PennDOT’s Statewide ITS Telecommunications Master Plan:
Coordinating the ‘Right Now’ with the ‘To Be’ In a Rapidly Changing Environment

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Background:
PennDOT’s Overall Strategy

Statewide Mobility Plan

Congestion Strategies

Build Capacity

Reduce Demand

Manage Capacity

Transportation Operations (TSOP)
Background: TSOP

- TSOP-01: Inter-Agency Incident Reporting System (IRS)
- TSOP-02: Road Closure Reporting System (RCRS)
- TSOP-03: Interstate Incident Management Program
- TSOP-04: IM Traveler Information
- TSOP-05: Incident Management Processes and Procedures
- TSOP-06: Roadway Weather Management
- TSOP-07: Crash Prevention/Safety
- TSOP-09: STMC and TMCs
- TSOP-08: TAC Signal Study Implementation
- TSOP-10: ITS Equipment Maintenance
- TSOP-11: Technology-Assisted Enforcement
- TSOP-12: Mobility in Work Zones
- TSOP-13: ITS and IT
- TSOP-14: Operations Mainstreaming
- TSOP-15: Advanced Planning and Strategy
- TSOP-16: Data-Acquisition and Archiving
- TSOP-17: Statewide Transit Operations
- TSOP-18: Freight Movements Assessment
- TSOP-19: CVO Partnership with PSP
Existing Operational Environment

- 11 District Traffic Management Centers (TMCs) – varying staff/hours
- No interconnection of TMCs (C2C)
- Limited ITS field device coverage
- No consolidated control of ITS devices
- No standardized data management systems
- Limited utilization of information sources
Proposed Operational Environment

- Statewide TMC (STMC) – 24/7
- 2 Regional TMCs (RTMCs) – 24/7
- Interconnection of all District, Regional and Statewide TMCs (C2C)
- Consolidated ITS Field Device Control Software (ATMS)
- Master Operations Software (Information Exchange System)
- 511 Traveler Information System
- ITS Field Device Deployments
Proposed STMC/RTMC Boundaries
Statewide ITS Telecomm Plan: Project Purpose

Develop a comprehensive Statewide ITS Telecommunications Master Plan that promotes effective telecommunications among:

- 11 PennDOT District Traffic Management Centers (TMCs)
- The Proposed Regional and Statewide TMCs
- PennDOT Central Office
- Other state agencies and stakeholders
Project Purpose (cont.)

For each PennDOT District, determine:
- The existing system connectivity
- Future needs
- Current ITS technologies and standards
- Implementation schedules

Coordination with other TSOP (Transportation System Operations Plan) projects

Identify legal, regulatory & policy issues

Develop a Statewide Connectivity Master Plan

Develop an Integrated Telecommunications resources standard business practice for procurement and statewide inventory monitoring.
Why Is This Project Important?


March 27, 2007

Prepared by:
James Lee Witt Associates, a part of GlobalOptions Group, Inc.
INTERSTATE 78 CRASHES & DISABLED VEHICLES DURING SNOW STORM
Review of State Response to Valentine’s Day Snowstorm Response
March 27, 2001

James Lee Witt:

1. **“the winter storm.”**
   Overall there was a remarkable lack of awareness and understanding of Pennsylvania’s Emergency Management System, including the emergency alert levels, even amongst senior agency leaders. The winter storm was not the first sign of issues with emergency management in Pennsylvania. After-action reports from previous emergencies outlined many of the ongoing problems with emergency management in the commonwealth. Yet, due in great part to extraordinary efforts of individuals in response to previous events, these problems did not surface to the extent that they did during the winter storm.

2. **“at all levels.”**
   Recommendations: The Governor should ensure that emergency preparedness and emergency management are higher priorities throughout state government. The Governor should establish a joint information center at the state emergency operations center to coordinate messages to the media and to the public in an emergency. Agencies operating should revise customer communications goals and
Groups Interviewed/ Inventoried

- PennDOT Districts, Bureau of Information Systems
- PA State Police
- PA Emergency Management Agency
- PA Turnpike
- Federal Highway Administration
- State DOT’s – New Jersey, Delaware, New York, Ohio, Illinois, Arizona, others ....
Time-Sensitive Challenges

- Enabling statewide video access for general public by November, 2007
- Keeping up with changing state of ITS deployments and technologies
- Coordinating among multiple PennDOT ITS projects and initiatives
- Coordinating among multiple government agencies
Recommendations So Far

- Utilize PennDOT’s DS3 WAN as primary communications backbone
- Utilize PEMA’s satellite communications network as a backup
- Follow IT practices set forth by the PA Office of Administration
- Share video and data with other agencies, states, and partners following security and communications standards
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Inter-Agency Data Sharing

- PEMA EOC in Harrisburg, primarily streaming video
- PSP CDC in Harrisburg, primarily streaming video
- (Video) data flow between PennDOT Intranet central servers and PEMA/PSP Intranet central servers.
- OA ITBs will be adhered to by the three agencies (www.oit.state.pa.us/oaoit).
Regional Data Sharing

• PA-DE-NJ ITS coordination
  • Fiber-optic infrastructure in place in this area
  • Ad hoc coordination working group
  • Involves non-DOT entities (EMA, IT, State Police, etc.)
• I-95 Corridor Coalition
• Surrounding states’ plans
Lessons (Being) Learned

- Agencies want to share ITS-based information and communications networks if feasible.
- Overlapping responsibilities of agencies mandate better information sharing.
- Statewide communications infrastructure for ITS still being pieced together.
Lessons (Being) Learned

- States still implementing TMCs, redundant control communications
- Security of information is becoming more important and difficult to ensure
- Public access to information (especially video) is being demanded

What Worked?
- Getting state agencies to the table
- Regional approaches
- Streamlining the planning process
Questions and Discussion

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