ADVANCED PLANNING FOR OPERATIONS:

Missouri Operations Summit

Tuesday, September 25, 2012

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Delaware Valley Regional Planning Commission

DELAWARE VALLEY dvrpc REGIONAL PLANNING COMMISSION

DELAWARE VALLEY REGIONAL PLANNING COMMISSION

- Federally-designated MPO for the 9-county Philadelphia region
- Created in 1965
- 5.5 Million People
- 3.0 Million Jobs
- 352 Municipalities

- Long-Range Plan, Transportation Improvement Program (TIP), Congestion Management Process
- transportation operations, safety, transit, bike/ped, freight, aviation, travel/demographic forecasting, land use, open space preservation, environmental

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DVRPC'S TRANSPORTATION OPERATIONS MANAGEMENT PROGRAM

- Planning & Coordinating
- Incident Management
- RIMIS
- Technical Analysis

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PLANNING& COORDINATING

TRANSPORTATION OPERATIONS TASK FORCE

- Formal DVRPC Committee established in 1998
- Meets on a quarterly basis
- Composed of over 35 Regional Stakeholders
  - Technical-level Staff
- Forum that provides an opportunity for agencies to share information and coordinate:
  - *Transportation Systems & Operations, ITS Deployments, incident management programs, construction projects, etc.*
- *Develop a consensus on Regional ITS and Operational issues;*
  - *Respond to federal initiatives; and develop an annual action plan*

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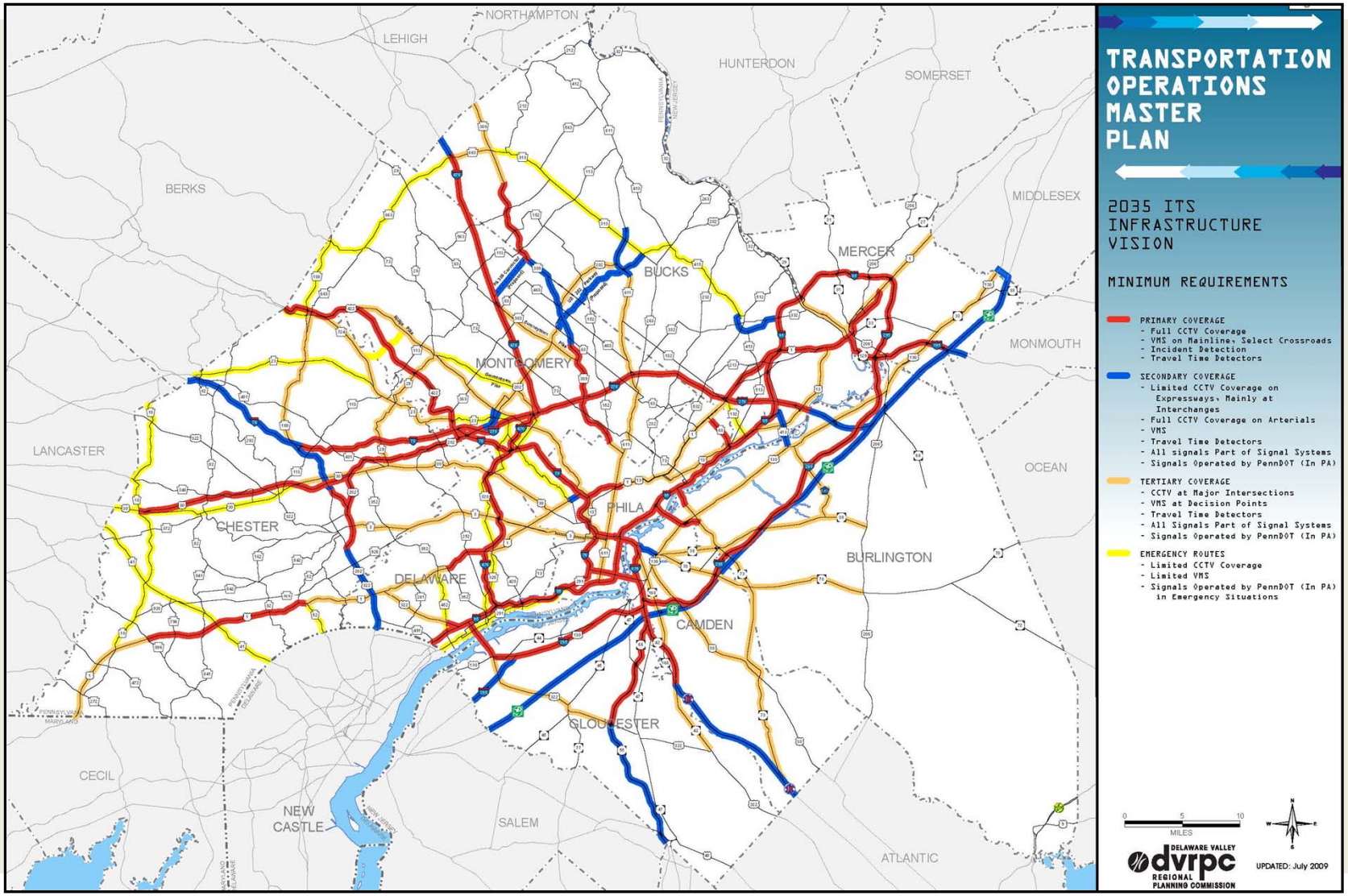
TRANSPORTATION OPERATIONS MASTER PLAN

- Operations Goals & Objectives
- Transportation Operations Vision
  - ITS Infrastructure
  - Emergency Service Patrols
  - Incident Management Task Forces
  - Integrated Corridor Management Plan
  - Regional Communications Network
- Projects & Programs
- Financial Plan
  - Assessment of Needs
  - Capital Costs vs. Operations & Maintenance
  - Identifies Funding Gap
- Linked directly to DVRPC's Regional Long Range Plan - *Connections 2035 (2009)*

TRANS OPS MASTER PLAN – INFRASTRUCTURE VISION



PLANNING EFFORTS

- Delaware Valley Regional ITS Architecture
  - Since 2000, DVRPC develops and maintains
  - Architecture assistance on project by project basis
- ITS & Operations Coordination
  - Regional Fiber Connection Effort
    - DelDOT — NJDOT — PennDOT
    - PennDOT — Philadelphia — Southeastern PA Transit Authority (SEPTA)
  - Tri-State Traffic Operations Center Coordination
    - PennDOT, NJDOT, DelDOT
- Training & FHWA Workshops

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PLANNING EFFORTS

- Emergency Preparedness Planning
  - Southeastern PA Regional Task Force Emergency Transportation Plan
  - Public works equipment inventory
- Regional Construction Coordination
  - New program requested by DOT's
  - Identify major construction project conflicts

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Use of Archived Operations Data

Short-Term Operations Project Planning
(Ex. Signal timing)

Operations
(Ex. Roadway & incident clearance durations)

Medium-Term Planning
(Ex. ID worst bottlenecks)

Justifying
(Ex. Why is it important to fund operations projects?)

Long-Term Planning
(Ex. CMP, Performance measurements)

Answering Questions
(Ex. What was the effect of the hurricane?)

Evaluating Projects
(Ex. Before & after analysis of projects)

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DVRPC'S OPERATIONS PROGRAM FUNDING AND SUPPORT

- **Funding for Transportation Operations**
  - Annual Unified Planning Work Program
    - $320K - Transportation Operations Management, Incident Management
  - Transportation Improvement Program
    - $1M – RIMIS, Trans Operations Management and ITS

- **Support for Transportation Operations Program**
  - Long-Range Plan
  - Transportation Operations Master Plan
  - Congestion Management Process (CMP)
  - TIP Development

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TRAFFIC INCIDENT MANAGEMENT

INCIDENT MANAGEMENT TASK FORCE THE BEGINNING

- In 1998, PennDOT asked DVRPC to establish a Prototype Incident Management Task Force
- Provide a venue away from the scene of an incident for emergency responders to build relationships and identify response needs
- Determine if it is transferrable to other corridors

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PURPOSE OF IMTF'S

- Improve Coordinated Response
- Foster Interaction Among Stakeholders
- Identify and Address Critical Needs
- Give Other Organizational Perspectives

pennsylvania
DEPARTMENT OF TRANSPORTATION

PENNSYLVANIA STATE POLICE
TROOPER

DEPARTMENT OF TRANSPORTATION
THE STATE OF NEW JERSEY

HONOR
STATE
POLICE
NJ
DUTY
FIDELITY

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INCIDENT MANAGEMENT PROGRAM GOALS

- Promote National Unified Goal (NUG)
- Integrate Incident Management into the Metropolitan Planning Process
- Provide Cross-disciplinary Training
- Manage Incident Management Task Forces
- Serve as Liaison between Emergency Responders and State/County Agencies
- Provide Software Applications to Emergency Responders

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TYPICAL STAKEHOLDERS FOR IMTF'S

- Local Police Departments
- Local Fire, Ambulance & EMS
- State Police
- DOT Traffic Operations
- DOT Maintenance Divisions
- Turnpike Authorities
- Bridge Authorities
- HAZMAT Agencies
- Dept. of Environmental Protection
- Towing Agencies
- State Towing Associations
- County 911 Communications
- County Department of Public Safety Offices
- County Coroner / Medical Examiner's Office
- Local State Legislators Offices
- Federal Highway Administration
- County Planning Departments
- Transportation Management Agencies
- Public Works Departments
- MPO

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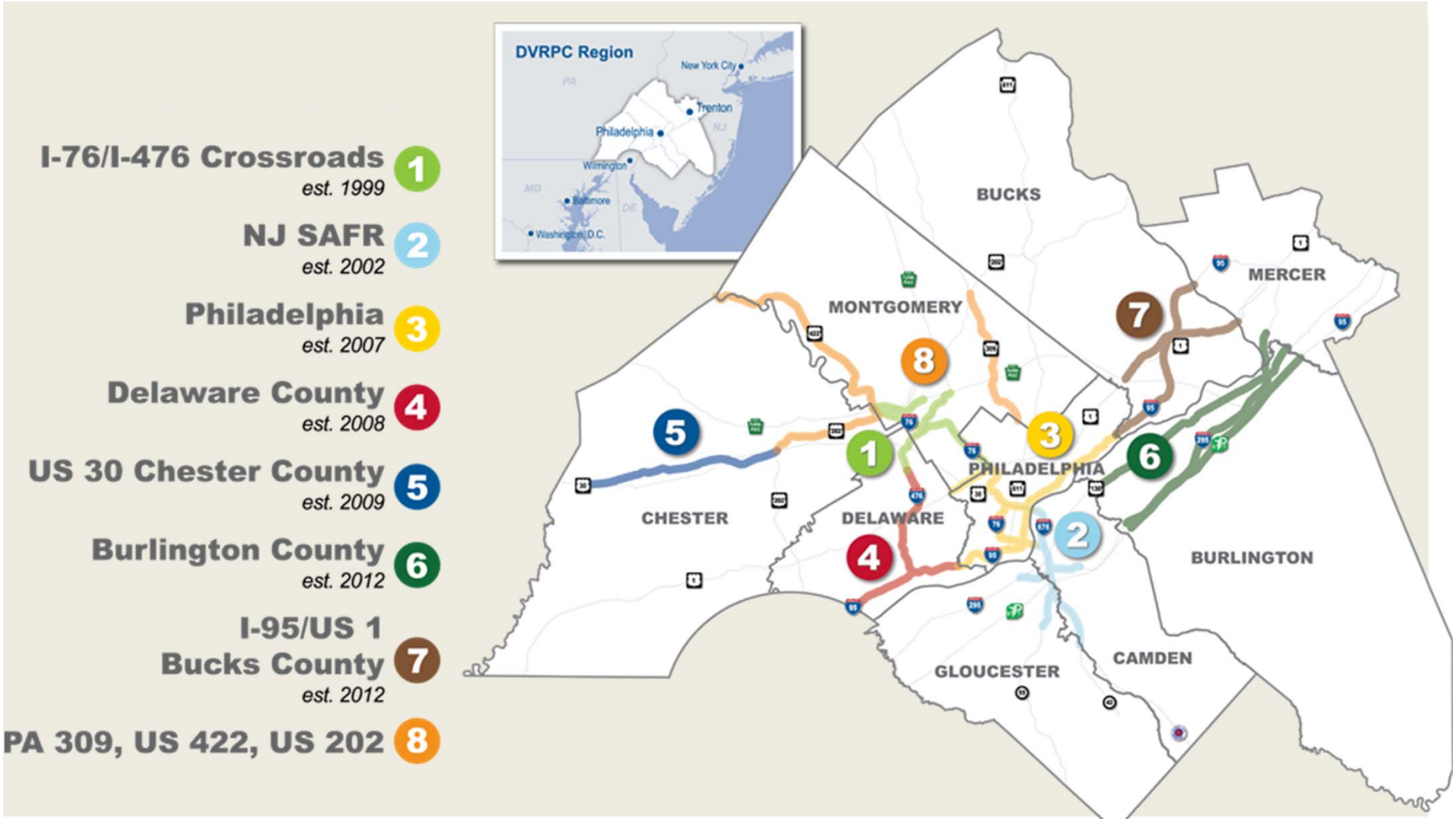
INCIDENT MANAGEMENT TASK FORCE LOCATIONS



INCIDENT MANAGEMENT TASK FORCE TYPICAL ACTIVITIES

- Quarterly Meetings
- Elected Chairperson(s)
- Rotating Venue
- Incident De-briefings
- Construction Updates
- Develop Action Plan
  - Ramp Designation Signs
  - Policy and Procedures Manual
  - Training
  - Contact List

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REGIONAL SUCCESS: BUILDING RELATIONSHIPS

- Inter-agency Coordination
- Provide forum to discuss issues
- Enhance communications
- Share resources

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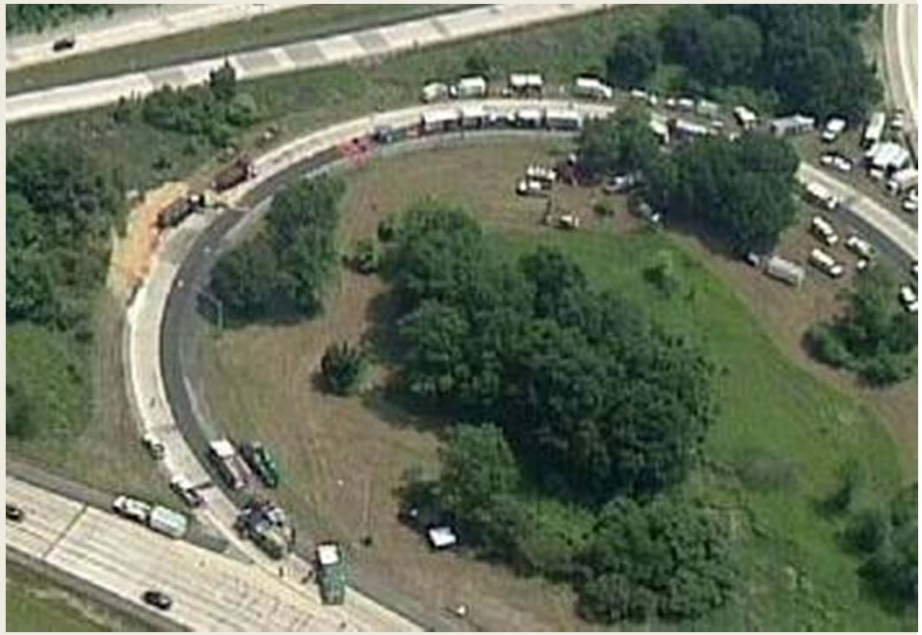
REGIONAL SUCCESS: BUILDING RELATIONSHIPS

Post Incident Reviews

- To identify deficiencies, lesson learned, and areas for improvement to apply to future incidents
- Helps to maintain and strengthen the lines of communications between incident responders
- Multi-agency debriefing
- Formal or informal
- Meeting agenda item



REGIONAL SUCCESS: BUILDING RELATIONSHIPS

Operational Scenario Workshops

- Philadelphia IMTF
  - Mock incident scenario on I-95
    - A tractor-trailer on I-95 with retail goods
- US 30 IMTF (Chester County)
  - Incident Location on US 30 Bypass
    - Peak Hour Multivehicle Incident
    - Bus / Tractor Trailer
- Communication gaps identified
- Training needs identified

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REGIONAL SUCCESS: TRAINING OPPORTUNITIES

- Over 1000 trained since 2001
- Examples of Courses
  - Incident Command System 200
  - NHI Incident Management (3)
  - I-95 CC Incident Management (2)
  - Highway Safety: Train-the-Trainer
  - I-95 CC Quick Clearance Program (2)
  - I-95 CC 3D Interactive Incident Management Training
- NJDOT / NJSP Incident Management Workshop (3)
- Developing an IMTF & Tool Box
- 2011 Delaware Valley Regional IM Conference

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2011 REGIONAL TIM CONFERENCE

Vehicle Scene Placement Demonstration

REGIONAL SUCCESS: CONSTRUCTION COORDINATION

- Final Rule on Work Zone Safety and Mobility
  - Applies to all Federal-aid highway projects
  - Requires development of TMP's with IMP's
  - Need for coordination with local *emergency responders*

- Weave construction items into main agendas
- IMTF meeting dates need to be flexible with regard to activation or scheduling of construction stages

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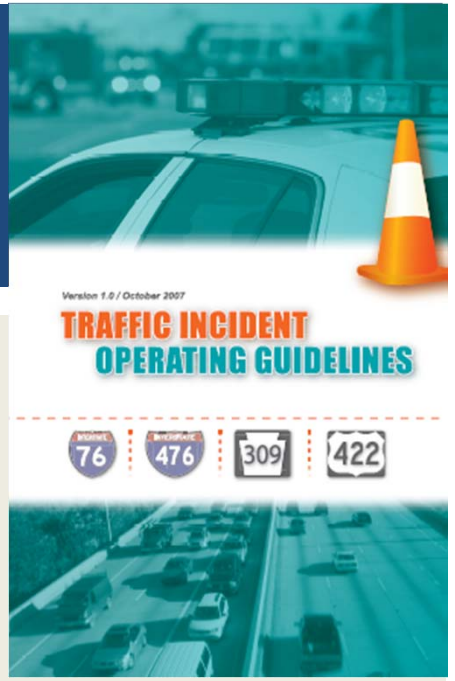
PROJECT SUCCESSES

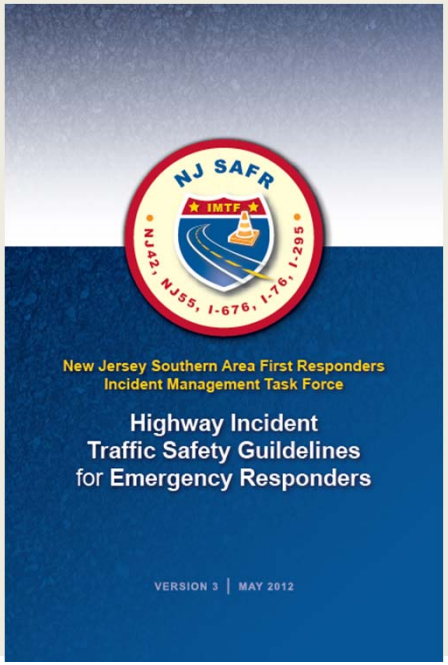
Traffic Incident Operating Guidelines (PA)

Highway Incident Traffic Safety Guidelines for Emergency Responders (NJ)

"Provide responders uniform operational guidelines for safe operations at the scene of an incident."

- Goal: Improve overall traffic IM process, will then:
  - Improve emergency responder safety
  - Reduce secondary incidents
  - Minimize the amount of apparatus and personnel responding to the incident





PROJECT SUCCESSES

Ramp Designation Signs
I-476 / I-76 Interchange

- 60 locations (120 signs)
- Signs mounted Back-to-Back on a single post
- Distance approximately 320’ apart

2000

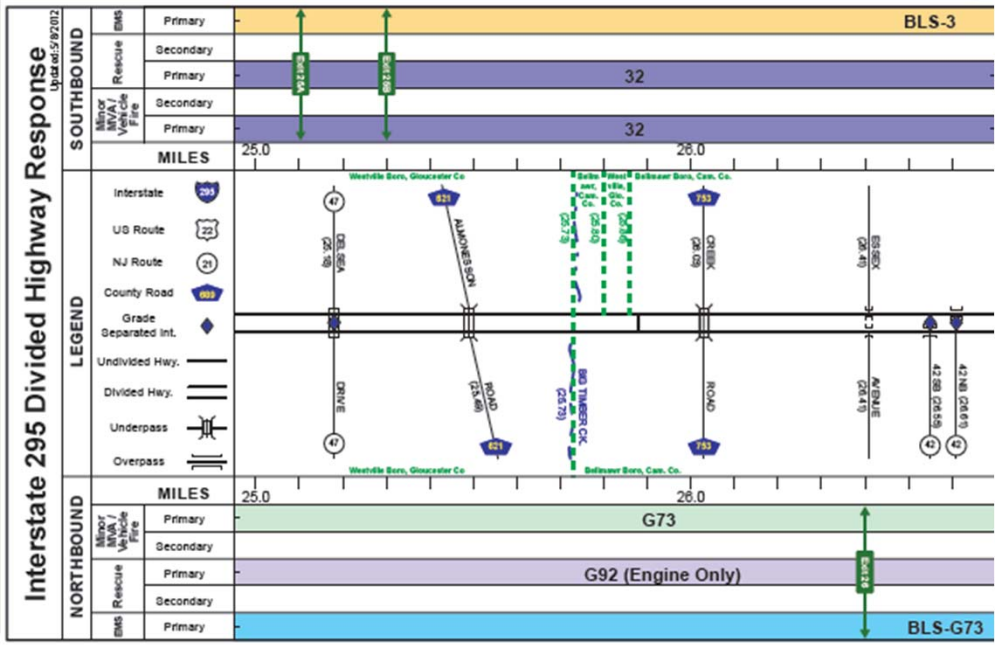
2004

2007

PROJECT SUCCESSES

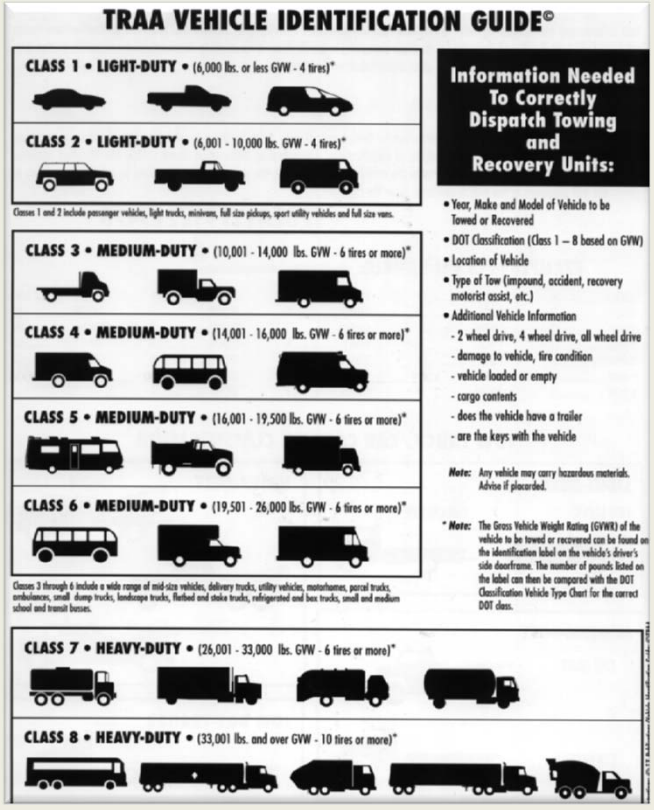
Response Boxes - NJ

- Designates specific area of highway where each Fire / EMS station responds
- Areas based on access to highway, not municipal boundaries
- MOU agreement enforces response zones

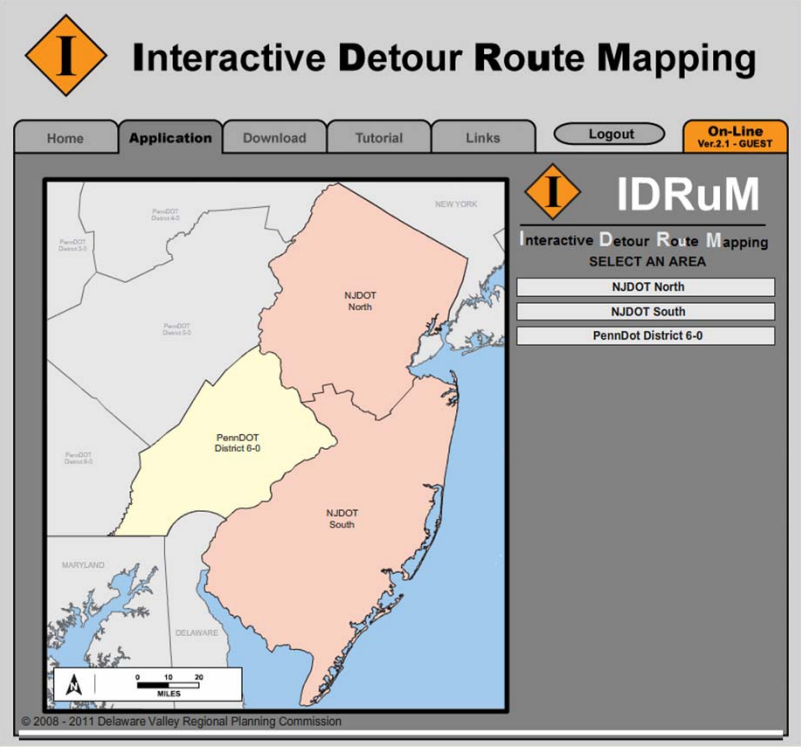


DVRPC SUPPORT SERVICES

- Regional Clearinghouse for IM Activities
- IMTF Meeting Administration and Coordination
- Mapping
- Organize Training Courses
- FHWA TIM Self Assessment
- TRAA Vehicle ID Cards
- Nextell Phones and Service



IDRUM: INTERACTIVE DETOUR ROUTE MAPPING



- DVRPC's Internet Application
- Provides Access to Official PennDOT and NJDOT Detour Routes
- Interactive Browser-based Application
- 5 PA Counties
- 8 NJ Counties, and counting!
- www.idrum.us

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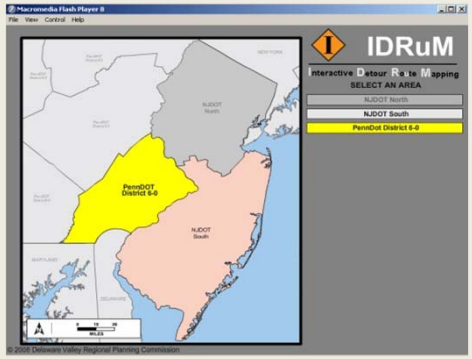
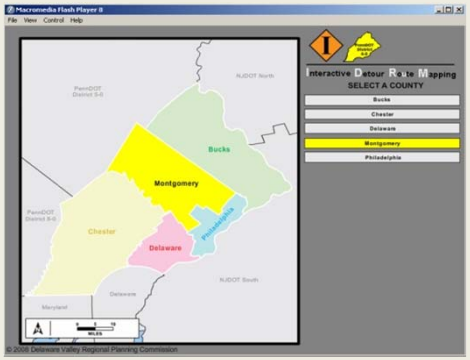
IDRUM: INTERACTIVE DETOUR ROUTE MAPPING

www.idrum.us

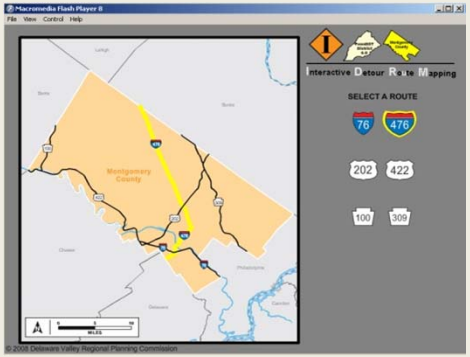
Step 1: Select Region



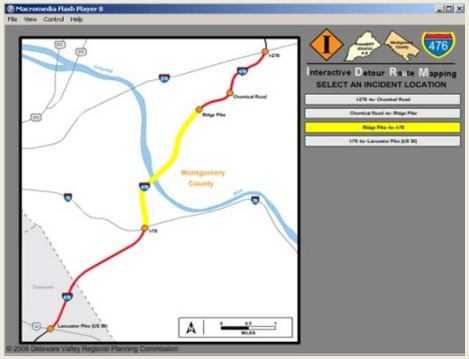
Step 2: Select County



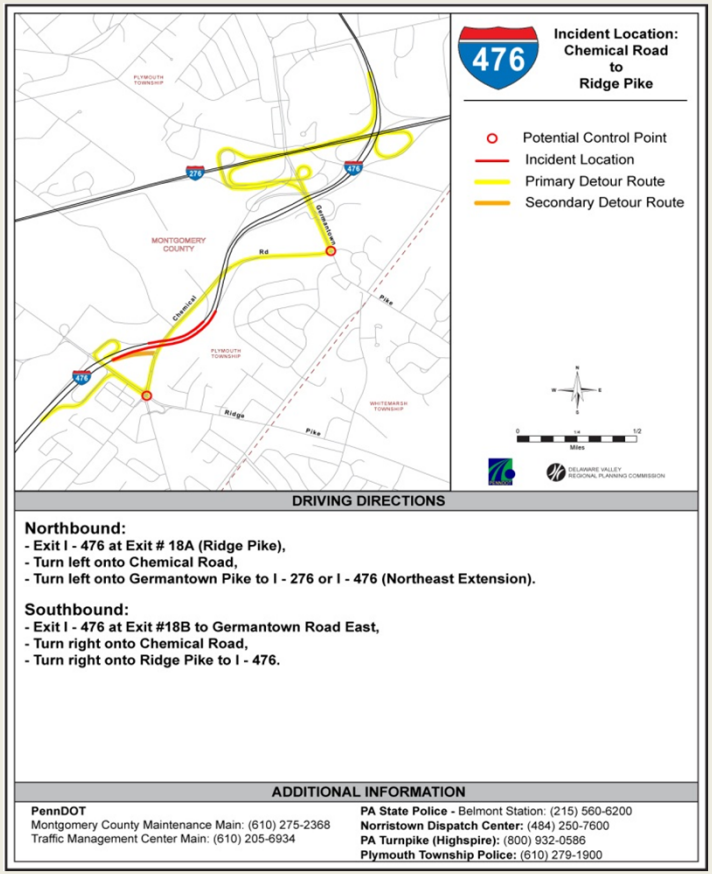
Step 3: Select Highway

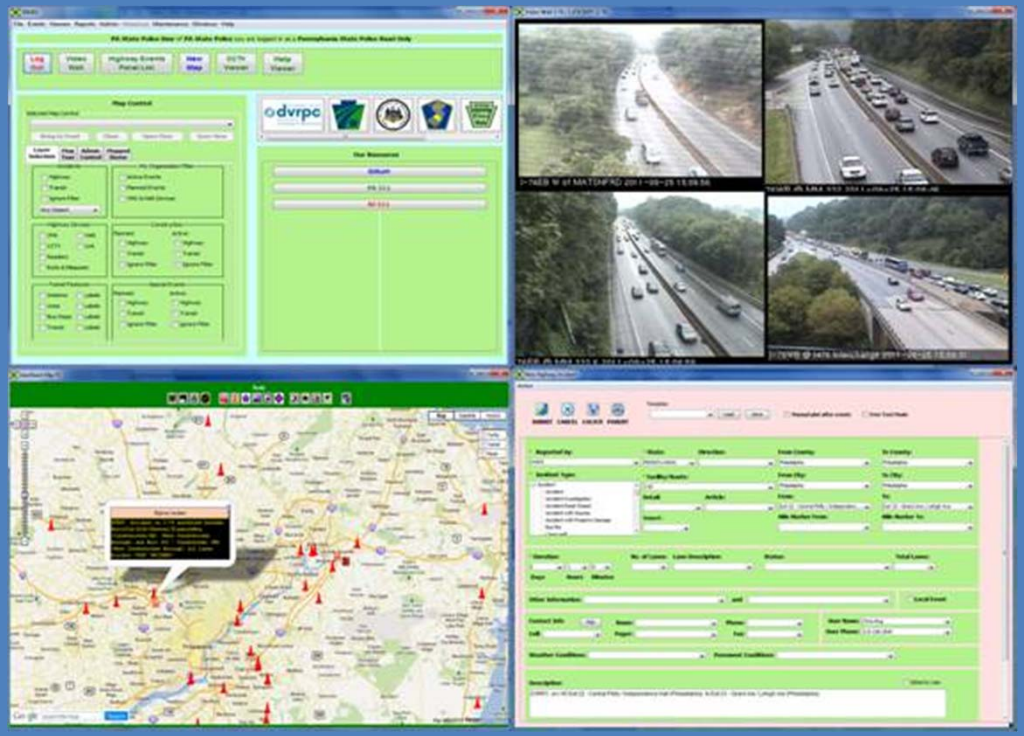


Step 4: Select Incident Location



Step 5: View/Download/Print/Email Map





RIMIS

RIMIS:
REGIONAL INTEGRATED MULTIMODAL INFORMATION SHARING

Many Partners in the DVRPC Region

RIMIS OBJECTIVES

- Provide timely and clear incident notifications and information on the transportation situation
- Broadcast situational information to a wide array of agencies
- Improve knowledge of the “big picture”
- Reduce time and cost of obtaining information during emergencies

RIMIS CONNECTIONS

- **NJDOT Swift System**
  - NJDOT, NJ Turnpike, Garden State Expressway, Atlantic City Expressway
  - Statewide incidents, congestion, construction info, CCTV
- **PennDOT Road Conditions Reporting System**
  - Data interface operational as of July 2011
  - Statewide incidents, construction info, CCTV
- **TRANSCOM**
  - Connections to NYSDOT, NYCDOT, Port Authority NY/NJ, Connecticut DOT
- **Local organizations**
  - City of Philadelphia, County TOC's, 9-1-1's, river crossing agencies, emergency responders

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USING RIMIS

- **Video Wall**
  - Incident Management: location verification, incident severity, equipment dispatch, arrival tactics
- **Situational Map**
  - The “big picture”: arterial network information, local construction information, minor special events
  - Fills the gap between locals and DOT
- **Operations Database**
  - Can be used for TOC (e.g., Philadelphia, Burlington Co)
  - Log incidents and create reports (incident, monthly, construction)
  - Notification distribution

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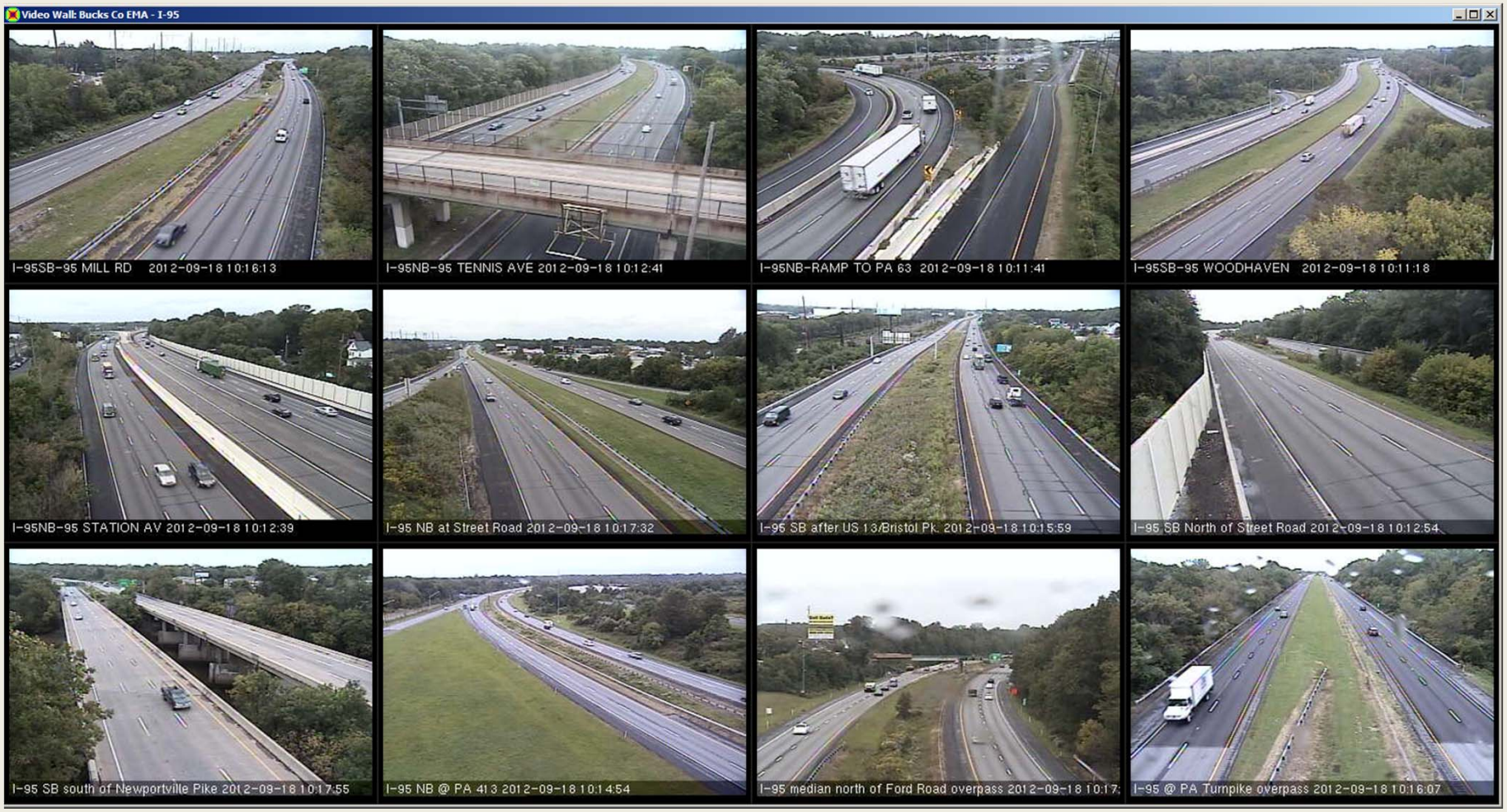
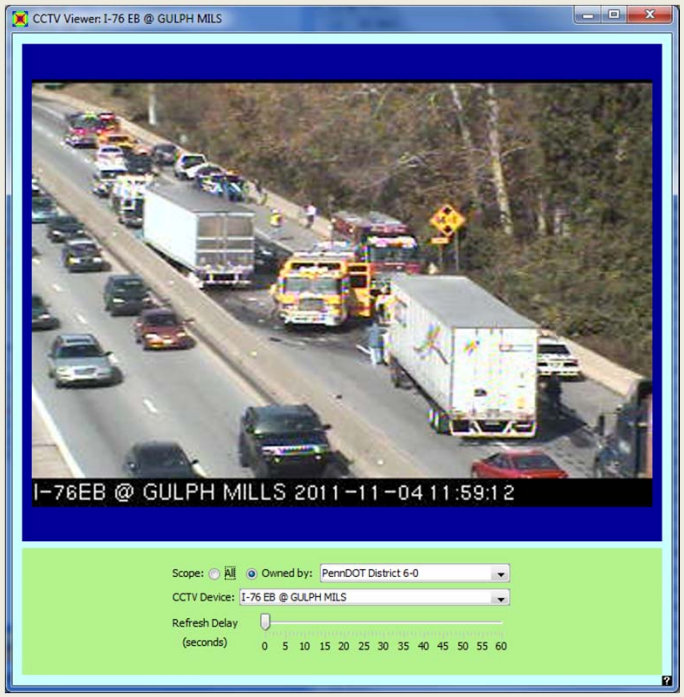
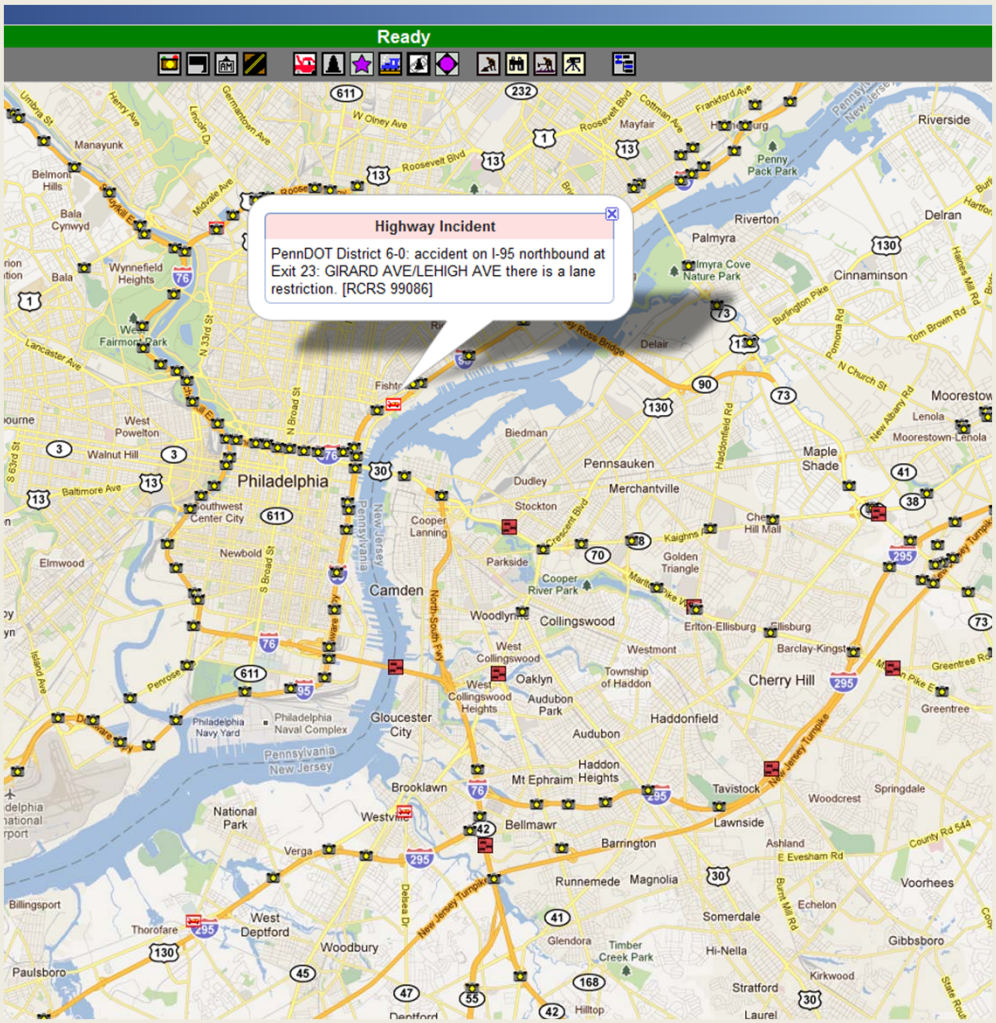
RIMIS VIDEO WALL



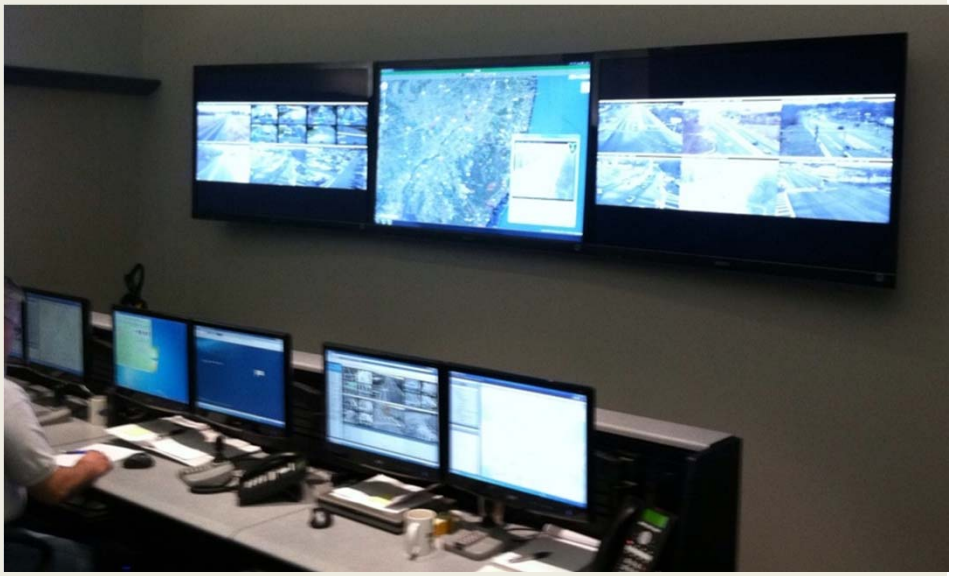
RIMIS SITUATIONAL MAP





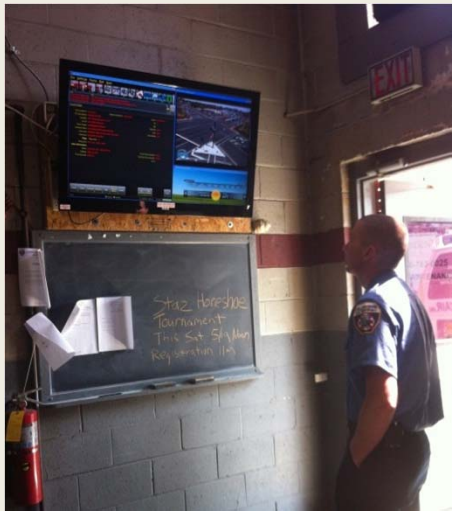
RIMIS USERS

- Regional County 9-1-1 & OEM Centers
- County Traffic Operation Centers
- Transportation Management Associations
- Bridge Authorities



RIMIS USERS

- Local Fire Departments
- Local Police Departments
- Local EMS Departments



TECHNICAL ANALYSIS

TECHNICAL ANALYSIS

- Regional Traffic Signal Retiming Program
  - Working with PennDOT acting as implementation project manager
  - Pilot Phase in Chester County
  - Project secured TIP Funding to optimize approximately 50 traffic signal locations
    - Variety of locations (single signal locations, high density signal corridor)
    - Includes before and after study
  - Project success hopes to lead to additional TIP funding for other counties
  - Initial challenges dealing with contracting scenarios

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TECHNICAL ANALYSIS

- I-295 Direct Connect Project Traffic Monitoring Program
  - Monitoring both I-295 and Diversion Routes
  - To measure effectiveness of Traffic Management Plan
  - Before/after travel time analysis and traffic counts

- Transit Signal Priority
  - Choosing transit signal priority corridors for future investment within the city of Philadelphia
  - Identifying signal optimization priority corridors using same operations data
  - TSP funding not currently available

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US 30 CHESTER COUNTY ITS MASTER PLAN

- Plan for Future ITS assets
  - Currently no programmed/planned construction
- Identify recommended locations of future ITS assets
  - Closed Circuit Television Cameras
  - Dynamic Message Signs
  - Incident / Travel Time Detectors
  - Communications System (Fiber)
  - Enhanced Traffic Signal Systems
  - Freeway Emergency Service Patrol
- Phased Implementation Plan
  - Develop priorities & estimated costs
  - Identify potential projects for implementation

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FLOOD PRONE AREA MAPPING

- Identify Flood Prone Areas
  - Areas of annual localized, short-term, recurring events
  - Significant storms
- Create Detour Routes
  - Municipality / Inter-municipal
- Explore Signage and/or Barriers
  - Standardized signage or Site specific barrier implementation
- Develop a Concept of Operations
  - Deployment responsibilities
  - Chain of command/communication
  - Inter-agency coordination

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TECHNICAL ANALYSIS

- **Special Projects**
  - City of Philadelphia Traffic Management Center Concept of Operations
  - City of Philadelphia ITS Master Plan

- **Traffic Signal Timing**
  - Corridor Specific Signal Optimization Projects

- **Road Safety Operations Audits**
  - RSA's adapted to limited access highways

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FUTURE EFFORTS

FUTURE EFFORTS

- Active Traffic Management
  - Hard Shoulder Running
  - Variable Speed Limits
- Continued Performance Measuring Monitoring
  - Travel Time
  - Reliability Measures
  - Incident Data

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FUTURE EFFORTS

- Continue to assist the State DOT's and local stakeholders by filling in the gaps
  - Reaching out to local jurisdictions, river crossing agencies, and other regional stakeholders
- Continue to expand RIMIS efforts
  - Make real time situational information available to more stakeholders and emergency responders
- Support Operations and Incident Management needs of Emergency Responders

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