

Central Regional Traffic Management Center

The Shift to Operations



Rich Deen, RTMC Manager, District 8-0
October 5, 2009 ASHE Meeting

Where we came from?

Circa 1986

Someone in PENNDOT- "*We can't build our way out of congestion and we're done building new roads.*"

In my time with the Department, I have seen the following projects completed:

- Blue Route (SR 476)
- Lackawanna Expressway
- SR 581
- Completion 15 Widening
- Mon-Fayette Expressway
- Completed I-78 around Allentown
- SR 322 - Dauphin Bypass
- I-99 (Bud Shuster Highway)

Traffic Management

But since then,

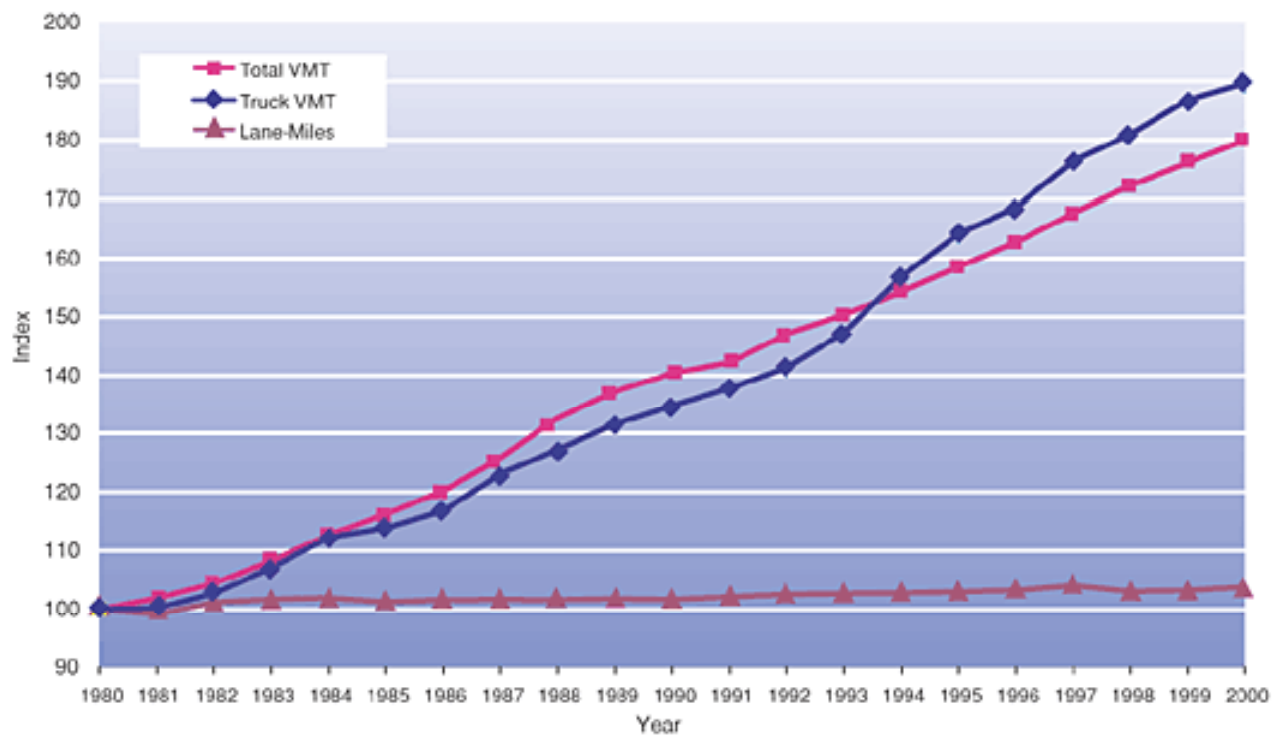
District 6-0 – and the Traffic Incident and Management System

District 11-0 – the Freeway Surveillance & Control System

And,

District 8-0 – Harrisburg Area ITS Project

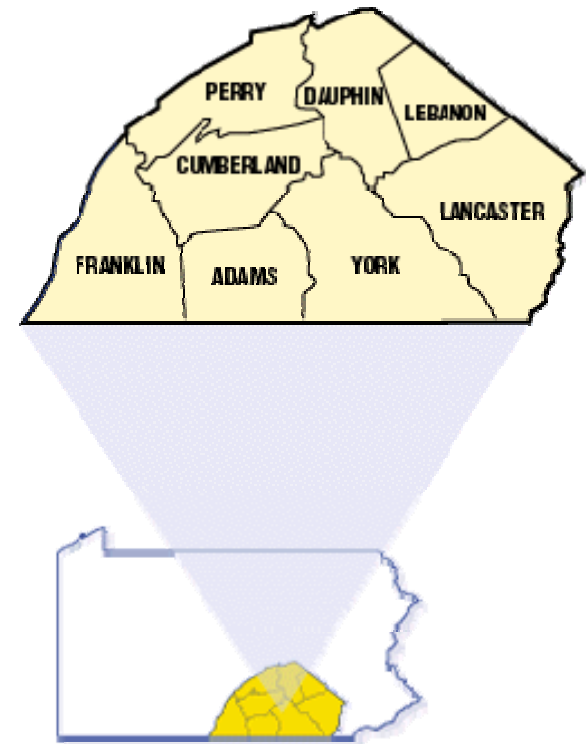
Capacity has not kept up with demand



Source: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics* (Washington, DC: Various years).

DISTRICT 8-0

- 8 Counties
- 5,240 Linear Roadway miles
 - Larger than 8 other states
- 3,415 Bridges
 - More than 11 other states



OUR FOCUS

- System Preservation – Bridges & Highways
- Smart Transportation/Project Delivery
- Safety – Fatality Reduction
- Operations Efficiency and Security
- Effectiveness and Efficiency of Maintenance Operations

The Shift to Operations



Systems Operations – Our ITS Vision

- On Interstates and Look-A-Likes:
 - Cameras at every interchange
 - Dynamic Messages boards every 12.5 miles
 - Highway Advisory Radio coverage
 - Traffic Management Center with 24/7/365 Operations
 - Improve Highway Incident Management capabilities

ITS Vision - Progress

- 46 CCTV Installed / 100 to go
- 34 Permanent DMS Installed
- 16 Semi-Permanent Installed
 - 24 Needed to Complete
- TMC staffed 24/7/365
- 14 – Highway Advisory Radio's (HAR)
- 21 – Highway Advisory Radio Signs
- District Incident Response Teams
- Capital Beltway Patrol

District 8

Central Regional Traffic Management Center



ITS Devices

CCTV



DMS



DIRT/ HAR



Capital Beltway Service Patrol

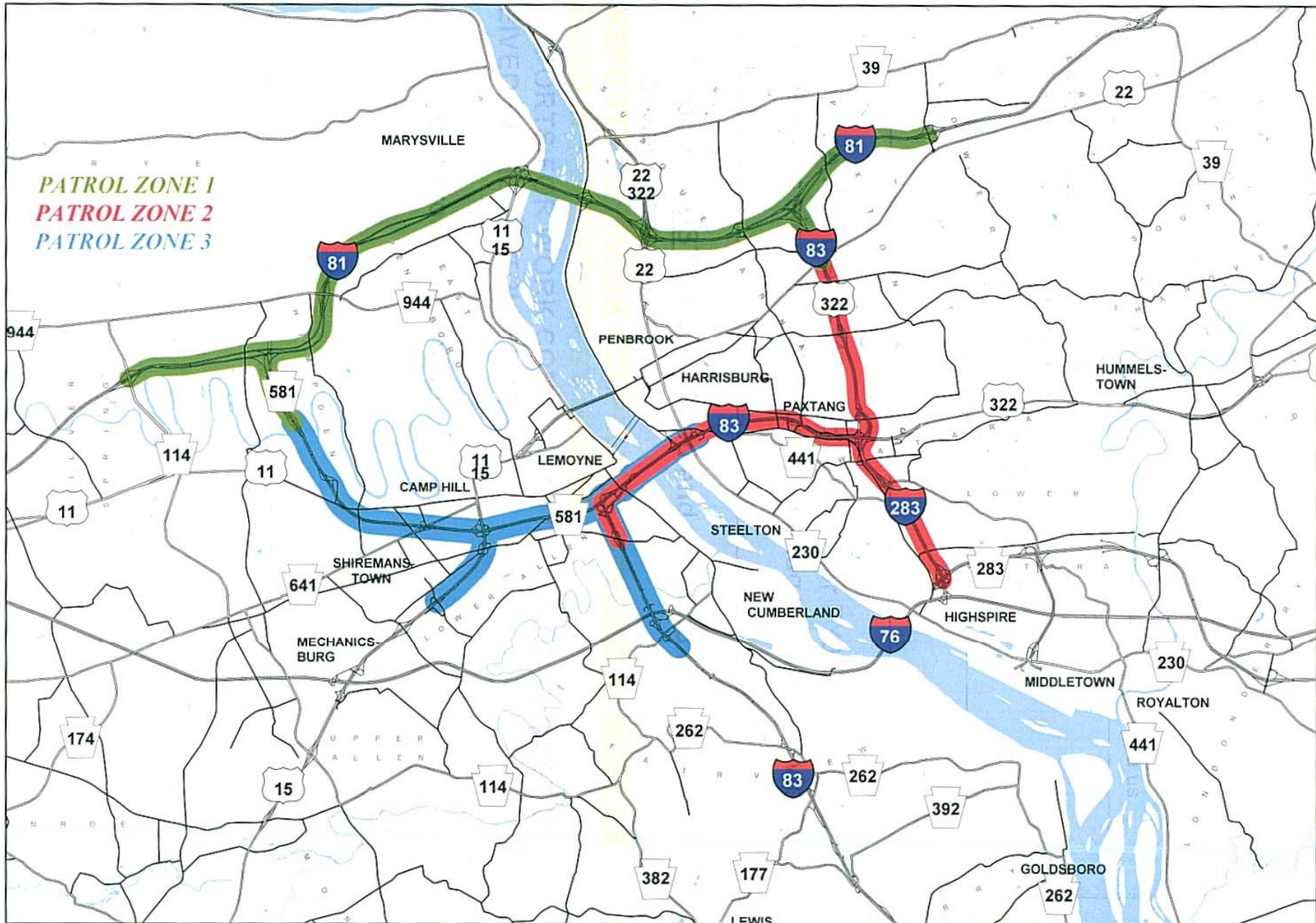


Today

Oct. 2006 - 2009

- 3 Service Patrol Vehicles
- 7.5 hours per day
 - 6 - 9 AM
 - Summer months (April – September) 2:30– 7 PM
 - Winter months (October – March) 2 PM – 6:30 PM
- Patrol Zones
- 45 miles coverage

CAPITAL BELTWAY PATROLS



TMC ROLES & RESPONSIBILITIES

- Maintain Situational Awareness
- Communication with stakeholders
- Disseminate real-time traveler information
- Help Manage Incidents

Situational Awareness

- Monitor CCTV cameras (help verify incidents)
- Log Incidents
- Enter Road closures in RCRS Database
- Share information with State Police Watch Center
- Share information with EMA's
- Receive on scene Information from Service Patrol
- Receive on scene Information from County forces and District Incident Response Teams

Communication with stakeholders

- Primarily via Phone
- PSP Watch center updates (email)
- 911 Centers by Phone
- PEMA & PSP have access to RCRS
- CCTV camera views available online
- PENNDOT County personnel 800MHz radio

Disseminate real-time traveler information

- Dynamic Message Boards (DMS)
- Highway Advisory Radio (HAR)
- Partnering with media - via phone and cameras
- TRANSCOM - via phone
- PENNDOT website- Cameras, RCRS
- 511 PA (www.511PA.com dial 5-1-1)
- Communicating with Stakeholders



Help Manage Incidents

- Activate DMS and HAR
- Dispatch Service Patrols
- District and County Response Teams
- Verify Incident location- decrease response time and incident duration
- CCC with stakeholders i.e. media
- Detour Routes (Red/Blue) (Green/Orange) on limited access highways

Central Regional TMC

- Located at District 8-0, 2140 Herr St, Harrisburg
- Open 24/7/365
- Minimum two operators at all times
- Four work stations
- Control all field devices
- Take over for TMC in District 2, 3, 9 after hours
 - Overnight
 - Weekends/Holidays

Challenges for RTMC

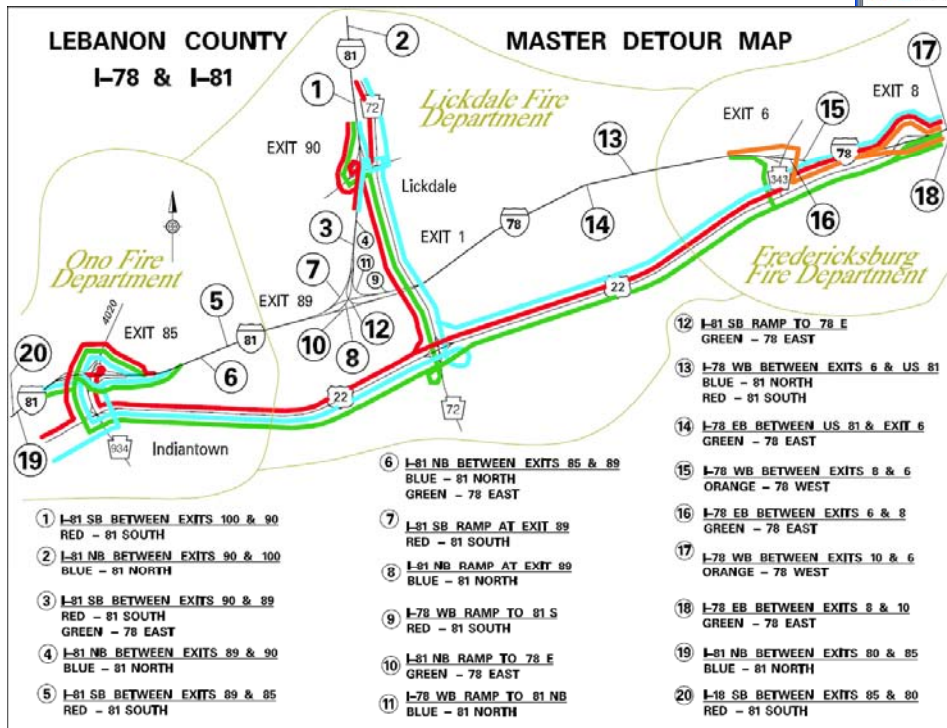
- Communicating with 34 County EMA's
- Roads not covered by PSP
- Incident verification/Situational awareness

RTMC Tools

Emergency Detours



RCRS



DETOUR ROUTES

- Red for South bound
- Blue for North bound
- Blazed exit to exit
- Contain written description of route
- Contain list of all intersection along route
- List of closest ITS devices
- Shared with Stakeholders

TSM&O now defined in the proposed Trans. Auth.

- **TRANSPORTATION SYSTEMS MANAGEMENT AND OPERATIONS.**—The term “transportation systems management and operations” means an integrated program to optimize the performance of existing infrastructure through the implementation of multi- and intermodal, cross-jurisdictional systems, services, and projects designed to preserve capacity and improve security, safety, and reliability of Federal-aid highways. Transportation systems management and operations includes regional operations collaboration and coordination activities between transportation and public safety agencies, and improvements such as traffic detection and surveillance, arterial management, freeway management, demand management, work zone management, emergency management, electronic toll collection, automated enforcement, traffic incident management, roadway weather management, traveler information services, commercial vehicle operations, traffic control, freight management, and coordination of highway, rail, transit, bicycle, and pedestrian operations.

Chairman Oberstar's vision

THE PAST

1956 - '77

- I-SYST: 90-10 HTF
- Primary } 50-50
- Secondary } Gen Revs
- Rural }

1978 - '91

- I-Syst: 90-10 HTF
- P/S/R: 70-30 HTF

ISTEA/TEA-21/SAFETEA
1991 - 2005

- NHS — 80-20
 - I-SYST.
 - NHS (P/S/R)
 - safety
 - MPO
 - Mega-projects
 - SRZS
 - Bridge

4/22/09

THE FUTURE OF TRANSPORTATION

DOT

o ASS'T SEC/DT Undersec - Intermodalism

FHWA

SLSDA

F.A.A.

FTA

FRA

F.M.A. (Marad)

FMCSA/NHTSA

National Strategic Plan
Mega-Projects
Meet at least Monthly

AMTRAK

U.S. Coast Guard

Army C. of E.

TODAY

108 CATEGORIES FOR HTF Funding

THE FUTURE > 4 MAJOR FORMULA PROGRAMS

0 CRITICAL ASSET PRESERVATION

I-Plant Hwy - BRIDGE
NHS

0 HIGHWAY SAFETY IMPROVEMENT

Rural Rd Safety Motorcycle Safety
R.R. Gr. King etc.

0 SURFACE TRANSPORTATION PROG

Enhancements - 10% set-aside
MPO Sub-Allocations - based on Population

0 CONGESTION MITIGATION + AIR QUALITY IMPROVEMENT

15% of Hwy miles - in urban
50% of VMT

Smaller Formula Progs.

SRTS
Rec Trails
Ferry Boats (now discr. convert to formula)

New: Freight Improvement Formula - NHS + RuRds

PROBLEM - EQUITY BONDS -

- Is the largest hwy prog
- Retain as some form of equity

(Discretionary →)

Performance Metrics

We need to measure:

- Speed
- Travel Times
- Reliability

AND We need to put these in reports that are understandable to both the our customers and our stakeholders.

Alerts!

There are no service alerts at this time.

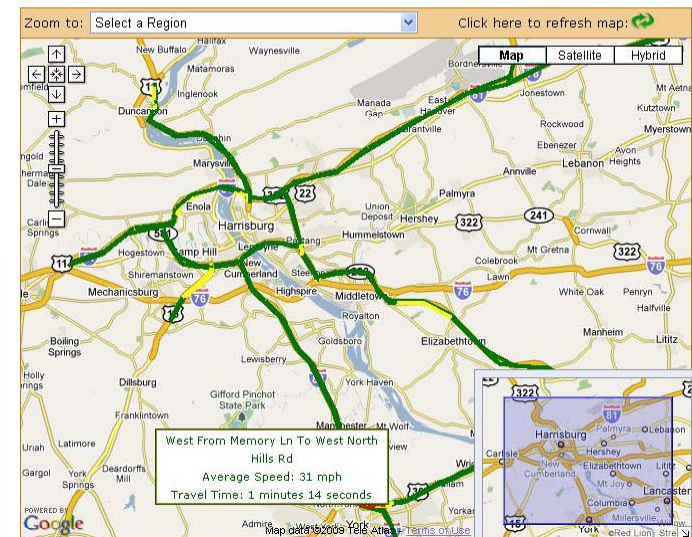
Personalized Alerts

511 PA Roadway Network

Map Legend

<input type="checkbox"/> Incidents	
<input type="checkbox"/> Weather/Alerts	
<input type="checkbox"/> Special Events	
<input type="checkbox"/> Construction	
<input type="checkbox"/> Cameras	
<input checked="" type="checkbox"/> Show Speeds	
■ > 50 mph	■ 30-49 mph
■ < 30 mph	■ No Info
Conditions	

Traffic Map



QUESTIONS ?