	Old Baltimore Pike	4.7	TRS	Completed in 2011
5	DEL 273, Christiana	9.2	TRS & DSTEP	In Progress—undergoing retiming and/or field installations for traffic responsive operation
6	DEL 2, Kirkwood HW	8.8		In Progress—undergoing retiming and/or field installations for traffic responsive operation
7	DEL 72	2.6	TRS & DSTEP	In Progress—undergoing retiming and/or field installations for traffic responsive operation
8	US 40, Pulaski HW	9.9	TRS	In Progress—undergoing retiming and/or field installations for traffic responsive operation
9	DEL 4	7.6	TRS & DSTEP	In Progress—undergoing retiming and/or field installations for traffic responsive operation
10	US 13	5.4	TRS	In Progress—undergoing retiming and/or field installations for traffic responsive operation
11	DEL 141, Basin Rd.	2.8		Pending— next in line for retiming and/or field installations for traffic responsive operation
12	DEL 7, Limestone Rd	6.9	TRS	In Progress—undergoing retiming and/or field installations for traffic responsive operation



# Transportation Management Program Priorities FY11-15



- Expand the statewide signal system and transportation system monitoring devices
- Transportation Homeland Security and incident management
- Provide customer information
  - Agency to agency
  - Media
  - Public
- Transit schedule adherence system
- Telecommunications

# How to Stay Tuned

- [www.deldot.gov](http://www.deldot.gov)
- [www.deldot.gov/mobile](http://www.deldot.gov/mobile)
- WTMC 1380 AM
- Twitter
- Facebook
- RSS Feed

Follow us on **Twitter** by pressing the Twitter button on DelDOT's website, or look for us on Twitter: <http://twitter.com/DelawareDOT>

Subscribe to DelDOT's RSS Feed <http://deldot.gov/information/syndication>, to stay on top of frequently updated website content.

"Like" us on **Facebook** by pressing the Facebook button on DelDOT's website, or go to <http://www.facebook.com/DelawareDOT>.

