

PENNSYLVANIA

ROP

REGIONAL OPERATIONS PLAN

2007



Final
January 2008

Southern Alleghenies Region

ACKNOWLEDGMENTS

This plan was made possible through the leadership of PennDOT's District 9-0, Bureau of Highway Safety and Traffic Engineering (BHSTE), and Center for Program Development and Management; the Federal Highway Administration; the metropolitan planning organizations (MPOs) for Blair County and the Johnstown area; and the Southern Alleghenies rural planning organization (RPO). This Regional Operations Plan (ROP) was developed with input from multiple regional stakeholders.



Regional Champion

PennDOT District 9-0 served as ROP champion. In particular the District 9-0 staff who contributed toward the development of the ROP included:

- Mike Pastore District 9-0 Assistant District Traffic Manager

Regional Steering Committee

The ROP Steering Committee consisted of the following individuals:

- John Ambrosini PennDOT District 9-0 Traffic Manager
- Brenda Murphy PennDOT BHSTE
- Jim Hunt Federal Highway Administration
- Dean Roberts PennDOT Program Center
- Chris Allison Southern Alleghenies RPO
- Dave Belz Johnstown Area MPO
- Wes Burkett Metropolitan Planning Organization for Blair County

Consultant Team

PB Americas, Inc. (PB), Telvent Farradyne, and Olszak Management Consulting facilitated the ROP process, documented the outcomes, and prepared the plan document.

TABLE OF CONTENTS

EXECUTIVE SUMMARY	IV
ACRONYMS AND ABBREVIATIONS.....	V
1. BACKGROUND.....	1
1.1 Federal Guidance on Operations	1
1.2 Statewide TSOP Initiative.....	2
1.3 ROP Scope and Objectives.....	3
1.4 ROP Development Process	4
1.5 ROP Oversight and Management	7
2. SOUTHERN ALLEGHENIES REGION ACTIVITIES AND INITIATIVES.....	8
2.1 Description of the Region	8
2.2 ITS and Operations Activities at the District Level.....	8
2.3 Regional Initiatives	11
2.4 The Regional Planning Process	12
2.5 Integrating the ROP into the Regional Planning Process	14
3. REGIONAL OPERATIONS FRAMEWORK.....	16
3.1 Regional Operations Strategies	16
3.2 Incident and Emergency Management Operations Area.....	17
3.3 Traveler Information Operations Area	18
3.4 Foundational Issues Operations Area	19
4. REGIONAL PROGRAM	20
4.1 Overview	20
4.2 Project Priorities and Sequences	20
4.3 Approach to Funding	22
4.4 Regional Oversight.....	24
4.5 Measuring Success.....	24
4.6 Institutional Considerations	24
5. CONCLUSION	28
APPENDIX A - Project Descriptions	30
APPENDIX B - Description of the Region	57
APPENDIX C - Forum Invitees.....	63
APPENDIX D - Forum Workshop Meeting Summaries.....	65
APPENDIX E - Task Force Meeting Summaries.....	70

LIST OF FIGURES

Figure 1: ROP Process	4
Figure 2: Southern Alleghenies ROP Implementation Schedule by Operations Area.....	21
Figure 3: Southern Alleghenies ROP Region.....	57

LIST OF TABLES

Table 1: Summary of Key ITS Equipment in the Southern Alleghenies Region.. 11
Table 2: Incident and Emergency Management Regional Needs and Projects .. 17
Table 3: Traveler Information Regional Needs and Projects..... 18
Table 4: Institutional Issues Regional Needs and Projects 19
Table 5: Southern Alleghenies Region Population by County, 2005..... 58
Table 6: Comparison of Key Population Demographics Southern Alleghenies
Region, Pennsylvania, and ahe United States, 2005..... 58
Table 7: Comparison Of Commuting Patterns Among Workers 16 & Over
Southern Alleghenies Region, Pennsylvania, and ahe United States, 2000 59
Table 8: Southern Alleghenies Region Linear Miles, 2005 59
Table 9: Southern Alleghenies Daily Vehicle Miles of Travel, 2005 60
Table 10: Major Highway Corridors..... 60

EXECUTIVE SUMMARY

The Southern Alleghenies Regional Operations Plan (ROP) is a living planning document designed to outline transportation operations projects, programs, and policies to be implemented in the six-county region over the next 12 years. These projects reflect solutions to the many needs and issues identified by transportation representatives throughout the study area over the past nine months.

This project served as an extension of the Transportation Systems Operations Plan (TSOP) adopted in September 2005, and defines the region's priorities for improving operations for the following planning partners: Southern Alleghenies RPO, Johnstown Area MPO, and the MPO for Blair County.

Operations improves safety and security for transportation system users and helps to improve accessibility and mobility through better management of incidents and events that affect the transportation system. For this plan, stakeholders identified three key operational areas. They are:

- Incident and Emergency Management,
- Traveler Information, and
- Foundational Issues.

In addition, there were several key institutional recommendations that were identified. These recommendations fell roughly into seven categories:

- 1) Establish dedicated funding for ITS
- 2) Maximizing the benefits of the TMCs
- 3) Better maintain and manage existing equipment
- 4) Expedite the communication line request process
- 5) Permit the use of wireless communication systems
- 6) Improve guidance on incident management protocols
- 7) Integrate reporting systems

The ROP development process explored the needs of each of these operations areas and identified priority deployments, programs, and policies that best meet those needs, both for highways and public transportation. In addition, the development of this plan also serves to inform the update of TSOP 2007—the statewide guidance on operations—from the bottom up.

ACRONYMS and ABBREVIATIONS

AFLADS	Automatic Fixed Location Anti/De-Icing System
ARC	Appalachian Regional Commission
ATR	Automatic Traffic Recorder
ATRWS	Automatic Truck Rollover Warning System
AVL	Automatic Vehicle Location
BHSTE	Bureau of Highway Safety and Traffic Engineering
CCTV	Closed-Circuit Television
CMAQ	Congestion Mitigation and Air Quality
CMP	Congestion Management Process
CVO	Commercial Vehicle Operation
DMS	Dynamic Message Sign
DVMT	Daily Vehicle Miles of Travel
EDA	Economic Development Administration
EDP	Early Deployment Program
EMA	Emergency Management Agency
EMS	Emergency Medical Services
FHWA	Federal Highway Administration
FSP	Freeway Service Patrol
GPS	Global Positioning System
HAR	Highway Advisory Radio
HOV	High Occupancy Vehicle
IEM	Incident and Emergency Management
IEN	Information Exchange Network
IM	Interstate Maintenance
ISP	Information Service Providers
ITS	Intelligent Transportation System
LRTP	Long-Range Transportation Plan
MPO	Metropolitan Planning Organization
NHS	National Highway System
NIMS	National Incident Management System
NWS	National Weather Service
O&M	Operations and Maintenance
OA	Office of Administration
OIP	Other In-Pavement Loop Site
PEIRS	Pennsylvania Emergency Incident Reporting System
PEMA	Pennsylvania Emergency Management Agency
PennDOT	Pennsylvania Department of Transportation
PSP	Pennsylvania State Police
PTC	Pennsylvania Turnpike Commission
RCRS	Road Closure Reporting System
RIMIS	Regional Integrated Multimodal Information Sharing
ROP	Regional Operations Plan
RPO	Rural Planning Organization
RTMC	Regional Transportation Management Center
RTMS	Remote Traffic Microwave Sensor
RWIS	Road Weather Information System
SAFETEA-LU	Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users
STIP	Statewide Transportation Improvement Program
STMC	Statewide Transportation Management Center
STP	Surface Transportation Program
TIP	Transportation Improvement Program
TMA	Transportation Management Associations

TMC	Transportation Management Center
TSAMS	Traffic Signal Asset Management System
TSOP	Transportation Systems Operations Plan
UPWP	Unified Planning Work Program
USDOT	United States Department of Transportation

1. BACKGROUND

Transportation agencies today do not always have the luxury of undertaking new capacity expansion projects. Instead, more innovative approaches are often required to optimize the use of transportation infrastructure and achieve heightened operational efficiencies. Those activities, approaches, and procedures that help to maximize efficiencies are part of the transportation operations program. Operations planning is the process used to define and prepare for operations programming.

The Pennsylvania Department of Transportation (PennDOT) is responsible for operations planning at the statewide level. The statewide plan is spelled out in the Transportation Systems Operations Plan (TSOP), which defines PennDOT's operational directions over the next several years.

To complement the statewide operations planning effort, each of the nine transportation operations regions across the Commonwealth has undertaken preparation of a Regional Operations Plan (ROP), which documents the region's approach to operational activities. The plans were prepared through joint consultations between PennDOT District offices, transportation planning partners, and other key regional stakeholders. The plans all use TSOP as a starting point, but adapt the statewide directions to each region's transportation conditions, values, and priorities.

This document specifies the ROP for the Southern Alleghenies Region.

1.1 Federal Guidance on Operations

Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), the latest federal transportation reauthorization legislation, requires consideration of transportation systems operations and management from two primary levels in the planning process. First, long-range transportation plans shall contain operational and management strategies to improve the performance of existing transportation facilities. Second, within transportation management areas, the transportation planning process shall address congestion management through a process that provides for safe and effective integrated management and operation of the transportation system.

FHWA is focusing on a number of high priority efforts to help reduce congestion on the nation's highways in support of the United States Department of Transportation (USDOT) Secretary's Congestion Relief Initiative. Together, these efforts will provide information that allows more informed decisions, better coordination, and quicker action to avoid and reduce traffic congestion.

Furthermore, the SAFETEA-LU Real-Time System Management Information Program (Section 1201) is to provide all states with the capability to monitor, in real time, the traffic and travel conditions of the major highways of the U.S. and to share that information to improve the security of the surface transportation system, to address congestion problems, to support improved response to weather events and surface transportation incidents, and to facilitate national and regional highway traveler information.

Finally, the Work Zone Safety and Mobility Final Rule took effect in October 2007. The Final Rule places increased emphasis on maintaining travel mobility in construction work areas through enhanced operations, traffic management, and public information strategies.

The ROP's constituent projects and strategies are consistent with and support many of the elements related to Federal operations priorities.

1.2 Statewide TSOP Initiative

The Transportation Systems Operations Plan, adopted in September 2005, defines PennDOT's general framework for managing capacity along the Commonwealth's roadways. Its development was a response to PennDOT Executive Goal No. 6, to "effectively and efficiently operate the transportation system." Toward this end, TSOP has four overarching goals:

1. build and maintain a transportation operations foundation,
2. improve highway operational performance,
3. improve safety, and
4. improve security.

Associated with these goals are a series of tangible objectives. Key objectives include:

- support transportation operations uniformly in all PennDOT engineering districts;
- furnish consistent incident response on all segments of the interstate system, regardless of location;
- share timely, reliable information about incidents among federal, state, and regional/local emergency management agencies;
- improve mobility on arterials through consolidated inter-municipal management of traffic signals;
- provide practical, reliable traveler information to transportation consumers using no-cost or low-cost media; and
- define and implement performance metrics for effectively managing operations and guiding planning and funding.

An electronic version of the TSOP document is available at: www.paits.org.

TSOP, first and foremost, is an action plan of statewide projects. There are 19 projects that encompass four priority areas:

- incident and emergency management,
- traffic signals,
- traveler information, and
- standardization.

Standardization encompasses the uniformity of hardware, software, communications procedures and protocols, etc.

TSOP is being updated during calendar year 2007.

1.3 ROP Scope and Objectives

The Regional Operations Plan for the Southern Alleghenies Region specifies the intended approach to transportation operations. It identifies, defines, and prioritizes operationally-focused studies, programs, and projects for the region, consistent with regional and statewide operations objectives (see Appendix B for a description of the region). The ROP sets the stage for regional implementation of pertinent elements of TSOP. It may also identify other initiatives reflective of the specialized needs of the region.

Development of the ROP is intended to:

- define a strategic transportation operations plan for the region,
- extend TSOP to the regional level,
- tailor statewide directions to regional needs,
- specify and prioritize regional operations projects,
- achieve uniformity and compatibility across operations regions, and
- expand cooperative relationships between regional transportation operators and planning partners.

Regarding the last item, the ROP process is intended to link planning and operations. It emphasizes (1) collaboration and coordination among regional planners and operators, and (2) structured assessment of the planning and operational implications of expanded management procedures, technology systems, and investments. The ROP will feed into the Long-Range Transportation Plans (LRTPs) in each region and the corresponding Transportation Improvement Programs (TIPs). Each ROP will also supply important inputs to future updates of TSOP, Regional Intelligent Transportation System (ITS) Architectures, and PennDOT's Long-Range Statewide Transportation Plan (the Pennsylvania Mobility Plan).

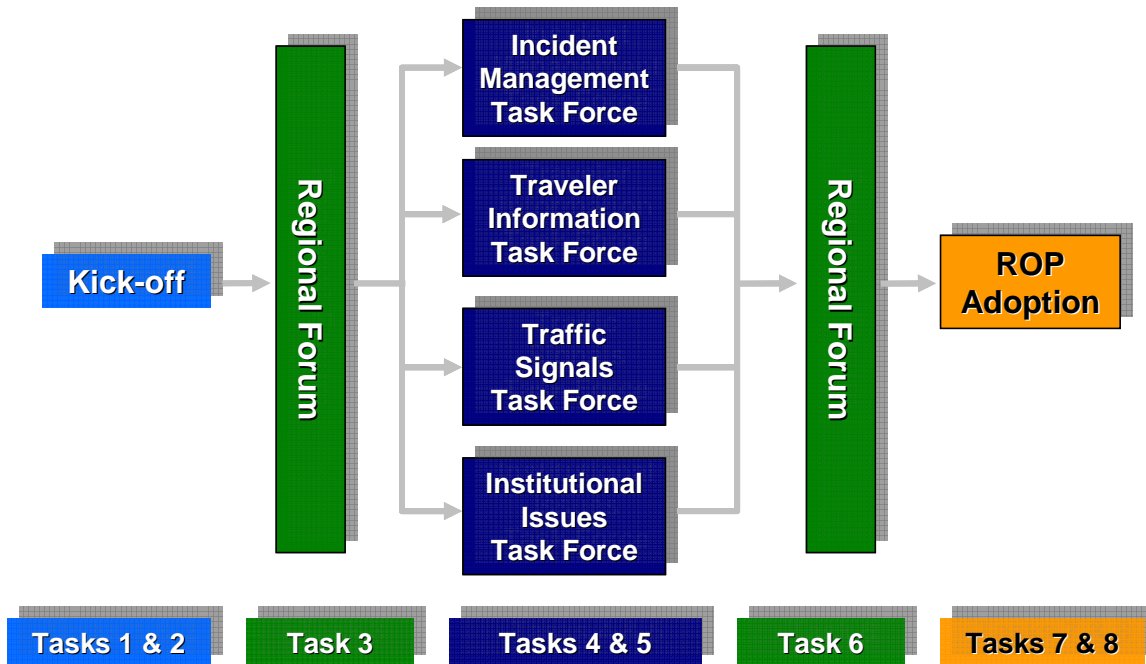
ROP stakeholders in every region are presenting the ROP document to their respective metropolitan planning organizations (MPOs) and rural planning organizations (RPOs), encouraging these planning partners to adopt or endorse the plans.

It is expected that all ROPs will be updated at two-year intervals in advance of biannual TIP update cycles.

1.4 ROP Development Process

The 10-month Southern Alleghenies ROP development process involved conducting outreach workshops and smaller group meetings as well as researching and developing regional operations projects. The ROP involved the following key activities shown in Figure 1:

Figure 1: ROP Process



Task Descriptions

1. Designation of a Regional Steering Committee

The Steering Committee oversaw and guided development of the ROP. It met routinely throughout the ROP process to provide input, review materials, and make important decisions. Additionally, several meetings were held with a broader group of regional stakeholders to elicit their input, thoughts, and responses to draft materials.

2. Review of Pertinent Documents and Materials

In preparing the ROP, the following items were reviewed:

- PennDOT - *Southern Alleghenies Regional ITS Architecture* (December 2004)
- PennDOT - *Transportation Systems Operations Plan* (September 2005)
- PennDOT - *District 9-0 Long-Range ITS Plan* (May 2006)

- PennDOT - *Pennsylvania Mobility Plan* (September 2006)
- Cambria County Planning Commission /Johnstown Area MPO – *Long-Range Transportation Plan 2005-2030* (February 2003)
- Cambria County Planning Commission /Johnstown Area MPO - *Unified Planning Work Program* (January 2006)
- Cambria County Planning Commission /Johnstown Area MPO - *Transportation Improvement Program* (FFY 2007-2010)
- Metropolitan Planning Organization for Blair County - *Unified Planning Work Program* (January 2006)
- Metropolitan Planning Organization for Blair County - *Transportation Improvement Program* (FFY 2007-2010)
- Southern Alleghenies Rural Planning Organization - *Long-Range Transportation Plan 2003-2023* (November 2003)
- Southern Alleghenies Rural Planning Organization - *Transportation Improvement Program* (FFY 2005-2008)

An inventory of operations projects—planned or underway—across the region was created and disseminated as guidance material to the Regional Forum.

3. Establish a Regional Operations Forum

Opportunities for outreach and stakeholder involvement were established through a Regional Forum—a representative decision-making body of knowledgeable planning partners and practitioners across the region responsible for planning and overseeing transportation operations, specifically development of the ROP. The Regional Forum in this case already existed somewhat in the form of the District 9-0 ITS Work Group. Summaries of the ROP Forum meetings are provided in Appendix D.

4. Definition of Regional Operations Needs

The starting point for identifying critical needs was TSOP, followed by region-specific operational requirements addressed at the first Forum workshop. Following this discussion, four operational areas were identified that organized these needs into defined groups. Initially there were four groups, including: incident and emergency management, traveler information, communication and foundational issues. During the process, the communications needs area was collapsed into the foundational area.

5. Identification and Profiling of Projects

Task Forces were identified for each of the operations areas to identify solutions to those needs in the form of potential “projects” (i.e., planning studies, programs, physical deployments, etc.). These projects reflected the specialized conditions and circumstances of the region consistent with statewide guidance. Meeting summaries from each of the Task Force meetings are provided in Appendix E.

6. Development of the Regional Program

After the Task Forces completed their efforts, the Steering Committee, with assistance from the regional stakeholders, prioritized projects within and between the operations areas. As part of this decision-making process, the Committee considered other key issues including program leads, implementation schedules, funding sources, budgetary constraints and techniques for monitoring performance.

7. Prepare and Adopt a Regional Operations Plan

The ROP is being considered within the TIP development process and will be incorporated and adopted as part of each of the planning partners' long-range plans.

1.5 ROP Oversight and Management

This section identifies those agencies and individuals who managed or contributed to development of the ROP.

Regional Champion

PennDOT District 9-0 served as ROP champion. In particular the District 9-0 staff who contributed toward the development of the ROP included;

- Mike Pastore District 9-0 Assistant District Traffic Manager

Regional Steering Committee

The ROP Steering Committee consisted of the following individuals;

- John Ambrosini PennDOT District 9-0 Traffic Manager
- Brenda Murphy PennDOT BHSTE
- Jim Hunt Federal Highway Administration
- Dean Roberts PennDOT Program Center
- Chris Allison Southern Alleghenies RPO
- Dave Belz Johnstown Area MPO
- Wes Burkett Metropolitan Planning Organization for Blair County

Regional Operations Forum

The Forum identified the region's operations needs and prioritized potential projects. The names and affiliations of Forum invitees are provided in Appendix C.

Task Forces

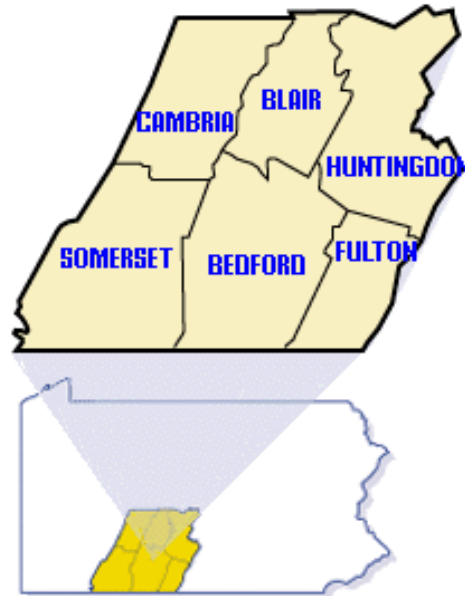
Each of the Task Forces held meetings to discuss needs and identify projects. The names and affiliations of Task Force participants are included in the meeting summaries in Appendix E.

2. SOUTHERN ALLEGHENIES REGION ACTIVITIES AND INITIATIVES

2.1 Description of the Region

For the purpose of the ROPs, the Southern Alleghenies Region is defined as Bedford, Blair, Cambria, Fulton, Huntingdon, and Somerset counties. These six counties align geographically with PennDOT District 9-0 and include three planning partners: the Southern Alleghenies Planning & Development Commission RPO (Bedford, Fulton, Huntingdon and Somerset Counties), Johnstown Area MPO (Cambria County), and the Metropolitan Planning Organization for Blair County (Blair County).

A more detailed description of the region is provided in Appendix B.



2.2 ITS and Operations Activities at the District Level

District 9-0

PennDOT District 9-0 is situated in the Southern Alleghenies Region of Pennsylvania and encompasses six counties: Bedford, Blair, Cambria, Fulton, Huntingdon, and Somerset.

Traffic Management Center

The District 9-0 TMC currently operates from 7:00 a.m. to 3:00 p.m. Its functions include:

- Gathering roadway data, identifying roadway weather conditions, congestion, and verifying incidents from closed-circuit television (CCTV) cameras and sensors,
- Supporting construction and maintenance operations,
- Monitoring traffic restrictions,
- Monitoring traffic signal operation,
- Posting Amber Alerts,
- Programming and monitoring ITS field devices for special events/holiday congestion,
- Monitoring of roadways, bridges, railways, etc for Homeland Security.
- Controlling various ITS field devices,
- Disseminating information to the public and other agencies,
- Coordinating incident response throughout the district,

- Providing traveler Information via DMS and HAR,
- Facilitating real-time information sharing with regional media outlets, and
- Providing travel information on dynamic message signs (DMSs).

The District faces the challenge of sharing the operations of the system outside of normal working hours. An agreement was in place to hand over operations to the Blair County 911 Communications Center—a 24/7 center—during non-working hours. However, the 911 center has decided not to continue the agreement to provide 24/7 operations. The Pennsylvania State Police (PSP) have expressed an interest in helping with the 24/7 operational coverage during the non-working hours of the TMC. The additional equipment that was installed in the 911 Center could be relocated to the PSP in Hollidaysburg. Protocols and procedures exist to enable the PSP to assume TMC functions. This transition is anticipated to be completed by the end of 2008.



The collaboration between PennDOT and the Blair County 911 has helped to improve incident response time. Also, managing the transportation network on a 24/7 basis lays the foundation for a potentially safer highway system with reduced secondary crashes; motorists can be provided with alternative route information during incidents or other events at virtually any time,

day or night. PennDOT was able to achieve round-the-clock monitoring, and the 911 Center received equipment and response capabilities it might not otherwise have had. While this has resulted in a greater duration of monitoring and greater utilization of ITS devices, the attention that can be given to ITS by the 911 Center was, at times, limited by other primary duties that are performed at the center. District 9-0 is currently in the process of relocating the equipment from the 911 Center to the Pennsylvania State Police.

Pennsylvania Turnpike

The Pennsylvania Turnpike Commission (PTC) plays a vital role in regional travel within and through the Southern Alleghenies Region, functioning as the primary east-west route for the region. The Turnpike has a sophisticated incident monitoring and response network that spans the entire Turnpike system. Early warning incident detection measures help to promote safety and issue prompt responses to incidents along the entire Pennsylvania Turnpike system. ITS devices deployed by the Commission include CCTV, DMS, Highway Advisory Radio (HAR), a Truck Rollover Warning System (TRWS) located on the eastbound exit ramp at the Breezewood interchange, a Truck Fog Detection System (TFDS), and a Road Weather Information System (RWIS). Additionally, PTC's operations program contains the following components:

Operations Control Center

The Pennsylvania Turnpike Commission maintains a 24 hours a day, 365 days a year Operations Control Center located in the Administration Building in Harrisburg. Serving as the hub of all Turnpike communications, the Operations Control Center continuously monitors Turnpike activities via an extensive radio system. Roadway conditions, construction status, and weather conditions are all monitored at the Center. The Center also serves as the focal point for all Turnpike incident management activities.

Unified Incident Command

In 2001 the Pennsylvania Turnpike Commission, as part of a cooperative effort with several emergency responder organizations, began formulating a new model for Unified Incident Command to be utilized on the Pennsylvania Turnpike. Unified Incident Command is a team effort that allows all the agencies with responsibilities for an incident to establish a common set of goals and objectives.

Travel Board InfoCenters

Travel Board InfoCenters are located in each of the 22 service plazas located along the Pennsylvania Turnpike. The travel boards feature a large illuminated map of the Turnpike and provide travelers with directions, distance, and driving times to various Pennsylvania destinations. Additional Travel Board InfoCenter information is available at www.paturnpike.com

TRIP (Turnpike Roadway Information Program)

TRIP gathers information through automated data and video feeds from the PA Turnpike's 24/7 Traffic Operations Center, along with information from roadway crews, police, and emergency responders, and delivers it to the public via its Interactive Travel Web Map, service plaza message boards, the toll-free telephone call-in advisory system, and the automated Preferred Traveler e-mail and text message notification systems. This integrated communications network program enables the PTC to deliver accurate and consistent real-time travel information to nearly 190 million annual customers.

The PA Turnpike web site is accessible at www.paturnpike.com. More information is available by phone at 866-976-TRIP (866-976-8747).

Alternative Routing Plans

The Turnpike Commission's road closure procedure, "Plan X," is the method by which the Commission, in emergency situations such as multiple vehicle accidents, closes certain sections of the Turnpike and reroutes traffic around the affected sections. The Commission has established pre-approved routes for both commercial and passenger vehicles. Turnpike personnel at affected interchanges will distribute written re-routing directional cards to assist exiting customers.

Regional Summary of Highway Devices and Services

Table 1 includes a comparison of existing ITS devices and those currently under construction, as well as other operational services in the region.

Table 1: Summary of Key ITS Equipment in the Southern Alleghenies Region

Region-wide ITS Device and Services	District 9-0	PTC*	Region Totals
CCTV	36	2	38
DMS permanent	29	5	34
DMS portable/semi-permanent	18	N/A	18
HAR	3	3	5
RWIS	29	3	32
Traffic Loop Counting Sensors	14	7	21
Incident Trailers	6	0	6
Microwave Detection	0	N/A	0
Freeway Service Patrols	0	28**	28
Closed Loop Traffic Signal Systems	32	N/A	31

(Source: PennDOT District 9-0)

*Regional deployments as of 2006 from Pennsylvania Turnpike Commission's Advanced Traveler Information System Phase III Report 2006

**System-wide total from PTC's website (www.paturnpike.com/news/2007/mar/nr030107_FarmWest.htm)

Transit Operations

Two transit agencies serve the Southern Alleghenies Region: the Cambria County Transit Authority (CamTRAN) and Altoona Metro Transit (AMTRAN).

CamTRAN operates 15 routes, with hours ranging from 5:30 a.m. to 10:30 p.m. weekdays, and reduced hours on weekends for certain routes. Besides providing service to Johnstown, CamTRAN covers rural northern Cambria County with six fixed routes, paratransit, and reserve-a-ride programs.

AMTRAN serves primarily the Altoona area, with 12 routes providing 700,000 rides per year. Routes run Monday through Saturday, from 6:00 a.m. to 6:30 p.m., including service to the Altoona campus of Pennsylvania State University.

2.3 Regional Initiatives

ITS Working Groups

The Southern Alleghenies ITS Operators Group is a series of ongoing meetings between planning partners, 911 centers, emergency operations center staff, and PennDOT District 9-0 TMC staff. The purpose of the meetings is to build relationships, share technology, and discuss future ITS needs in the region. The group meets semi-annually, in April and November.

Transit Initiatives

Future transit initiatives for the region include AMTRAN's \$1.6 million ITS project. The project, still in the prioritization phase, will have several traveler information components, and will also utilize GPS/AVL capabilities on all vehicles. However, the extent of project components has not yet been fully determined.

2.4 The Regional Planning Process

As the planning organizations for the region, MPOs and RPOs are required to develop and regularly update several transportation planning and programming documents including a Long-Range Transportation Plan, which establishes the long term vision for the region, the Unified Planning Work Program (UPWP), which identifies the transportation planning activities to be conducted within the state fiscal year, and the Transportation Improvement Program, which details the transportation project priorities of the region over a four-year period.

The transportation planning process was established to promote federal, state, and local transportation objectives. The process provides a forum where decision-makers identify issues and opportunities and make informed decisions regarding the programming and implementation of transportation projects and services that address them.

Unified Planning Work Program

The UPWP identifies transportation planning activities and establishes the priorities to be conducted during each state fiscal year.

The MPOs and RPOs in the Southern Alleghenies Region each expect drafts of the next UPWP by February 2008, which will cover the timeframe from July 2008 through June 2009.

Long-Range Transportation Plan

Clearly, transportation systems and economic and business development have a direct impact on each other and upon virtually every aspect of living and working in the Southern Alleghenies Region. Local MPOs and RPOs are working to ensure that plans and efforts in both of these arenas support each other.

The Southern Alleghenies Rural Planning Organization's Long-Range Transportation Plan for 2003 through 2023 was last updated in November 2003. The next update of the LRTP is expected in 2008, and will cover 2008 through 2028. The LRTP of the MPO for Blair County is a 25-year plan, and the most recent version received approval in June 2007. The LRTP covers the years 2007 through 2031. Finally, the Johnstown Area MPO's LRTP is expected to be updated in 2008, and will cover 2008 through 2033. Federal law requires regional planning agencies to revisit and update their long-range plans at least every four years.

Transportation Improvement Program

Federal regulations also require the region's MPOs and RPOs to develop and maintain Transportation Improvement Programs. The TIPs identify the region's highest priority transportation projects, develop multi-year programs of implementation, and identify available federal and non-federal funding for the identified projects. The TIPs cover a four-year period of investment and are updated every two years through a cooperative effort of local, state, and federal agencies, and the general public.

The 2007-2010 TIP for the Southern Alleghenies RPO identifies the priority highway and transit improvements programmed for advancement from October 1, 2008, through September 30, 2011 (federal fiscal years 2009-2012). The 2009-2012 TIP specifies the priorities for the region and includes reasonable estimates of available funds and anticipated project expenditures. Individual improvement projects must be included on the 2009-2012 TIP to become eligible for federal funding. In some cases, small-scale projects have not been specifically identified, but rather have been grouped into line items based on the type of project. Blair County's TIP is expected in draft form in January 2008, and will become finalized in June 2008 in time for the 2009-2012 planning timeframe. The Johnstown Area MPO is on the same schedule for updates.

The District 9-0 ITS Operators Group meets occasionally to work cooperatively to develop the recommended program of projects. Staff representatives from the MPOs and RPOs, PennDOT, the planning departments of each member county, and the region's urban and rural transit operators actively participate in the development and ongoing updates of the TIP. It is expected that this ROP will serve as an input into the next TIP development.

State Transportation Improvement Program

SAFETEA-LU requires that TIPs and State Transportation Improvement Programs (STIPs) be updated at least every four years. In Pennsylvania, the STIP is updated every two years to coincide with the regional TIP development and is represented by the first four years of the Twelve-Year Transportation Program. The Twelve-Year Transportation Program, as required by Act 120 of Pennsylvania State Law and its amendments, targets the Commonwealth's improvement efforts in all major transportation modes: highways, bridges, aviation, rail, and transit.

The Twelve-Year Transportation Program also involves the preparation of comprehensive information packages for key Department staff, the State Transportation Commission (STC), and elected state and federal legislators and officials. These packages facilitate and communicate the development of a transportation system responsive to the needs of the Commonwealth, monitor progress on key programs and projects, and aid in resolving outstanding Transportation Program issues. Staff and support services are also provided to the STC and other Program Center functions to prepare improvement programs that maintain and enhance the existing transportation system.

2.5 Integrating the ROP into the Regional Planning Process

The ROP is intended to be a step toward integrating and mainstreaming operations into planning. It lays out the operations program for the region, including a description of regional projects. It identifies, defines, and prioritizes operationally-focused projects consistent with regional and statewide operations objectives.

Ultimately, the ROP will feed into the regional LRTP and the corresponding TIPs. The ROP, like the LRTP, represents a long-range vision. The LRTP is updated every four years and feeds the TIP that is updated every two years. The ROP is planned to be updated every two years to coincide with the TIP process. The ROP will also serve as inputs to future TSOP and Regional ITS Architecture updates, as well as PennDOT's Statewide LRTP.

Operations planning is a joint effort that encompasses the important institutional underpinnings needed for effective regional transportation cooperation, coordination, and consistency. Operations utilizes technology tools and techniques, such as ITS, as well as new institutional arrangements. Operations planning includes three important elements:

1. Regional transportation operations collaboration and coordination activity that facilitates stakeholder input.
2. Management and operations considerations within the context of the ongoing regional transportation operations systems and investments.
3. Linkage between regional operations collaboration and regional planning, programming, and investment processes.

An effective transportation system requires not only the provision of highway and transit infrastructure for movement of people and freight, but also the efficient and coordinated operation of the regional transportation network in order to improve system efficiency, reliability, and safety.

Linking planning and operations involves actions that build stronger connections between transportation planners and operators. It involves coordination and collaboration that can strengthen the role of operational strategies in helping to attain goals and objectives set forth in the planning process, and it integrates operations thinking in the planning of infrastructure projects.

Regional transportation planning and investment decision-making require a great deal of inter-jurisdictional coordination. Similarly, effective regional transportation operations require collaboration and coordination among operating agencies across jurisdictions and between transportation and public safety agencies. The focus of linking planning and operations is to provide stronger connections between these two processes and activities. MPOs and RPOs throughout the state are being encouraged to adopt the ROP and incorporate it into the LRTP process.

Key outcomes of this linkage between ROPs and LRTPs are:

- **To instill an operations “mindset” and strategizing into the planning process** – Planners need a greater understanding of the role of operations projects and programs in the context of meeting regional goals and objectives, and a greater understanding of how they can help advance these activities.
- **To ensure collaboration between planners and operators in order to:**
 - provide access to system-wide 24-hour travel data that can be used to better characterize existing system performance and travel conditions and identify the most critical transportation problems;
 - provide operations data and expertise to improve forecasts of future conditions, broaden the understanding of existing conditions, and analyze the effectiveness of alternative investments;
 - foster greater consideration of the day-to-day functioning of the transportation network and the real conditions facing travelers, which can help frame regional transportation goals, objectives, and priorities; and
 - identify how transportation plans can address issues such as reliability, security, and safety—issues that are generally difficult to address with traditional infrastructure investments alone.
- **To instill “planning thinking” into operations** – Operators need a greater understanding of how the long-range planning process can support management and operations activities, and how these activities fit into the context of regional goals and objectives in the planning process.
- **To ensure collaboration between operators and planners in order to:**
 - provide regional leadership and greater participation by stakeholders in regional operations efforts,
 - clarify the role of operations in meeting a region’s transportation vision and goals,
 - direct attention to the value of operations strategies, and
 - increase resources assigned to operations projects and programs.
- **To ensure benefits to travelers in terms of:**
 - enhanced transportation network reliability,
 - improved emergency preparedness,
 - greater access to information, and
 - consideration of a broader array of potential travel alternatives.

The ROP, once adopted by each region in Fall 2007, should serve as input into the LRTP. It can be incorporated directly into the plan or as an attachment, section, or appendix. Segments of the ROP may be quoted in the LRTP document as warranted. Projects outlined in the ROP may be highlighted in regional policy discussion for consideration and coordination within the LRTP process. The ROP can also be used as an informational document to help ensure that operational projects receive equal consideration with other pressing regional needs during the project evaluation process for the LRTP. Participants in the stakeholder and public involvement process should be educated about the benefits of operations strategies versus their relatively low cost.

3. REGIONAL OPERATIONS FRAMEWORK

3.1 *Regional Operations Strategies*

The suggested approach for regional operations planning was intended to be flexible rather than prescriptive. That is, a general process for developing a ROP was recommended which the Southern Alleghenies Region could adapt its specialized conditions and circumstances.

Results of the ROP process included the definition of three “operations areas” that described the region’s needs. These three operations areas are:

- incident and emergency management,
- traveler information, and
- foundational issues.

Projects for each operations area were identified through respective Task Forces and the larger regional forum. The final ROP initiatives fall into four types of “projects:” plans and studies, policy development and implementation, programs, and deployments.

In the Southern Alleghenies Region, the majority of ROP projects tend to be deployment related as opposed to planning studies and policy. There appeared to be a desire to implement ITS technologies that improved the use, integration, and benefits of current operations deployments.

Discussions by the Task Forces and Forum produced nearly 26 candidate projects that were considered for the final ROP, with descriptions highlighting lead and support agencies, linkages to TSOP efforts, estimated costs, benefits, and timeframes for completion, among other criteria.

Operations areas and individual ROP projects are identified on the following pages. Detailed ROP project information can be located in Appendix A.

3.2 Incident and Emergency Management Operations Area

The Incident and Emergency Management Operations Area defines the processes, procedures, and relationships needed to effectively manage incidents and emergencies. The central objective of the effort is to improve the time required to respond to incidents and natural or man-made events, and to manage the processes safely, securely, and efficiently. Improved management of incidents can significantly reduce congestion and enhance safety and mobility.

Toward this end, this operations area focuses on:

- Comprehensive policies and procedures that are needed for managing and responding to incidents, special events, emergencies, and large-scale evacuations,
- Consistency of incident management policies and procedures so that communications, responses, and protocols are uniform and seamless,
- Defining and implementing a statewide infrastructure for managing incidents and
- Strengthening relationships among incident management partners.

The original Incident and Emergency Management priorities and finalized initiatives are listed in Table 2, demonstrating the translation from regional operations needs to defined projects that are planned to be addressed by the ROP.

Table 2: Incident and Emergency Management Regional Needs and Projects

Needs	Projects
<ul style="list-style-type: none"> • Improve incident management procedures • Broaden understanding of road closure criteria/authority • Develop clear detour routing protocols • Improve incident information dissemination • Improve off-hours operations • Improve communications among agencies • Confirm that information is received by appropriate personnel • Promote reliable information exchange among systems 	<ul style="list-style-type: none"> B-3: Evacuation Planning C-2: SR 22 Ebensburg CCIP C-3: Evacuation Planning S-3: Evacuation Planning P-4: Improve Detour Route Sharing

See Appendix A for complete project descriptions.

3.3 Traveler Information Operations Area

The Traveler Information Operations Area builds on the statewide traveler information priority by incorporating regional needs to develop and deploy a regional traveler information program. In particular, it will:

- Expand partnerships for traveler information dissemination,
- Examine best practices for using third-party vendors and infrastructure to deliver traveler information and
- Define means, media, and methods for delivering reliable traveler information, especially so travelers can make informed pre-trip and en-route decisions.

The original Traveler Information priorities and finalized initiatives are listed in Table 3, demonstrating the translation from regional operations needs to defined projects that are planned to be addressed by the ROP.

Table 3: Traveler Information Regional Needs and Projects

Needs	Projects
<ul style="list-style-type: none"> • Provide real-time traveler information to highway users • Provide travelers with access to additional sources of traveler information • Provide users with web-based transit information • Expand communications coverage 	<p>B-1: I-99 DMSs, HARs and CCTVs at Pinecroft, Bellwood, Etc.</p> <p>B-2: Install DMSs (Portables) along Plank Road</p> <p>B-4: Plank Road Interchange Project ITS Devices</p> <p>C-1: Scalp Avenue DMS and CCTV</p> <p>C-4: SR 56 & SR 403 DMSs & CCTVs through Conemaugh Gap</p> <p>C-5: SR 22 DMSs and CCTVs</p> <p>C-6: SR 56 DMSs, HARs, and CCTVs in Johnstown</p> <p>S-1: I-70 SR 1013 Intersection Breezewood DMSs and CCTVs</p> <p>S-4: SR 30 and SR 220 DMSs and CCTVs at Bedford Interchange Area</p> <p>S-6: SR 22 ITS at Water Street</p> <p>S-7: SR 219 DMSs and CCTVs</p> <p>P-5: Standardize Reporting Procedures to the Media</p> <p>P-7: Broadcast Video Feeds</p> <p>A-1: AMTRAN – Web-Based Trip Planner</p>

See Appendix A for complete project descriptions.

3.4 Foundational Issues Operations Area

Foundational projects reflect the integration and expansion of communications in support of existing and future ITS deployments to the TMC. An improved communication backbone will provide for more reliable and efficient dissemination and collection of information throughout the region.

The original Foundational Issues priorities and finalized initiatives are listed in Table 4, demonstrating the translation from regional operations needs to defined projects that are planned to be addressed by the ROP.

Table 4: Institutional Issues Regional Needs and Projects

Needs	Projects
<ul style="list-style-type: none"> • Expanded TMC capabilities during off-hours • Cost effective equipment deployments • Streamlined procurement of communications technology • Need timely, cost-effective, high quality maintenance of ITS equipment 	B-5: I-99 Fiber Extension to Bedford S-2: SR 601 CCIP/Signals S-5: I-99 Fiber Extension to PA Turnpike and Possible Extension to SR 30 P-1: ATMS Integration P-2: Connect CCTV Feeds to PSP P-3: Regional ITS TMC Operations Manual P-6: Wireless Network Integration

See Appendix A for complete project descriptions.

4. REGIONAL PROGRAM

4.1 Overview

The ROP “projects” were developed such that the various stakeholders in the region share responsibility for their completion. The projects are sequenced to conform to the lead agency’s business and strategic plan frameworks. This mainstreaming of the ROP also ensures projects are incorporated into the existing planning and programming functions of each planning partner’s 2009 TIP and Long-Range Transportation Plan updates, and that they utilize and build on existing programs in the region to implement the initiatives defined in the plan. Overall coordination and cooperation between agencies is critical for the successful implementation of the ROP.

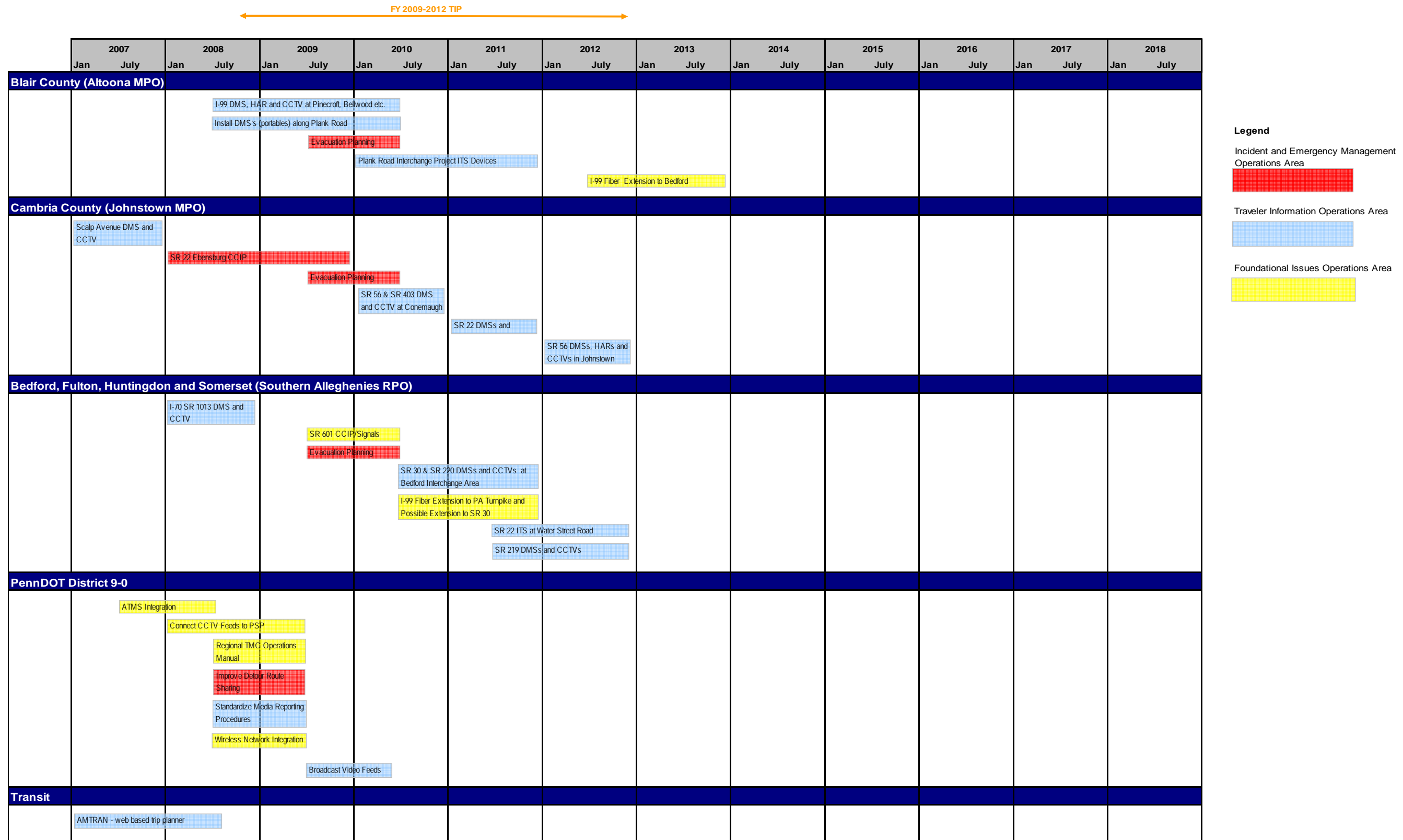
4.2 Project Priorities and Sequences

District 9-0 and Steering Committee members were involved in prioritizing projects to be addressed by the ROP and establishing implementation schedule. The resulting program is shown in Figure 2. It is anticipated that District 9-0 will periodically refine each of the projects, including scheduling and costs, prior to inclusion in the TIP.

The majority of these projects represent stand-alone physical deployments without the need of a study or policy prior to implementation. A 12-year programming horizon was selected because it corresponded with the State’s Twelve-Year Transportation Program.

A mix of planning partners, PennDOT Districts, and public transit providers were identified to champion both the incident and emergency management projects (indicated in red) and traveler information projects (indicated in blue). Foundational issues (indicated in yellow) were perceived to be primarily a PennDOT effort where control and coordination of strategic communication deployments could be better managed. The implementation schedule of ROP projects is shown in Figure 2.

Figure 2: Southern Alleghenies ROP Implementation Schedule by Operations Area



- Legend**
- Incident and Emergency Management Operations Area
 - Traveler Information Operations Area
 - Foundational Issues Operations Area

4.3 Approach to Funding

Linking planning and operations is important to improve transportation decision-making and the overall effectiveness of the system. Coordination between planners and operators helps ensure that regional transportation investment decisions reflect full consideration of all available strategies and approaches to meet regional goals and objectives.

Funding is a powerful tool for promoting participation. Agencies may be unaccustomed to coordinating with other agencies for operations, or perceive that coordination creates more hassle than benefit. When this is the case, providing additional resources in exchange for participation may overcome this issue. Planning partners can champion operations through training and other forums to promote regional operations strategies. Linking participation to funding access is the key. For example, an agency may become eligible for matching funds only by participating in a regional operations training program or an established regional operations group.

Almost every transportation agency identifies inadequate funding as a major concern. At the same time, virtually every agency acknowledges that funding constraints are a major impetus for advancing operations strategies. In many cases planners often become champions for relatively low-cost operations strategies after recognizing that the discrepancy between available funds and the cost of new capital investments to maintain regional mobility is too high.

Funding Sources

There are a number of funding sources that can support operations activities and equipment. Funding for system operations traditionally has relied on the discretionary budgets of individual agencies. However, due to the mainstreaming of operations through TSOP and ROP activities, statewide policies now allow several funding sources to be used for regional operations programs. Federal programs are also in place to encourage and promote the safe and efficient management and operation of integrated, intermodal surface transportation systems to serve the mobility needs of people and freight and foster economic growth and development.

Regional Funding

Depending on the project type, various funding approaches may be available for consideration. In the ROP, for priority projects, a project description and high-level scope of the project has been developed. Projects have been defined in terms of planning-type projects or deployment-type projects. Planning-type projects are programmatic and policy in nature. If the project is a planning-type project, it may be considered in the MPO/RPO's Work Program. The process for planning partners to consider including operations planning-type projects in the next Work Program will begin in October 2007 and end with the delivery of a program to the PennDOT Program Center by February 2008.

Projects that are defining and leading to specific ITS deployments can proceed as candidates to the TIP process for funding. Projects need to be consistent with the regional ITS architecture to move towards implementation. To the extent that there are discrepancies, these need to be captured and documented so necessary changes can be reflected in subsequent update to the regional ITS architecture. These types of projects can either become stand-alone capital deployment or can be packaged as part of a wide-area deployment or construction project. These deployment projects will be required to follow the PennDOT ITS Project Delivery Guidance, which incorporates the FHWA-adopted systems engineering process. Using this process will ensure consistency with project definition, integration, and consideration of ongoing operations and maintenance requirements. The 2009 TIP update process for each MPO/RPO has already begun and will be completed by each planning partner by July 2008.

At the discretion of each planning partner and PennDOT District, funds may be pooled for specific projects to achieve multi-jurisdictional benefit. PennDOT's Central Office may also decide to fund multiple cross-jurisdictional efforts using A-140¹ or other mechanisms to ensure coordinated statewide benefit. These types of pooled funding arrangements are project-specific and can be achieved when coordination and cooperation exists and the benefits of pooled or Central Office funding outweigh the administrative cost.

Federal Funding

There is flexibility in the use of federal funds (i.e., NHS, STP, CMAQ) for operations projects championed by planning partners and PennDOT. Federal funds can be used for traffic monitoring, management, and control for continued operations of the system, freeway surveillance, incident management efforts, traveler information systems, and traffic signal control. Federal funds are eligible for operating costs in labor, administrative, utilities, rent, and system maintenance associated with hardware and software maintenance (preventive and corrective).

For the use of interstate maintenance (IM) funds, eligibility is based on how "maintenance" and the Interstate Maintenance program are defined in Title 23 (USC 119, 116). If the project is a capital improvement to the interstate highway (such as deploying field devices to improve the highway) or involves preventive maintenance on the devices themselves, current FHWA PA Division policy guidance is that it would be eligible for IM funds.

Some of the eligible IM costs include:

- infrastructure-based improvements, such as new dynamic message signs, CCTV, detectors, and communication systems,
- replacement or rehabilitation of infrastructure, such as replacing components of dynamic message signs or CCTVs,
- preventative maintenance on the roadway traffic management infrastructure, and
- preliminary engineering directly related to infrastructure improvements.

If the project involves operations costs such as communications costs or routine or corrective maintenance it would not be eligible.

¹A-140 is a line item budget in the State of PA budget for Highway Systems Technology.

4.4 Regional Oversight

Ultimately, to be successful, ROP implementation will require the collaboration of many stakeholders. However, to help move the implementation process forward, it is expected that the Planning Partners and PennDOT District 9-0 can use the District 9-0 ITS Operators Committee to provide oversight and eventually be responsible for championing this plan. This committee will further track progress on implementation, oversee any “regional” projects, track performance measures, and lead the update of any future ROPs.

4.5 Measuring Success

To better ensure that operations-related efforts are producing meaningful results, projects that can be measured, should be measured. For most of the projects within the ROP, there are one or more key measures proposed to monitor the effectiveness of the project. While we would ideally measure desired outcomes, in the absence of outcome measures, the team suggests measures that are more output-oriented.

The goal of performance measurement is to attempt to quantify and understand the impacts of projects to assist in future decision-making: what worked, what didn't work, and why? This is critical in assessing the benefits of policies or projects and will be useful in making the case for future operations projects.

Some caveats should be given. Isolating and measuring the true impacts of operations policies, programs, and projects is challenging. Determining and quantifying cause and effect can be extremely difficult in a dynamic environment such as a transportation system. Care needs to be exercised so that any such analysis is technically grounded and defensible. In developing each project, the Committee should make a determination as to whether impacts of projects can be analyzed at a reasonable cost. Suggested performance measures for each project are listed in the project descriptions in Appendix A.

4.6 Institutional Considerations

Throughout the process, the Task Force participants raised numerous institutional issues that are viewed as potential impediments to the more efficient operation of the transportation system. Unfortunately, many of these issues fall outside of the direct control of the region. While this type of feedback did not neatly fit into actions that could be incorporated into ROP projects, it was important to capture. Participants believed that to be appropriately addressed many of these recommendations needed to be elevated to and addressed by PennDOT Central Office or other state agencies. This section identifies and discusses those institutional concerns that were identified as most critical to the successful implementation of an operations program.

These institutional recommendations, identified by importance according to the ROP Forum, fell roughly into seven categories:

- 1) Establish dedicated funding for ITS
- 2) Maximize the benefits of the TMCs

- 3) Better maintain and manage existing equipment
- 4) Expedite the communication line request process
- 5) Permit the use of wireless communication systems
- 6) Improve guidance on incident management protocols
- 7) Integrate reporting systems

Establish dedicated funding for operations

Unless there are dedicated funds for operations, participants believe that other competing transportation infrastructure needs will continue to be deemed “more important.” Limited resources tend to be used for familiar projects—primarily maintenance and rehabilitation projects. Too often, when difficult decisions are being made about which projects to program, operations projects are deemed “non-critical.” Without a plan or systematic approach, operations and ITS deployment will continue to be implemented haphazardly, based more on opportunity than need. Better education of and outreach to elected officials about the costs and benefits of ITS and operations is needed.

To ensure that operations is treated on equal footing as other needs within the Department, PennDOT should provide dedicated funds toward the operations program. A majority of the participants believed that the only real way that this will occur is through the creation of separate funding for an operations/ITS program, similar to other statewide programs such as “Transportation Enhancements,” “Smooth Operator,” etc.

Recommendations to consider:

- Provide guidelines on the consideration of ITS devices in project scoping.
- Provide guidelines on how ITS devices and other operational considerations should be incorporated into construction projects.
- Provide policy guidelines on the recommended programming for ITS and operations, including devices and personnel.

Maximizing the benefits of the TMCs

The Southern Alleghenies Region has been benefited greatly from the existence and operation of its traffic management center (TMC). While there has been a considerable investment in its development, it is currently only truly operational during standard business hours. Unfortunately, traffic incidents do not remain confined to those periods. To maximize the utilization and benefit of the system that is in place, PennDOT should consider how to move the operation of the center toward 24/7 operations. Participants expressed concern that the current proposal of regional TMCs may not be the most appropriate to adequately cover the entire state. Furthermore, operations requires non-traditional skill sets such as IT, electrical engineering, and telecommunications. PennDOT needs to hire and retain expertise in these fields to ensure that it is making intelligent decisions in developing, deploying, and maintaining the technology that it has.

Recommendations to consider:

- Begin to move toward 24/7 operation of TMCs.
- Reconsider the regional TMC model.
- Strengthen PennDOT’s work force to include personnel with an IT/electrical engineering background.

Better maintain and manage existing equipment

Participants expressed concern that the current processes to obtain replacement equipment for ITS devices are cumbersome at best and bureaucratic at worst. With many public organizations receiving criticism over technological deployments that don't function, it is critical to realize that not only does this bureaucracy pose real risks to transportation system users, it poses significant political risks to PennDOT and elected officials. Due to current procurement policies, it can take several weeks to obtain inexpensive replacement parts for ITS equipment. In the meantime, multi-million dollar devices can be rendered useless. To be truly responsive, the State needs to reconsider how it permits procurement of technological devices to ensure that the public is receiving maximum benefit from existing investments.

Recommendations to consider:

- Develop a procurement strategy that provides an efficient and cost-effective mechanism to obtain ITS equipment meeting District requirements. Options may include state and/or regional equipment RFP's, vendor pre-qualification, and possible use of proprietary equipment (equipment would need to be essential for synchronization).
- Create service contracts for maintenance of ITS devices/equipment, perhaps on a regional or statewide basis.
- Permit the use of sole source maintenance contractors.
- Permit the District to carry inventory of replacement equipment.

Expedite the communication line request process

Installing communication lines (e.g., T-1 lines, POTS lines, etc.) requires approval from the State government. This process can take considerable time, delaying the implementation or upgrading of existing equipment.

Recommendations to consider:

- Develop processes that ensure a quick response when requests are submitted.

Increase flexibility in use of portable dynamic message boards

In a constrained fiscal environment, cost is a major factor in determining whether or not ITS deployments are made. While not ideal, the ability to retain ownership and use of portable DMSs would expand the capabilities of the region, without requiring the large capital investment in fixed infrastructure. To this end, a September 2007 policy memorandum from FHWA prohibits the retention of contractor furnished portable ITS equipment. Federal funds can be used for temporary construction engineering elements (e.g., rental of equipment for time during the project) or else funding can be used for outright procurement of ITS deployments.

Recommendations to consider:

- Work with Central Office and FHWA to develop a Statewide equipment retention policy that addresses concerns raised in FHWA policy memo.

Permit the use of wireless communication systems

Under current Office of Administration policies, PennDOT is prohibited from using wireless communications due to security concerns. Although this concern may be valid and justified, the wireless communications industry continues to enhance products that address or mitigate these concerns. The current restriction implicitly requires that any permanent ITS devices connected to the PennDOT system be “hardwired” through telephone or fiber communications. The cost of making these communication connections can greatly increase the cost of deploying ITS devices. This situation is especially challenging in more rural locations where lines may need to run for miles to deployment locations. This restriction results in PennDOT having, in essence, a redundant communications network or forces them to pay monthly service fees to third party telecommunications providers. In most cases, this is not the most cost-effective approach.

Other governmental entities are using wireless communication to cost-effectively provide communication coverage. Agencies such as the Pennsylvania Emergency Management Agency (PEMA) have offered to share their wireless communication systems at little or no cost to PennDOT. Revising these restrictions could make deployments significantly more cost-effective.

Recommendations to consider:

- Allow wireless transmission of ITS devices from the field to TMC.
- Work with the Office of Administration to change its policy on wireless communication systems.
- Seek opportunities for piggy-backing on communication infrastructure of other state or county agencies, such as PEMA, etc.

Improve guidance on incident management protocols

Through this process, it was acknowledged that as much as participants thought that current incident management procedures worked reasonably well, there were still significant opportunities for improvement. Recommendations for improvements include better training of emergency response personnel in National Incident Management System (NIMS) protocols. In addition, there was a great deal of discussion relating to road closure procedures. Through discussions, it became clear that none of the stakeholders involved fully understood how and when decisions were made to close roadways. While improved guidance may not guarantee proper execution in the field, additional clarity should help to ensure that emergency response does not create additional safety risk or needlessly create delays to transportation system users.

Recommendations to consider:

- Develop, distribute, and train on PennDOT procedures clarifying roles and responsibilities incident management.
- Establish “road closure” criteria and authority.
- Conduct periodic traffic incident management self-assessment.

Integrate reporting systems

While technology has vastly improved communications, often a lack of automation among related or redundant systems results in information slipping through the cracks. By better integrating several of the key systems within PennDOT, operators can better

ensure that information is finding its way to those who require it. While not easy, PennDOT should seek ways to integrate its systems both internally and externally, with its partners.

Recommendations to consider:

- Integrate PEIRS/RCRS.
- Integrate TMC with Work Zone Management System.
- Implement a “read/response” system to ensure communications are acted upon.

5. CONCLUSION

Transportation agencies today do not have the luxury of undertaking massive new capacity expansion projects, yet are challenged to improve mobility and reduce congestion for travelers, visitors, and businesses. In response to these requirements, new approaches and innovative techniques are being explored to improve the system’s operational performance, as well as keep the network safe and secure. Better management of existing facilities is simply the new way of doing business.

Through the guidance of the statewide Transportation Systems Operations Plan and the implementation of region-specific projects documented in this report, these needs are being addressed. The regional solutions addressed in the ROP tend to be cost-effective in managing (not eliminating) regional congestion issues. Therefore, as the region begins to review transportation options, a goal should be to have ITS and operations solutions examined, weighed, and equally placed in the public forum for consideration and funding. This will ensure that innovative and cost-effective solutions get a fair hearing alongside more costly capacity expansion projects.

Continued success, however, depends upon integration and coordination between PennDOT, regional planning partners, and transportation stakeholders who together will systematically build operations programs based on policies, programs, studies, and physical deployments. These improvements will ultimately help enhance and improve mobility, the regional economy, safety, and security, as well as the overall transportation experience for the traveling public.

APPENDICES

A - Project Descriptions

B - Description of the Region

C - Forum Invitees

D - Forum Workshop Meeting Summaries

E - Task Force Meeting Summaries

APPENDIX A - Project Descriptions

B-1: I-99 DMSs, HARs AND CCTVs AT PINECROFT, BELLWOOD, ETC.

PROJECT DESCRIPTION AND SCOPE:

This project will install 11 DMS, 6 HAR, and 6 CCTV along I-99 at various intersections. The specific deployment locations are in the table below.

ITS Device	DMS unit	HAR unit	CCTV unit
Leamersville (SR 164)	2	1	1
Pinecroft (SR 764)	1	1	1
Bellwood (SR 865)	1	1	1
Tyrone (SR 453)	2	1	1
Bald Eagle (SR 350)	2	1	1
Blue Knob SR 453 (at Tyrone)	2 1	1	1

STAKEHOLDERS: PennDOT District 9-0, Blair County MPO

PERTINENT TSOP PROJECTS: 1, 2, 3, 4, 5, 9, 10, 14, 15, 16

ESTIMATED SCHEDULE:

Study:
Design:
Construction: 2-5 years starting in 2008

ESTIMATED COSTS:

Capital: \$2.63 M
Annual O&M: Less than \$50K

PROJECT TYPE: Deployment

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS (if applicable): TBD

PREREQUISITES AND DEPENDENCIES: None

PERFORMANCE MEASURES: Percent change in number of accidents (or secondary incidents) along corridor; average peak-hour travel speeds; average peak-hour delay.

BENEFITS: Improved detection and notification of incidents and emergencies along the region's highways.

OTHER CONSIDERATIONS AND ISSUES: None

B-2: INSTALL DMSs (PORTABLES) ALONG PLANK ROAD

PROJECT DESCRIPTION AND SCOPE: Portable DMS deployment at intersections along Plank Road. The specific deployment locations are in the table below.

ITS Device	Portable DMS unit
Leamersville (SR 164)	2
Pinecroft (SR 764)	2
Bellwood (SR 865)	2
Tyrone (SR 453)	2
Bald Eagle (SR 350)	2
SR 453 (at Tyrone)	2

STAKEHOLDERS: PennDOT District 9-0, Blair County MPO

PERTINENT TSOP PROJECTS: 1, 2, 3, 4, 5, 9, 10, 14, 15, 16

ESTIMATED SCHEDULE:

Study:
Design:
Construction: 2008-2010

ESTIMATED COSTS:

Capital: \$480K
Annual O&M: Less than \$50K

PROJECT TYPE: Deployment

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS (if applicable):

PREREQUISITES AND DEPENDENCIES: None

PERFORMANCE MEASURES: Improved notification of incidents and emergencies along the region's highways.

BENEFITS: The installation of Portable DMS will help incident and construction management efforts by informing motorists at the construction site and parallel routes of detours and delays.

OTHER CONSIDERATIONS AND ISSUES: None

B-3: EVACUATION PLANNING

PROJECT DESCRIPTION AND SCOPE:

The region's transportation system should be prepared to respond adequately to a natural or man-made emergency event. This project is intended to support regional and state emergency management agencies develop and update evacuation plans and procedures for the region. Ultimately these plans and procedures should be tested through emergency response drills and a performance review.

STAKEHOLDERS: PennDOT District 9-0, Blair County MPO, Pennsylvania State Police, Local Law Enforcement, Pennsylvania Turnpike Commission, Local Emergency Management, 911 Centers

PERTINENT TSOP PROJECTS: 2, 4, 5, 9, 12, 15 and 16

ESTIMATED SCHEDULE:

Study: 2009-2010
Design:
Construction:

ESTIMATED COSTS:

Capital: \$50K to \$250K
Annual O&M: Less than \$50K

PROJECT TYPE: Plan/Study

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS (if applicable): NA

PREREQUISITES AND DEPENDENCIES: None

PERFORMANCE MEASURES: Number of emergency response plans; Number of emergency response exercises conducted per year.

BENEFITS: Integrated statewide emergency plans and procedures for responding to a natural or manmade emergency event.

OTHER CONSIDERATIONS AND ISSUES: None

B-4: PLANK ROAD INTERCHANGE PROJECT ITS DEVICES

PROJECT DESCRIPTION AND SCOPE: This project will deploy 4 DMS and 1 CCTV along Plank Road at various intersections. The project will also require the relocation of fiber in the termination cabinet. The specific deployment locations are in the table below.

ITS Device	DMS unit	CCTV unit
Plank Road	2	
I-99	2	
Plank Road and Good's Lane		1

STAKEHOLDERS: PennDOT District 9-0, Blair County MPO

PERTINENT TSOP PROJECTS: 1, 2, 3, 4, 5, 9, 10, 14, 15, 16

ESTIMATED SCHEDULE:

Study:
Design:
Construction: 2010-2011

ESTIMATED COSTS:

Capital: \$894K
Annual O&M: Less than \$50K

PROJECT TYPE: Deployment

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS (if applicable): TBD

PREREQUISITES AND DEPENDENCIES: None

PERFORMANCE MEASURES: Percent change in number of accidents (or secondary incidents) along corridor; average peak-hour travel speeds; average peak-hour delay.

BENEFITS: Improved detection and notification of incidents and emergencies along the region's highways.

OTHER CONSIDERATIONS AND ISSUES: None

B-5: I-99 FIBER EXTENSION TO BEDFORD

PROJECT DESCRIPTION AND SCOPE:

Extension of fiber optics communication 16 miles to Bedford, with the possible extension to the Pennsylvania Turnpike Commission.

STAKEHOLDERS: PennDOT District 9-0, Blair County MPO

PERTINENT TSOP PROJECTS: 1, 2, 3, 4, 5, 9, 10, 14, 15, 16

ESTIMATED SCHEDULE:

Study:
Design:
Construction: 2012-2013

ESTIMATED COSTS:

Capital: \$1.5M
Annual O&M: Less than \$50K

PROJECT TYPE: Deployment

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS (if applicable): TBD

PREREQUISITES AND DEPENDENCIES: None

PERFORMANCE MEASURES: Equipment and communications downtime.

BENEFITS: Improved communications with devices and centers, resulting in improved detection and notification of incidents and emergencies along the region's highways.

OTHER CONSIDERATIONS AND ISSUES: None

C-1: SCALP AVENUE DMS AND CCTV

PROJECT DESCRIPTION AND SCOPE:

This project will install 5 DMS, 11 closed-loop traffic signal systems, and 4 CCTV along Scalp Avenue.

STAKEHOLDERS: PennDOT District 9-0, Cambria County MPO

PERTINENT TSOP PROJECTS: 1, 2, 3, 4, 5, 9, 10, 14, 15, 16

ESTIMATED SCHEDULE:

Study:
Design:
Construction: 2007-2008

ESTIMATED COSTS:

Capital: \$1.7 M
Annual O&M: Less than \$50K

PROJECT TYPE: Deployment

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS (if applicable): TBD

PREREQUISITES AND DEPENDENCIES: None

PERFORMANCE MEASURES: Percent change in number of accidents (or secondary incidents) along corridor; average peak-hour travel speeds; average peak-hour delay.

BENEFITS: Improved detection and notification of incidents and emergencies along the region's roadways, improved vehicles speeds and reduced delay.

OTHER CONSIDERATIONS AND ISSUES: None

C-2: SR 22 EBENSBURG CCIP

PROJECT DESCRIPTION AND SCOPE:

This project will install 4 DMS, 4 CCTV, and 2 closed-loop traffic signals along SR-22 at various intersections. The specific deployment locations are in the table below.

ITS Device	DMS unit	CCTV unit
219 Interchange	4	
219 22 Interchange		1
219 and 422 Interchange		1
Mini-mall Road		1
PennDOT Maintenance Building on SR 22		1

STAKEHOLDERS: PennDOT District 9-0, Cambria County MPO

PERTINENT TSOP PROJECTS: 1, 2, 3, 4, 5, 9, 10, 14, 15, 16

ESTIMATED SCHEDULE:

Study:
Design:
Construction: 2008-2009

ESTIMATED COSTS:

Capital: \$2.25 M
Annual O&M: Less than \$50K

PROJECT TYPE: Deployment

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS (if applicable): TBD

PREREQUISITES AND DEPENDENCIES: None

PERFORMANCE MEASURES: Percent change in number of accidents (or secondary incidents) along corridor; average peak-hour travel speeds; average peak-hour delay.

BENEFITS: Improved detection and notification of incidents and emergencies along the region's roadways, improved vehicles speeds and reduced delay.

OTHER CONSIDERATIONS AND ISSUES: None

C-3: EVACUATION PLANNING

PROJECT DESCRIPTION AND SCOPE:

The region's transportation system should be prepared to respond adequately to a natural or man-made emergency event. This project is intended to support regional and state emergency management agencies develop and update evacuation plans and procedures for the region. Ultimately these plans and procedures should be tested through emergency response drills and a performance review.

STAKEHOLDERS: PennDOT District 9-0, Cambria County MPO, Pennsylvania State Police, Local Law Enforcement, Pennsylvania Turnpike Commission, Local Emergency Management, 911 Centers

PERTINENT TSOP PROJECTS: 2, 4, 5, 9, 12, 15 and 16

ESTIMATED SCHEDULE:

Study: 2009-2010
Design:
Construction:

ESTIMATED COSTS:

Capital: \$50K to \$250K
Annual O&M: Less than \$50K

PROJECT TYPE: Plan/Study

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS (if applicable): NA

PREREQUISITES AND DEPENDENCIES: None

PERFORMANCE MEASURES: Number of emergency response plans; Number of emergency response exercises conducted per year.

BENEFITS: Integrated statewide emergency plans and procedures for responding to a natural or manmade emergency event.

OTHER CONSIDERATIONS AND ISSUES: None

C-4: SR 56 & SR 403 DMSs & CCTVs THROUGH CONEMAUGH GAP

PROJECT DESCRIPTION AND SCOPE:

This project will install 3 DMS and 3 CCTV along SR 56 and SR 403 at Conemaugh Gap. The specific deployment locations are in the table below.

ITS Device	DMS unit	CCTV unit
56 WB before Fairfield	1	1
EB SR 711 near Seward	1	1
EB SR 403 before 711 near Kramer	1	1

STAKEHOLDERS: PennDOT District 9-0, Cambria County MPO

PERTINENT TSOP PROJECTS: 1, 2, 3, 4, 5, 9, 10, 14, 15, 16

ESTIMATED SCHEDULE:

Study:
Design:
Construction: 2010

ESTIMATED COSTS:

Capital: \$705K
Annual O&M: Less than \$50K

PROJECT TYPE: Deployment

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS (if applicable): TBD

PREREQUISITES AND DEPENDENCIES: None

PERFORMANCE MEASURES: Percent change in number of accidents (or secondary incidents) along corridor; average peak-hour travel speeds; average peak-hour delay.

BENEFITS: Improved detection and notification of incidents and emergencies along the region's highways.

OTHER CONSIDERATIONS AND ISSUES: None

C-5: SR 22 DMSs AND CCTVs

PROJECT DESCRIPTION AND SCOPE:

This project will install 7 DMS, 4 HAR, and 4 CCTV along SR 22 at various intersections. The specific deployment locations are in the table below.

ITS Device	DMS unit	HAR unit	CCTV unit
Portage (SR 0053)	2	1	1
Munster (SR 0164)	1	1	1
Ebensburg (SR0219)	2	1	1
Mundys Corner (SR 0271)	2	1	1

STAKEHOLDERS: PennDOT District 9-0, Cambria County MPO

PERTINENT TSOP PROJECTS: 1, 2, 3, 4, 5, 9, 10, 14, 15, 16

ESTIMATED SCHEDULE:

Study:
Design:
Construction: 2011

ESTIMATED COSTS:

Capital: \$1.7 M
Annual O&M: Less than \$50K

PROJECT TYPE: Deployment

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS (if applicable): TBD

PREREQUISITES AND DEPENDENCIES: None

PERFORMANCE MEASURES: Percent change in number of accidents (or secondary incidents) along corridor; average peak-hour travel speeds; average peak-hour delay.

BENEFITS: Improved detection and notification of incidents and emergencies along the region's highways.

OTHER CONSIDERATIONS AND ISSUES: None

C-6: SR 56 DMSs, HARs, AND CCTVs IN JOHNSTOWN

PROJECT DESCRIPTION AND SCOPE:

This project will install 6 DMS, 3 HAR, and 3 CCTV along SR 56 in Johnstown at various intersections. The specific deployment locations are in the table below.

ITS Device	DMS unit	HAR unit	CCTV unit
SR 0219 Interchange	2	1	1
Widman Street Interchange	2	1	1
Bedford Street (SR0053)	2	1	1

STAKEHOLDERS: PennDOT District 9-0, Cambria County MPO

PERTINENT TSOP PROJECTS: 1, 2, 3, 4, 5, 9, 10, 14, 15, 16

ESTIMATED SCHEDULE:

Study:
Design:
Construction: 2012

ESTIMATED COSTS:

Capital: \$1.4 M
Annual O&M: Less than \$50K

PROJECT TYPE: Deployment

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS (if applicable): TBD

PREREQUISITES AND DEPENDENCIES: None

PERFORMANCE MEASURES: Percent change in number of accidents (or secondary incidents) along corridor; average peak-hour travel speeds; average peak-hour delay.

BENEFITS: Improved detection and notification of incidents and emergencies along the region's highways.

OTHER CONSIDERATIONS AND ISSUES: None

S-1: I-70 SR 1013 INTERSECTION BREEZEWOOD DMSs AND CCTVs

PROJECT DESCRIPTION AND SCOPE:

This project will install 2 DMS, 3 CCTV, two traffic signal upgrades, and a closed loop traffic signal system near I-70 and SR 1013 in Breezewood.

STAKEHOLDERS: PennDOT District 9-0, Southern Alleghenies MPO

PERTINENT TSOP PROJECTS: 1, 2, 3, 4, 5, 9, 10, 14, 15, 16

ESTIMATED SCHEDULE:

Study:
Design:
Construction: 2008

ESTIMATED COSTS:

Capital: \$2.0 M
Annual O&M: Less than \$50K

PROJECT TYPE: Deployment

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS (if applicable): TBD

PREREQUISITES AND DEPENDENCIES: None

PERFORMANCE MEASURES: Percent change in number of accidents (or secondary incidents) along corridor; average peak-hour travel speeds; average peak-hour delay.

BENEFITS: Improved detection and notification of incidents and emergencies along the region's highways.

OTHER CONSIDERATIONS AND ISSUES: None

S-2: SR 601 CCIP/SIGNALS

PROJECT DESCRIPTION AND SCOPE:

This project will install 6 DMS and 4 CCTV along SR 601 at various intersections. The project also includes signal system upgrades. The specific deployment locations are in the table below.

ITS Device	DMS unit	CCTV unit
SB before 601/Turnpike interchange	1	
219 before 281 interchange	2	
Myers/Dell interchange	2	
Gilmer Bypass	1	
601 on 219		1
681 on 219		1
Myers Dell on 219		1
North Center Ave - Gilmour and Turnpike intersection		1

STAKEHOLDERS: PennDOT District 9-0, Southern Alleghenies MPO

PERTINENT TSOP PROJECTS: 1, 2, 3, 4, 5, 9, 10, 14, 15, 16

ESTIMATED SCHEDULE:

Study:
Design:
Construction: 2009-2010

ESTIMATED COSTS:

Capital: \$1.3 M
Annual O&M: Less than \$50K

PROJECT TYPE: Deployment

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS (if applicable): TBD

PREREQUISITES AND DEPENDENCIES: None

PERFORMANCE MEASURES: Percent change in number of accidents (or secondary incidents) along corridor; average peak-hour travel speeds; average peak-hour delay.

BENEFITS: Improved detection and notification of incidents and emergencies along the region's highways.

OTHER CONSIDERATIONS AND ISSUES: None

S-3: EVACUATION PLANNING

PROJECT DESCRIPTION AND SCOPE:

The region's transportation system should be prepared to respond adequately to a natural or man-made emergency event. This project is intended to support regional and state emergency management agencies develop and update evacuation plans and procedures for the region. Ultimately these plans and procedures should be tested through emergency response drills and a performance review.

STAKEHOLDERS: PennDOT District 9-0, Southern Alleghenies MPO, Pennsylvania State Police, Local Law Enforcement, Pennsylvania Turnpike Commission, Local Emergency Management, 911 Centers

PERTINENT TSOP PROJECTS: 2, 4, 5, 9, 12, 15 and 16

ESTIMATED SCHEDULE:

Study: 2009-2010
Design:
Construction:

ESTIMATED COSTS:

Capital: \$50K to \$250K
Annual O&M: Less than \$50K

PROJECT TYPE: Plan/Study

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS (if applicable): NA

PREREQUISITES AND DEPENDENCIES: None

PERFORMANCE MEASURES: Number of emergency response plans; Number of emergency response exercises conducted per year.

BENEFITS: Integrated statewide emergency plans and procedures for responding to a natural or manmade emergency event.

OTHER CONSIDERATIONS AND ISSUES: None

S-4: SR 30 AND SR 220 DMSs AND CCTVs AT BEDFORD INTERCHANGE AREA

PROJECT DESCRIPTION AND SCOPE:

This project will install 2 DMS, 1 HAR, 2 CCTV, and 4 flashing beacons at the SR 30 and SR 220 intersection.

STAKEHOLDERS: PennDOT District 9-0, Southern Alleghenies MPO

PERTINENT TSOP PROJECTS: 1, 2, 3, 4, 5, 9, 10, 14, 15, 16

ESTIMATED SCHEDULE:

Study:
Design:
Construction: 2010-2011

ESTIMATED COSTS:

Capital: \$550K
Annual O&M: Less than \$50K

PROJECT TYPE: Deployment

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS (if applicable): TBD

PREREQUISITES AND DEPENDENCIES: None

PERFORMANCE MEASURES: Percent change in number of accidents (or secondary incidents) along corridor; average peak-hour travel speeds; average peak-hour delay.

BENEFITS: Improved detection and notification of incidents and emergencies along the region's highways.

OTHER CONSIDERATIONS AND ISSUES: None

S-5: I-99 FIBER EXTENSION TO PA TURNPIKE AND POSSIBLE EXTENSION TO SR 30

PROJECT DESCRIPTION AND SCOPE:

This project will extend the fiber line 18 miles from the Pennsylvania Turnpike to the Blair County line, with a possible extension further to SR 30.

STAKEHOLDERS: PennDOT District 9-0, Southern Alleghenies MPO, Pennsylvania Turnpike Commission

PERTINENT TSOP PROJECTS: 1, 2, 3, 4, 5, 9, 10, 14, 15, 16

ESTIMATED SCHEDULE:

Study:
Design:
Construction: 2010-2011

ESTIMATED COSTS:

Capital: \$1.6 M
Annual O&M: Less than \$50K

PROJECT TYPE: Deployment

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS (if applicable): TBD

PREREQUISITES AND DEPENDENCIES: None

PERFORMANCE MEASURES: Percent change in number of accidents (or secondary incidents) along corridor; average peak-hour travel speeds; average peak-hour delay.

PERFORMANCE MEASURES: Equipment and communications downtime.

BENEFITS: Improved communications with devices and centers, resulting in improved detection and notification of incidents and emergencies along the region's highways.

OTHER CONSIDERATIONS AND ISSUES: None

S-6: SR 22 ITS AT WATER STREET

PROJECT DESCRIPTION AND SCOPE:

This project will deploy 1 DMS (eastbound) and 1 HAR with four flashing beacons on SR 22 near SR 453 intersection.

STAKEHOLDERS: PennDOT District 9-0, Southern Alleghenies MPO

PERTINENT TSOP PROJECTS: 1, 2, 3, 4, 5, 9, 10, 14, 15, 16

ESTIMATED SCHEDULE:

Study:
Design:
Construction: 2011-2012

ESTIMATED COSTS:

Capital: \$250K
Annual O&M: Less than \$50K

PROJECT TYPE: Deployment

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS (if applicable): TBD

PREREQUISITES AND DEPENDENCIES: None

PERFORMANCE MEASURES: Percent change in number of accidents (or secondary incidents) along corridor; average peak-hour travel speeds; average peak-hour delay.

BENEFITS: Improved detection and notification of incidents and emergencies along the region's highways.

OTHER CONSIDERATIONS AND ISSUES: None

S-7: SR 219 DMSs AND CCTVs

PROJECT DESCRIPTION AND SCOPE:

This project will install 8 DMS, 4 HAR, and 4 CCTV along SR 219 at various intersections. The specific deployment locations are in the table below.

ITS Device	DMS unit	HAR unit	CCTV unit
Davidsville (SR 0403)	2	1	1
Jerome (SR 0601)	2	1	1
Jennerstown (SR0030)	2	1	1
Somerset (SR 0601)	2	1	1

STAKEHOLDERS: PennDOT District 9-0, Southern Alleghenies MPO

PERTINENT TSOP PROJECTS: 1, 2, 3, 4, 5, 9, 10, 14, 15, 16

ESTIMATED SCHEDULE:

Study:
Design:
Construction: 2011-2012

ESTIMATED COSTS:

Capital: \$1.9 M
Annual O&M: Less than \$50K

PROJECT TYPE: Deployment

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS (if applicable): TBD

PREREQUISITES AND DEPENDENCIES: None

PERFORMANCE MEASURES: Percent change in number of accidents (or secondary incidents) along corridor; average peak-hour travel speeds; average peak-hour delay.

BENEFITS: Improved detection and notification of incidents and emergencies along the region's highways.

OTHER CONSIDERATIONS AND ISSUES: None

P-1: ATMS INTEGRATION

PROJECT DESCRIPTION AND SCOPE: This project, which is currently ongoing, will install a modified District 11-0's ATMS software at District 9-0's TMC via an integrator. As part of the project, ITS equipment from will be added to the ATMS software. District 2-0 and 11-0 will soon have the same ATMS software installed on their systems.

STAKEHOLDERS: PennDOT District 9-0

PERTINENT TSOP PROJECTS: 9, 13, and 16

ESTIMATED SCHEDULE:

Study:
Design:
Deployment: 2007-2008

ESTIMATED COSTS:

Capital: \$50K to \$250K
Annual O&M: Less than \$50K

PROJECT TYPE: Deployment

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS (if applicable): PennDOT District 9-0 ATMS software and ITS Equipment

PREREQUISITES AND DEPENDENCIES: None

PERFORMANCE MEASURES: None

BENEFITS: Benefits include potential data-sharing and communications streamlining between other TMCs using the same ATMS software.

OTHER CONSIDERATIONS AND ISSUES: None

P-2: CONNECT CCTV FEEDS TO PSP

PROJECT DESCRIPTION AND SCOPE: This project would allow the Pennsylvania State Police to access CCTV feeds and other data from the PennDOT District 9-0 TMC. As part of the arrangement, PSP will have the capability to operate and control parts of the TMC during off-hours, such as DMS and CCTV signs and cameras.

STAKEHOLDERS: PennDOT District 9-0, Pennsylvania State Police

PERTINENT TSOP PROJECTS: 9, 13, 16

ESTIMATED SCHEDULE:

Study:
Design:
Deployment: 2008-2009

ESTIMATED COSTS:

Capital: Less than \$50K
Annual O&M: Less than \$50K

PROJECT TYPE: Program

LEVEL OF EFFORT: Low

TECHNOLOGY COMPONENTS (if applicable): TBD

PREREQUISITES AND DEPENDENCIES: None

PERFORMANCE MEASURES: None

BENEFITS: Data-sharing and communications streamlining between other centers, limited off-hours operation of District 9-0 field equipment.

OTHER CONSIDERATIONS AND ISSUES: None

P-3: REGIONAL ITS TMC OPERATIONS MANUAL

PROJECT DESCRIPTION AND SCOPE: This project, currently in progress in-house, is a manual detailing the procedures, protocols, roles, and responsibilities for District 9-0 TMC operations. Distribution would include the Pennsylvania State Police and county maintenance offices.

STAKEHOLDERS: PennDOT District 9-0, PSP

PERTINENT TSOP PROJECTS: TSOP- 05 and 09

ESTIMATED SCHEDULE:

Study:
Design:
Deployment: 2008-2009

ESTIMATED COSTS:

Capital: Less than \$50K (internal)
Annual O&M: Less than \$50K (internal)

PROJECT TYPE: Program

LEVEL OF EFFORT: Low

TECHNOLOGY COMPONENTS (if applicable): None

PREREQUISITES AND DEPENDENCIES: None

PERFORMANCE MEASURES: None

BENEFITS: Clearly defined roles and responsibilities for operations, potential for shared use of the District 9-0 TMC

OTHER CONSIDERATIONS AND ISSUES: None

P-4: IMPROVE DETOUR ROUTE SHARING

PROJECT DESCRIPTION AND SCOPE: This project will integrate the detour routes and the ongoing evacuation plans into the ongoing Southern Alleghenies Regional ITS TMC Operations Manual for distribution.

STAKEHOLDERS: PennDOT District 9-0, Southern Alleghenies MPO, Pennsylvania State Police, Local Law Enforcement, Pennsylvania Turnpike Commission, Local Emergency Management, 911 Centers

PERTINENT TSOP PROJECTS: 2, 4, 5, 9, 12, 15 and 16

ESTIMATED SCHEDULE:

Study:
Design:
Deployment: 2008-2009

ESTIMATED COSTS:

Capital: Less than \$50K
Annual O&M: Less than \$50K

PROJECT TYPE: Program

LEVEL OF EFFORT: Low

TECHNOLOGY COMPONENTS (if applicable): None

PREREQUISITES AND DEPENDENCIES: Projects B-6, C-6, and S-6 (Evacuation Planning), and Project P-3 (Southern Alleghenies Regional ITS TMC Operations Manual)

PERFORMANCE MEASURES: NONE

BENEFITS: Improved use of detour routes, increased coordination

OTHER CONSIDERATIONS AND ISSUES: None

P-5: STANDARDIZE REPORTING PROCEDURES TO THE MEDIA

PROJECT DESCRIPTION AND SCOPE: This project involves identifying the existing PennDOT procedures involving reporting incidents and events to the media, and including those procedures in the Southern Alleghenies Regional ITS TMC Operations Manual for distribution.

STAKEHOLDERS: PennDOT District 9-0

PERTINENT TSOP PROJECTS: 5

ESTIMATED SCHEDULE:

Study:
Design:
Deployment: 2008-2009

ESTIMATED COSTS:

Capital: Less than \$50K
Annual O&M: Less than \$50K

PROJECT TYPE: Program

LEVEL OF EFFORT: Low

TECHNOLOGY COMPONENTS (if applicable): None

PREREQUISITES AND DEPENDENCIES: Project P-3 (Southern Alleghenies Regional ITS TMC Operations Manual)

PERFORMANCE MEASURES: None

BENEFITS: More accurate, consistent, and timely information to the media, resulting in better information to travelers.

OTHER CONSIDERATIONS AND ISSUES: None

P-6: WIRELESS NETWORK INTEGRATION

PROJECT DESCRIPTION AND SCOPE: This project would integrate PennDOT's ITS equipment with Cambria County 911's county-wide secure wireless network. Cambria County's network is scheduled to be available in January, 2008.

STAKEHOLDERS: PennDOT District 9-0, Cambria County 911

PERTINENT TSOP PROJECTS: 13

ESTIMATED SCHEDULE:

Study:
Design:
Deployment: 2008-2009

ESTIMATED COSTS:

Capital: \$50K to \$250K
Annual O&M: \$50K

PROJECT TYPE: Deployment

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS (if applicable): Wireless communications devices

PREREQUISITES AND DEPENDENCIES: Cambria County 911's county-wide wireless network.

PERFORMANCE MEASURES: None

BENEFITS: Substantial cost-savings over traditional T1 Line communications to field devices.

OTHER CONSIDERATIONS AND ISSUES: PennDOT Central Office currently has a policy against using wireless communications on field devices for security reasons.

P-7: BROADCAST VIDEO FEEDS

PROJECT DESCRIPTION AND SCOPE: This project will display PennDOT District 9-0's video feeds on a state website, with a longer term possibility of providing higher-quality video feeds directly to media

STAKEHOLDERS: PennDOT District 9-0, PennDOT Central Office, Media

PERTINENT TSOP PROJECTS: 4 and 13

ESTIMATED SCHEDULE:

Study:
Design:
Deployment: 2009-2010

ESTIMATED COSTS:

Capital: Less than \$50K
Annual O&M: Less than \$50K

PROJECT TYPE: Deployment

LEVEL OF EFFORT: Low

TECHNOLOGY COMPONENTS (if applicable): TBD

PREREQUISITES AND DEPENDENCIES: None

PERFORMANCE MEASURES: None

BENEFITS: Improved information for media and travelers in the region.

OTHER CONSIDERATIONS AND ISSUES: None

A-1: AMTRAN – WEB-BASED TRIP PLANNER

PROJECT DESCRIPTION AND SCOPE:

This project will involve AMTRAN's development and deployment of a web-based transit trip planner, with the addition of AVL/GPS capabilities on buses, and real-time arrival information. Details of the project are still being determined. AMTRAN's data could potentially be shared with PennDOT

STAKEHOLDERS: PennDOT District 9-0, AMTRAN

PERTINENT TSOP PROJECTS: 17

ESTIMATED SCHEDULE:

Study:
Design:
Deployment: 2007-2008

ESTIMATED COSTS:

Capital: \$1.2 M
Annual O&M: \$50K to \$250K

PROJECT TYPE: Deployment

LEVEL OF EFFORT: High

TECHNOLOGY COMPONENTS (if applicable): GPS/AVL

PREREQUISITES AND DEPENDENCIES: None

PERFORMANCE MEASURES: Number of users of real-time information; number of users of trip planning capability; customer satisfaction; transit vehicle on-time performance.

BENEFITS: This type of information would likely benefit users who make infrequent trips, who may be unsure of next arrivals or transit schedules.

OTHER CONSIDERATIONS AND ISSUES: None

APPENDIX B - Description of the Region

This Region, in the south central part of the state, is comprised of six counties: Bedford, Blair, Cambria, Fulton, Huntingdon, and Somerset. The Southern Alleghenies Region encompasses PennDOT Engineering District 9-0. The Region is depicted in Figure 3 below.

Altoona and Johnstown represent the two largest population centers in the region and are located in Blair and Cambria Counties, respectively. Fulton, Huntingdon, and Somerset are considered rural counties and along with Bedford County comprise a Rural Planning Organization (RPO). Blair County and Cambria County are associated with separate Metropolitan Planning Organizations (MPOs).

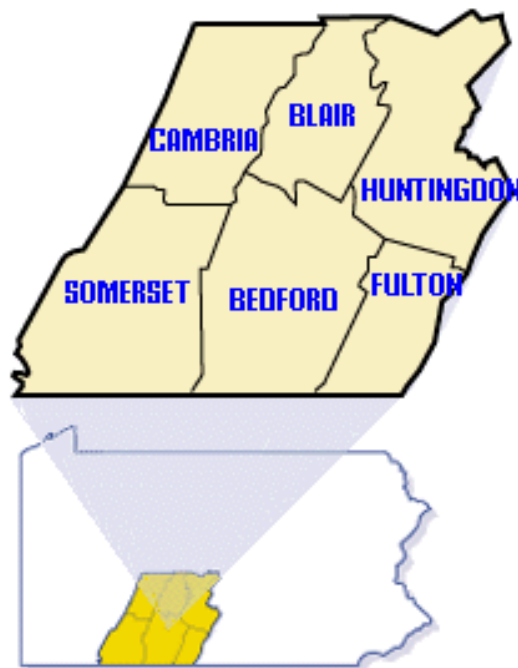


Figure 3: Southern Alleghenies ROP Region

Table 5 reveals that over 440,000 people—or slightly less than four percent of statewide residents of the Commonwealth of Pennsylvania—live in the Southern Alleghenies ROP Region. Approximately three-fifths of the region’s population resides in Blair and Cambria Counties, with the remainder is scattered among the other four counties of the region.

Table 5: Southern Alleghenies Region Population by County, 2005

County	Number	% Population
Bedford	49,984	11.20%
Blair	122,717	27.51%
Cambria	138,963	31.15%
Fulton	14,261	3.20%
Huntingdon	45,586	10.22%
Somerset	74,617	16.73%
Total Population in the Region	446,128	

(Source: U.S. Census Bureau 2005 American Communities Survey)

Table 6 compares specific population traits in the Southern Alleghenies to those across Pennsylvania and the U.S. generally. For instance, the region is decidedly more homogeneous than either the statewide or national populations—only 3.1 percent of the Southern Alleghenies residents are classified as minorities. The region’s population is, on average, older than the state or national averages—the median age of residents is 40.4, as compared to 39.7 years statewide and 36.4 years nationally. Also, mean family size is smaller and per capita income is lower in the Southern Alleghenies than across Pennsylvania or the U.S.

Table 6: Comparison of Key Population Demographics Southern Alleghenies Region, Pennsylvania, and the United States, 2005

Demographic Factor	Southern Alleghenies Region	Pennsylvania	United States
Total Population	446,128	11,979,147	288,378,137
% Minority Population	3.1%	15.42%	25.33%
Median Age (In Years)	40.4	39.7	36.4
Mean Family Size	2.4	2.46	2.60
Per Capita Income	\$17,845	\$24,591	\$25,035

(Source: U.S. Census Bureau 2005 American Communities Survey)

Table 7 examines commuting patterns in the region to the state and national commuting conditions. The 2005 American Communities Survey did not tabulate these data elements by county so the comparison is from the 2000 Census. Nearly four out of five Southern Alleghenies workers drive to work alone, just a bit higher than the state and national “drive-alone” rates. Twelve percent of workers in the region carpool to work, which is comparable to the statewide average. Less than one percent of workers use public transportation—considerably less than state and national transit usage trends. The average one-way commute time for the Southern Alleghenies ROP Region workers

is 23 minutes, which compares favorably to the 25-26 minutes for Pennsylvania and U.S. workers generally.

Table 7: Comparison of Commuting Patterns among Workers 16 & Over Southern Alleghenies Region, Pennsylvania, and the United States, 2000

Commuting Pattern	SW Region	Pennsylvania	United States
Total Workers 16 & Over	198,392	5,556,311	128,279,228
% Commuters Driving Alone	80.2	76.5%	75.7%
% Commuters Carpooling	11.6%	10.4%	12.2%
% Commuters Using Public Transportation	0.6%	5.2%	4.7%
Mean Travel Time to Work (Minutes)	22.5	25.2	25.5

(Source: U.S. Census Bureau, 2000)

As shown in Table 8, the Southern Alleghenies Region encompasses a substantial network of roadways. As reported in PennDOT's 2005 Highway Statistics, the Region contains 9,205 linear miles of roadway, signifying 7.6 percent of the Commonwealth's total linear mileage. This includes 3,749 linear miles of roadway maintained by PennDOT, with the remaining road miles maintained by the municipalities, etc.

Table 8: Southern Alleghenies Region Linear Miles, 2005

County	PennDOT Linear Miles	Total Linear Miles
Bedford	796.3	1,815.4
Blair	456.8	1,205.5
Cambria	672	1,722.5
Fulton	342.2	738.5
Huntingdon	598.4	1,441
Somerset	883.4	2,282.9
Regional Total	3,749.1	9,205.8
Statewide Total	39,889.6	120,667.2

(Source: PennDOT's 2005 Highway Statistics)

Table 9 depicts the daily vehicle miles of travel (DVMT) across the region, which is substantial. DVMT on all roadways in the region, as reported in the 2005 Highway Statistics, was approximately 15.2 million miles or approximately 5.1 percent of the State's total DVMT. The DVMT on PennDOT roadways was approximately 10 million miles.

Table 9: Southern Alleghenies Daily Vehicle Miles of Travel, 2005

County	PennDOT DVMT	Total DVMT
Bedford	1,442,149	3,030,471
Blair	2,582,959	3,047,142
Cambria	2,664,336	3,265,668
Fulton	701,108	1,315,973
Huntingdon	1,014,943	1,460,867
Somerset	1,660,759	3,044,769
Regional Total	10,066,254.0	15,164,890.0
Statewide	224,176,551	295,628,006

(Source: PennDOT's 2005 Highway Statistics)

The Southern Alleghenies ROP Region contains significant highway corridors including:

Table 10: Major Highway Corridors

Interstates	United States (U.S.) Routes	Pennsylvania (PA) Routes
Interstate 70 (I-70)	US Route 22 (US-22)	PA Route 26 (PA-26)
Interstate 76 (I-76)	US Route 30 (US-30)	PA Route 31 (PA-31)
Interstate 99 (I-99)	US Route 40 (US-40)	PA Route 45 (PA-45)
	US Route 219 (US-219)	PA Route 53 (PA-53)
	US Route 220 (US-220)	PA Route 56 (PA-56)
	US Route 422 (US-422)	PA Route 96 (PA-96)
	US Route 522 (US-522)	PA Route 160 (PA-160)
		PA Route 271 (PA-271)
		PA Route 281 (PA-281)
		PA Route 305 (PA-305)
		PA Route 550 (PA-550)
		PA Route 653 (PA-653)
		PA Route 913 (PA-913)
		PA Route 994 (PA-994)

The Southern Alleghenies Region contains intermodal facilities and service providers that support passenger and freight, including:

- Altoona Blair County Airport
- AP Green Industries, Inc.
- B&E Railroad, Inc.
- Bellefonte Historical Railroad
- Conemaugh & Black Lick Railroad Company
- CSX Transportation, Inc.
- East Broad Top Railroad
- Everett Railroad Company
- Hollidaysburg and Roaring Spring Railroad Company
- Johnstown America Corporation
- Johnstown-Cambria County Airport
- McQuaide Freight Lines
- Morrison Cove Railroad, Inc.
- National Railroad Passenger Corporation (Amtrak)
- Nittany and Bald Eagle Railroad
- Norfolk Southern Railway Company
- PBS Coal, Inc.
- Pitt Ohio Express
- R.J. Corman Railroad Group
- SEDA-COG Joint Railway Authority
- Wheeling & Lake Erie Railway Company

The District 9-0 Region contains tourist attractions and travel destinations, including:

- Amusement Parks
 - DelGrosso's Amusement Park
 - Lakemont Park
- Caves and Mines
 - Indian Caverns
 - Lincoln Caverns Inc. & Whisper Rocks
- Entertainment and Special Events
 - Blair County Ballpark—Altoona Curve Baseball Club
 - Altoona Mirror Keystone Country Fair
 - Mansion Park Stadium (Altoona Area School District)
 - Point Stadium, Johnstown
- Parks and Recreation
 - Blue Knob All Seasons Resort
 - Canoe Creek State Park
 - Hidden Valley Resort
 - Morrison Cove Memorial Park
 - Prince Gallitzin Park
 - Raystown Lake
 - Seven Springs Mountain Resort

- Others
 - Blair County Convention Center
 - Johnstown War Memorial
 - Johnstown Convention and Visitors Bureau
 - Logan Valley Mall

The Region is also home to multiple transit providers, including:

Intercity Passenger Transit

- Amtrak
- Greyhound
- Fullington Trailways

Fixed Route Transit

- Altoona Metro Transit (AMTRAN)
- Cambria County Transit Authority (CamTRAN)

Paratransit/Shared Ride Services

- Blair Senior Services, Inc.(Altoona)
- Cambria County Transit Authority (CamTRAN)
- Huntingdon-Bedford-Fulton Area Agency on Aging (Bedford)
- Somerset/Tableland Services, Inc. (Somerset)
- Fulton County Partnership, Inc. (McConnellsburg)

APPENDIX C - Forum Invitees

Participant Name		Affiliation
Ambrosini	John	PennDOT D-9 District Traffic Engineer
Pastore	Michael	PennDOT D-9 Assistant District Traffic Manager/ITS Coordinator
Murphy	Brenda	PennDOT BHSTE
Hunt	Jim	Federal Highway Administration
Roberts	Dean	PennDOT Program Center
Allison	Chris	Southern Alleghenies RPO (Southern Alleghenies Planning & Development Commission)
Belz	Dave	Cambria County Planning Commission /Johnstown Area MPO
Burkett	Wes	Metropolitan Planning Organization for Blair County (Altoona MSA)
Alward	Henry	(PENNDOT 2-0)
Baldwin	Allan	(TPC)
Berger	Tony	(PENNDOT 9-1)
Beveridge	Scott	(BLAIR 911)
Bretzman	Dan	(PTC)
Copley	David	(Sgt PSP- Troop G Hollidaysburg)
Datesman	Dan	(BEDFORD EMA)
Dennis	Gary	(BLAIR EMA)
Edwards	Mike	(Lt. PSP)
Feist	Brian	(CAMBRIA 911)
Godish	Don	(PENNDOT 9-3)
Hershberger	Boye	(PENNDOT 9-0) (Traffic Operations Manager)
Hofer	Thomas	(PENNDOT 9-2)
Jones	Dexter	(PENNDOT 9-1)
Klevan	Tom	(AMTRAN)
Kline	Al	Cambria County EMA
Lingenfelter	Mark	(PENNDOT 9-0) (ADE Maintenance)
McCreadie	Bernard	Cambria County EMA
Miller	Dan	(CITY of ALTOONA)
Pardoe	Mark	(PENNDOT 9-3)
Prestash	Dennis	(PENNDOT 2-0)
Prestash	Thomas	(PENNDOT 9-0) (DE District Executive 9-0)
Querry	Fred	(SAPDC RPO)
Roland	David	(Cpl. PSP)
Roman	James	(PENNDOT 2-0)
Romeo	John	(Sgt. PSP)
Rourke	Warren	(PENNDOT 9-5)
Snyder	Kevin	(PENNDOT 9-0)
Spangler	Tim	(CAMBRIA 911)
Springer	Ron	(CAMBRIA EMA)
Stern	Kevin	(PENNDOT 9-0) (Maintenance Services Manager)
Stoltz	Greg	(PENNDOT 9-2)
Tanzi	Tony	(PENNDOT 9-0) Traffic Control Specialist
Walker	Jeff	(PENNDOT 2-0)

Participant Name		Affiliation
Watson	Jeffery	(Capt. PSP)
Wolf	Eric	(AMTRAN)
Yohn	Craig	(PENNDOT 9-2)
Hess	Graham	PennDOT BHSTE
Jan	Farooq	PennDOT BHSTE
Koser	Steven	PennDOT BHSTE
Laubach	Bill	PennDOT BHSTE
McCoy	Leslie	PennDOT BHSTE
Modi	Gary	PennDOT BHSTE
Pack	Michael	PennDOT BHSTE
Pento	Bob	PennDOT BHSTE
Reed	Craig	PennDOT BHSTE
Tomlinson	Doug	PennDOT BHSTE
Weaver	Matt	PennDOT BHSTE
Johnson	Terri	Traffic.com
Kimmel	Ron	PEMA
McQuaide	Stan	McQuaide Freight Lines - Vice President Operations
Mednis	Mariss	SSI Services, Inc.
Nedimyer	Vince	Altoona School District
Pillar	Charles	Altoona-Blair County Airport
Smith	Tricia	Traffic.com
Stipcak	Tim	Pitt Ohio Express and PA Motor Truck Association
Weisman	Milt	Fullington Bus Company
		Steering Committee Member

APPENDIX D - Forum Workshop Meeting Summaries

Operational Needs Workshop - Meeting Summary (FINAL)

PennDOT Planning Services and Implementation Regional Operations Plan for the Southeastern Alleghenies Region

January 10, 2007 @ 9:00 AM

PennDOT District 9-0, Hollidaysburg, PA

Participating

John Ambrosini
Dave Belz
Chris Allison
Wes Burkett
Thomas Hofer
Ron Kimmel
Dan Miller
Brenda Murphy
Michael Pastore
Charles Pillar
Dennis Prestash
Cpl. David Roland
Warren Rourke
Kevin Snyder
Kevin Stern
Tim Stipcak
Tony Tanzi
Jeffrey Walker

Representing

PennDOT District 9-0
Southern Alleghenies RPO
Cambria County Planning Commission / Johnstown Area MPO
MPO for Blair County
PennDOT District 9-0
PEMA
City of Altoona
PennDOT BHSTE
PennDOT District 9-0
Altoona-Blair County Airport
PennDOT District 2-0
PA State Police - Hollidaysburg
PennDOT District 9-5
PennDOT District 9-0
PennDOT District 9-0
Pitt Ohio Express and PA Motor Truck Association
PennDOT District 9-0
PennDOT District 2-0

Staffing

Steve Buckley
Jada Beauford
Joel Ticatch
Noah Goodall

Representing

Parsons Brinckerhoff
Olszak Management Consulting
Telvent Farradyne
Telvent Farradyne

I. Introductions and Agenda Overview

At 9:00 AM, Steve Buckley welcomed everyone, began introductions and explained the purpose of today's Operational Needs Workshop.

II. ROP Overview and Operational Areas

Steve Buckley began the meeting by outlining the agenda and highlighting PennDOT's goal to maintain and operate the system's current infrastructure in order to maximize the efficiency of the transportation system. He highlighted the following key points:

- Operations are important to reducing congestion and improving safety.

- Based on a 2004 FHWA report, traffic congestion is related to: bottlenecks (40%); traffic incidents (25%); bad weather (15%); work zones (10%); poor signal timing (5%); special events/other (5%).
- The bottom line is that 60% of congestion is non-recurring. Many of the causes of non-recurring congestion can be addressed through operational improvements and better management of the transportation system. For example, traffic congestion due to bad weather could be reduced if better information was available to drivers.
- The Transportation Systems Operations Plan (TSOP) provides a plan from a statewide perspective and sets a statewide direction for projects relating to operations and Intelligent Transportation Systems (ITS).
- The TSOP's four goals are: 1) Build and Maintain a Transportation Operations Foundation; 2) Improve Highway Operational Performance; 3) Improve Safety; 4) Improve Security.
- There were 19 key projects identified by TSOP during the initial program period. Those currently underway include TSOP project numbers: 01- Inter-Agency Incident Reporting System; 02- Road Closure Reporting System; 03- Interstate Incident Management Program; 04- Incident Management Traveler Information; 08- TAC Signal Study Implementation; 09- STMC and TMC's; 12- Mobility in Work Zones; 13-ITS & IT; 14- Operations Mainstreaming.
- Key actions of TSOP include:
 - Provide and support foundational transportation operations uniformly in all engineering districts;
 - Provide consistent interstate incident response on all sections of the interstate system;
 - Share incident information for all hazards among state, federal, and responsible regional/local emergency management agencies;
 - Provide timely, reliable traveler information through low-cost, no-cost media;
 - Manage the transportation system cost effectively through linked management centers, sized to suit regional needs;
 - Use standard incident management and reporting software and device control software in every TMC;
 - Manage traffic signals actively during incidents on key corridors;
 - Improve arterial performance through inter-municipal traffic signal operation and maintenance agreements;
 - Use and improve metrics to manage operations and guide planning and funding;
 - Provide effective programs and services through properly trained and classified staff and balanced use of consultant support.
- A Regional Operations Plan (ROP):
 - Extends the TSOP to the regional level;
 - Defines the strategic transportation operations program for the region;
 - Expands cooperative relationships between regional transportation operators and planning partners;
 - Achieves uniformity and compatibility across regions.
- Various key studies, reports, and plans help lay the foundation for the ROP.
- The goal is to have all regional planning partners develop and adopt their ROPs by July 31, 2007.
- The ROP will be updated every two years in conjunction with TIP update cycles.

- PennDOT has committed resources to support the ROP process.
- The Southern Alleghenies ROP is currently on Task 3: Define Regional Needs and Priorities.

III. Needs Areas/Needs Identification

The remainder of the meeting focused on identifying various needs and specific “Needs Areas” for the Southern Alleghenies Regional Operations Plan that reflected TSOP priorities and regional concerns. As a basis, it was noted that earlier at the July Steering Committee meeting six tentative “Needs Areas” were identified:

- Incident and Emergency Management,
- Traveler Information,
- Traffic Signals,
- Operations and Maintenance of ITS Devices,
- Transit Related ITS Applications, and
- ITS Safety Applications.

After completion of the needs identification discussion, workshop participants determined the following four Needs Areas best represented the broader operational concerns of the region:

- Incident Management
- Traveler Information
- Foundational Issues
- Communications

The working discussion on operations needs is shown below. These needs were transcribed on several easel pads by the facilitators; however they were later reassigned under the finalized Needs Areas following the meeting. These needs have not been ranked or prioritized. Additionally an “other” category was created to capture those needs not fitting neatly into identified needs areas.

1. Incident Management

- Routes I-99, US 219 and US 22 need Incident Management devices for both advisory and construction
- Corridor and incident management needs to be improved along I-99 in District 2-0
- PennDOT enjoys close relationships with county EMAs
- Success: Use of PEIRS communication system
- Success: Operational/functional District 9-0 TMC
- Success: Incorporating 911 activities in TMC operations
- Success: ITS system on Route 22
- Success: Device placement along corridors
- Weather in Southern Alleghenies Region continues to be an issue
- Need a regional approach to addressing and solving incidents
- Need better connections to PEIRS
- State police need clarification on when to contact PennDOT for DMS postings (knowing when to make the call)

- Portable message boards can also be used to provide information to motorists for extended incident delays
- State police and fire units across the state need to know locations of signs and devices; need list of permanent DMS locations
- Need to continue evolving Incident Management/communications relationships among stakeholders

2. Traveler Information

- Success: Road closure information generally communicated to media
- Success: Road closures generally reported promptly, State police generally now put out press releases on road closures
- Expand canned routing during incidents
- Need increased information sharing with motoring public

3. Foundational Issues

- Success: Timely messaging and reliable operations—little “down time”
- Success: Expanding devices/activities across region
- Concern for Operations and Maintenance funds running dry
- Need performance measures data to monitor/justify activities
- Management of equipment is a continuing concern
- Successful hardware integration
- Need 24/7 PennDOT District 9-0 TMC
 - Operations (the 911 center covers during off-hours, however this isn't ideal)
 - RTMC is not the preferred solution
- Ideally need dedicated funding for Operations/ITS
 - Funding commitment needs to be “top down”
- Institutionally, PennDOT need to better organize for operations; FHWA grant programs need to be supportive as well
- Need data on the use (and benefits) of Operations/ITS
- Need “operations” checklist for use during project development to help mainstream operations

4. Communications

- Success: PennDOT usually provides prompt response to communication from State police
- Communication among centers and among stakeholders continues to be an issue
- Communication is the key for trucking/freight industry
 - Email/Internet alerts work best
 - Need RCRS to send emails/dissemination and make information available to the general public
- Need to notify PennDOT of even short duration closures in the event that they turn into longer duration closures
- PennDOT District 9-0 unable to use wireless for ITS devices because of OA policy, T1 lines are expensive
 - With a non-24/7 environment, a lack of procedures/protocols and multiple operating agencies make this difficult

- PennDOT Districts should have the ability to operate each others signs under special circumstances

5. Other

- All of the identified needs apply to aviation

IV. Next Steps

As a result of the discussion, the following candidate operations areas were identified:

- Incident Management
- Traveler Information
- Foundational Issues
- Communications

After the Needs Areas/needs identification discussion commenced, participants were asked to sign up for a particular Task Force group corresponding to a Needs Area. It was discussed that the purpose of these Task Force groups is to refine and prioritize the needs identified today, define operation concepts and linkages amongst stakeholders, and begin to identify projects in support of the operation concept.

Incident Management

Tim Stipcak
Ron Kimmel
PA State Police
Chuck Pillam

Traveler Information

Ron Kimmel
Kevin Stern

Foundational Issues

Wes Burket
Chris Allison
Dave Belz

Communications

Ron Kimmel
Tim Stipcak
PA State Police
Dennis Prestash
Mike Pastore

Steve Buckley will follow up with the task force participants and establish the next meeting date.

APPENDIX E - Task Force Meeting Summaries

Communication Task Force (FINAL)

PennDOT Planning Services and Implementation Regional Operations Plan for the Southern Alleghenies Region

February 23, 2007 @ 12:30 AM

PennDOT District 9, Hollidaysburg, PA

Participating

John Amborsini
Jim Hunt
Brenda Murphy
Michael Pastore
Kevin Snyder
Tony Tanzi

Representing

PennDOT District 9-0
FHWA
PennDOT BHSTE (via phone)
PennDOT District 9-0
PennDOT District 9-0
PennDOT District 9-0

Staffing

Steve Buckley
Noah Goodall
Jada Beaufford

Representing

Parsons Brinckerhoff
Telvent Farradyne
Olszak Management Consulting

I. Purpose of Today

At 12:30 AM, Steve Buckley welcomed everyone, began introductions and explained the purpose of today's Communication Task Force meeting.

II. Overview of Operations Concepts and Projects

Steve Buckley reviewed a presentation that outlined the process for developing the Regional Operations Plan (ROP), as well as key findings regarding communications from the first workshop.

Steve mentioned that inter-agency communications were covered in previous task force meetings

III. Discussion of Needs

The Communication task force then discussed key needs areas.

Formalized Communications within the Region

Need: Communications are mostly informal

- Need a process for PennDOT and county maintenance organizations to maintain formalized relationships—they should not be dependent on personal relationships
- Need clarification of protocols—including time of day and time of year issues
- Relationships with off-hours operators is a challenge
- NIMS training should have clarified roles and responsibilities but perhaps not clear

- Need to strengthen communication between construction and maintenance to TMC

Communications Among Personnel

Need: Disseminating Information to Out-of-Office TMC Staff

- Need to look at alternate means of distributing information other than receipt via computer screen (i.e. automatic fax, Blackberry devices, etc.)
- PennDOT TMC personnel are unable to receive alerts when in the field or in a meeting away from their computer and internet connection, but have been unsuccessful in procuring Blackberries or similar devices

Need: Confirmation that IEM Information is Received by Appropriate Personnel

- TMC needs dedicated staffing to ensure communications gets to where (and who) it will be acted upon
- Often emergency data is sent as an email, but with no guarantee that the recipient has read it
- PEIRS has a record of who has been sent the notifications, but not who has read or followed up

Reliable Information Exchange among Systems

Need: Seamless Connections Between Centers/Systems

- All connections (PEMA, PEIRS, etc.) should be included within a center
- PennDOT feels PEIRS should feed into RCRS
- Issues with lack of cellular control of portable DMS
- Separation of BHSTE and ITS
 - Separation within the department – RCRS – BOMO – county-based function and ITS operations is a BHSTE function
 - Disconnect within BHSTE ITS section and Risk Management
- Link work zone information into TMC

Communications Hardware

Need: Streamlined Procurement of Communications Technology

- Hardware issues
 - Lack of response on requests for communication
 - Technology for sharing video is the challenge – do not have equipment needed to integrate into PennDOT TMC video images
 - Users need to pay for connection (media, etc.) – government agencies less of a problem
- District 9 is unable to take advantage of Cambria County's county-wide wireless network, because wireless communication is not permitted per PennDOT regulation for field devices

IV. Next Steps

Steve Buckley will distribute the task force meeting minutes to the group and said that he anticipates that the task force will reassemble in March to discuss potential projects resulting from the needs identification discussion.

Foundational Issues Task Force (FINAL)

PennDOT Planning Services and Implementation Regional Operations Plan for the Southern Alleghenies Region

February 22, 2007 @ 9:30 AM

PennDOT District 9, Hollidaysburg, PA

Participating

Chris Allison
John Ambrosini
Dave Belz
Wes Burkett
Brenda Murphy
Michael Pastore
Charles Pillar
Kevin Snyder
Tony Tanzi

Representing

Southern Alleghenies RPO
PennDOT District 9-0
Cambria County Planning Commission / Johnstown Area MPO
MPO for Blair County
PennDOT BHSTE
PennDOT District 9-0
Altoona-Blair County Airport
PennDOT District 9-0
PennDOT District 9-0

Staffing

Steve Buckley
Noah Goodall
Jada Beaufford

Representing

Parsons Brinckerhoff
Telvent Farradyne
Olszak Management Consulting

I. Purpose of Today

At 9:30 AM, Steve Buckley welcomed everyone, began introductions and explained the purpose of today's Foundational Issues Task Force meeting.

II. Overview of Operations Concepts and Projects

Steve Buckley reviewed a presentation that outlined the process for developing the Regional Operations Plan (ROP) and identified the following key needs areas under Foundational Issues:

1. Organizational issues
2. 24/7 operations
3. Funding
4. Performance measurement
5. Device deployment
6. Maintenance

III. Discussion of Needs

The Foundational Issues task force then discussed key needs within each identified area.

General Issues

- Need better communication between emergency management teams; both people-to-people and organization-to-organization

- Need to establish and implement a uniform protocol across districts for incidents—ensuring that the right people are being contacted
- Emergency response protocols may vary for districts within and without a 24/7 TMC—time of year also causes variance in procedure
- Information disseminated needs to be accurate
- Staffing is insufficient
 - TMCs – need dedicated staffing and titles
 - Maintenance contracts with the equipment manufacturing companies are preferable
 - Sole source contracting is difficult; the bidding process does not always result in the best service
- District 9 has a lot of ITS and other major projects that other rural districts do not have
- Transportation operations has not surfaced as an issue among the planning partners

24/7 Operations

Need: Expanding TMC capabilities during off-hours

- Three regional 24/7 TMCs in Pittsburgh, Philadelphia and Harrisburg are being considered for the state of Pennsylvania
 - Idea is five years old and does not seem to be fully developed
 - Similar situation with consolidation of automated flight service stations, which was intended to save money, but ended up costing money
 - System would operate best with investment in 24/7 staffing locally – need to have staff familiar with local road systems
- Perhaps district TMCs could be staffed during business hours and 24/7 TMCs could pick up the remainder
- Need to consider cost efficiency
- Tie-in with 911 centers is essential; 911 centers must be involved with execution of protocols

Funding

Need: Additional and/or dedicated funding

- What could potential additional funding be used for in District 9?
 - A little of everything – projects, maintenance, staffing, etc.
- Would like to see dedicated funding for operations specified in TIP

Performance measurement

- Not currently an “A-level” issue

Device deployment

Need: Cost-effective deployments

- Relying on CCIP or TIP projects
- OA not receptive to the free wireless being offered by 911
 - Would really help District 9 in remote rural locations to which utilities cannot reach
- Potential of piggybacking on other departments’ infrastructure

- OA organizational issues are a hindrance

Maintenance

Need: Provide cost-effective, high quality maintenance for ITS equipment

- Need funding for upkeep of maintenance contracts
- Need ability to get sole sourcing for maintenance contracts from the equipment manufacturer
- Regional or statewide maintenance contracts
- Bureaucracy slows work and progress—even when time is critical—forced to go through a middle man
- Flexibility is needed; current contracts list is restrictive

IV. Next Steps

Steve Buckley will distribute the task force meeting minutes to the group and said that he anticipates that the task force will reassemble in March to discuss potential projects resulting from the needs identification discussion.

Incident Management Task Force (FINAL)

PennDOT Planning Services and Implementation Regional Operations Plan for the Southern Alleghenies Region

February 23, 2007 @ 9:30 AM

PennDOT District 9, Hollidaysburg, PA

Participating

John Amborsini
Sgt. Dave Copley
Jim Hunt
Farooq Jan
Ron Kimmel
Al Kline
Bernard McCreddie
Brenda Murphy
Michael Pastore
Cpl. David Roland
Kevin Snyder
Tony Tanzi

Representing

PennDOT District 9-0
PA State Police
FHWA
PennDOT BHSTE (via phone)
PEMA
Cambria County EMA
Cambria County EMA
PennDOT BHSTE
PennDOT District 9-0
PA State Police
PennDOT District 9-0
PennDOT District 9-0

Staffing

Steve Buckley
Noah Goodall
Jada Beaufford

Representing

Parsons Brinckerhoff
Telvent Farradyne
Olszak Management Consulting

I. Purpose of Today

At 9:30 AM, Steve Buckley welcomed everyone, began introductions and explained the purpose of today's Incident Management Task Force meeting.

II. Overview of Operations Concepts and Projects

Steve Buckley reviewed a presentation that outlined the process for developing the Regional Operations Plan (ROP).

Farooq Jan provided an updated on the proposed five-year plan for regional 24/7 TMCs in Pittsburgh, Philadelphia and Harrisburg.

III. Discussion of Needs

The Incident Management task force then discussed key needs areas.

Information Dissemination

Need: Improve incident information dissemination

- Everyone does not have readers' rights into PEIRS
- PEIRS information goes in, but does it come out to district offices?
- Emergency information flows to District 6 and any reported road closures are fed back to PEMA
- EMA coordinators in each district have access to PEIRS
- A disconnect exists between RCRS and PEIRS

- Can users access information from PEIRS for areas adjacent to their district?

Formalized Incident Management Procedures and Protocols

Need: Unclear PSP incident management procedures

- Incident detection – PA State Police needs further training in order to determine what type of assistance to request from PennDOT when assessing incidents
 - Authority to “make a call” on an incident
 - More systematic and uniformity in training
- Lack of definition of who is in charge at incident scenes
 - Has improved over the last five years

Need: Lack of understanding of road closure criteria/authority

- Lack of clarity on when to shut down roads

Need: Mostly informal Incident Management communications

- PA State Police has PennDOT radio, but no direction on how to use
- A direct line between PA State Police and PennDOT would be helpful
- PennDOT needs to take a more active role in communicating its need for information from other agencies
- PennDOT has a community relations coordinator who distributes press releases – not sure of after hours process, if there is one
- Should equip PA State Police cars with radio at PennDOT frequency
- PennDOT would like to see PA State Police have access to all devices
 - Need to ensure training

Need: Unclear detour routing responsibilities

- District 9 has sent pre-planned emergency detour routes to Harrisburg for inclusion in GIS
- Who is responsible for detouring?
- Who pays for detour shut downs and staffing?

Off-Hours Operations

Need: Improve off-Hour operations

- PSP issues exist with contacting PennDOT maintenance in the summer when they are not on call
- PSP should have access to PennDOT cameras
- May consider allowing PSP access to TMC during off hours
- 911 uses District 9’s cameras during off-hours, but is hesitant to use message boards
- Problems with lack of after hours dispatching – dispatching is good during work hours and 911 is PennDOT’s back-up after hours

Jim Hunt then informed the task force that incident management is a priority for FHWA, distributed reading materials and a self assessment tool, and explained the availability of federal funds for incident management.

IV. Next Steps

Steve Buckley will distribute the task force meeting minutes to the group and said that he anticipates that the task force will reassemble in March to discuss potential projects resulting from the needs identification discussion.

Traveler Information Task Force (FINAL)

PennDOT Planning Services and Implementation Regional Operations Plan for the Southern Alleghenies Region

February 22, 2007 @ 12:30 AM

PennDOT District 9, Hollidaysburg, PA

Participating

John Ambrosini
Tom Klevan
Brenda Murphy
Michael Pastore
Bob Pento
Kevin Snyder
Kevin Stern
Tony Tanzi

Representing

PennDOT District 9-0
AMTRAN
PennDOT BHSTE
PennDOT District 9-0
PennDOT BHSTE (via phone)
PennDOT District 9-0
PennDOT District 9-0
PennDOT District 9-0

Staffing

Steve Buckley
Noah Goodall
Jada Beaufford

Representing

Parsons Brinckerhoff
Telvent Farradyne
Olszak Management Consulting

I. Purpose of Today

At 12:30 PM, Steve Buckley welcomed everyone, began introductions and explained the purpose of today's Traveler Information Task Force meeting.

II. Overview of Operations Concepts and Projects

Steve Buckley reviewed a presentation that outlined the process for developing the Regional Operations Plan (ROP).

Bob Pento provided an update on TSOP-04: Incident Management Traveler Information. The entire report can be found at www.paits.org. The following activities have occurred or are under development:

1. 511 technical feasibility study conducted
2. Key information content for provision of 511 service identified
3. Developing initial and second-wave concepts
4. Program governance
5. Deployment timeline
6. Determining next steps

III. Discussion of Needs

The task force participants were asked for their thoughts on the statewide 511 system (operational by 2010) and traveler information in general. Their comments are organized by needs areas.

Types of Data

Need: Travel time information

- FHWA is looking for travel times to be the default message on dynamic message systems in metropolitan areas—may not be appropriate for rural settings
- District 9 does not currently have the capability to record travel times with current detection system
- FHWA is looking at vehicle probes and capturing cell phone data to aid in determining travel times

Need: Transit data

- Will eventually have real-time information on transit schedules accessible from hand-held devices (within next 5 years)
 - Fleet will be AVL-equipped
- AMTRAN is in the process of uploading their schedules to Google Transit's trip planning site

Need: Detour routing

- Special transit routing during special events for 511
- Detour routing to be incorporated in 511 on GIS mapping system

Need: Video feeds

- Transit looking at providing real-time camera feeds to TMC
 - Good supplement to existing PennDOT camera system
 - 911 will also receive information
- Communication with PTC exists, but protocol is lacking—should look to share video

Delivery of Data

- 511 system already in development, both web and phone access
- Agencies experience good relationships with the media
- For now, agencies consider media and DMS as adequate for distributing traveler information

Need: Coordination with other agencies/systems

- Turnpike Commission is moving ahead with their own traveler information system – 511 will coordinate access
- The 511 system is robust, but there is a degree of separation between RCRS and ITS
 - RCRS not linked to ITS operations
- All stakeholders need to participate for effective communication; need a standard process
- How will information get to 511?
 - Vendor will help determine how information from RCRS will be communicated
 - Information will not be released to the public until there is a high level of confidence that it is accurate

IV. Next Steps

Steve Buckley will distribute the task force meeting minutes to the group and said that he anticipates that the task force will reassemble in March to discuss potential projects resulting from the needs identification discussion.

Proposed Needs Solutions from Task Forces – March 2007

Incident Management

Needs	Proposed Solutions
Improve incident management procedures	Develop detailed procedures and protocols for incident management (including plans for different times of year) Conduct NIMS training Conduct incident management training for PEMA, PSP and local emergency responders Develop IM Teams for areas where the highest number of incidents occur to ensure coordination
Lack of understanding of road closure criteria/authority	Develop road closure protocols, specifying go/no-go criteria, persons with authority, etc. Conduct road closure scenario training
Lack of clear detour routing protocols	Develop detour routings and procedures Make information accessible to all emergency responders Conduct detour routing scenario training Clarify who is responsible, who staffs, who pays
Improve incident information dissemination	Permit TMC greater access to PEIRS Conduct PEIRS training
Improve off-hours operations	Procure wireless email devices so that staff can receive alerts during meetings and in the field Investigate other technologies to alert out-of-office staff, including automated fax, text messaging, etc. Ensure after-hours procedures for distribution of press releases in the event of incidents, closures, etc. Connect PSP to PennDOT cameras Consider allowing PSP access to District 9 TMC during off-hours Train 911 Operators in TMC operations, particularly DMS Hold special meetings for off-hours operators to meet their counterparts at other agencies Permit access to incident management trailer in off-hours
Improve communications among agencies	Establish radio communications between PSP and PennDOT maintenance Develop communications protocols, including phone and contact lists specific to situation, time of day, and time of year Conduct training with several agencies to institutionalize new protocols
Reliable information exchange among systems	Create a system for interfacing with PEIRS and RCRS ATMS Integrated software Establish integration with the RCRS Interface District 9 TMC system with work zone management system
Confirmation that information is received by appropriate personnel	Work with PEIRS, RCRS, and other statewide systems to develop a "read-response" where the receiver can confirm to the system that the message has been received and understood

Traveler Information

Needs	Proposed Solutions
Provide real-time traveler information to highway users	Real-time trip time estimates as default on DMS for destinations Require new DMS signs to be controlled via cellular technology Close equipment gaps identified in PennDOT Interstate gap analysis
Provide travelers with access to additional sources of traveler information	Distribute video feeds to the public from both highway cameras and transit vehicles, possibly as part of the 511 system
Provide users with web-based transit information	Ensure that all transit agency schedules are available via the web Institute trip planning software for local transit services
Expand communications coverage	<p>PRIORITY I</p> Bedford County - Install DMSs and CCTVs along Route US 30 around the Breezewood area for I-70 & PA Turnpike Blair County - Install DMSs, HARs and CCTVs along I-99 at route numbered or major interchanges: Pinecroft, Bellwood, Tyrone, Bald Eagle, SR 164 and Blue Knob Cambria County - Scalp Avenue CCIP - Traffic signal closed loop system and signal update—install DMS and CCTV at major locations along Scalp Avenue and along SR 219 btw Windber Interchange and Galleria Interchange <p>PRIORITY II</p> Blair County - Install DMSs along SR 22 EB near Frankstown Road and EB before SR 453 at Water Street Cambria County - SR 0022 Ebensburg CCIP - Traffic signal closed loop system and signal upgrade—install DMS and CCTV at major locations along SR 0022 and SR 219 Interchange, possible queue detection on North Ramp at SR 0219 & SR 0022 <p>PRIORITY III</p> Bedford County - Install DMSs and CCTVs along SR 0030 and SR 0220 at the Bedford Interchange Area Blair County - I-99 Extension of the fiber optic cable to Bedford Cambria County - SR 0056 & SR 0403 through Conemaugh Gap - Install DMS & CCTV westbound direction on SR 0056 before Fairfield Ave, eastbound direction before SR 0711 near Seward & eastbound direction on SR 0403 before SR 0711 near Cramer Cambria County - Install DMSs and CCTVs along SR 22 at numbered or major interchanges: SR 53, SR 164, Ebensburg, SR 219, and SR 271. Install DMSs HARs and CCTVs along SR 219 at numbered or major interchanges: SR 422, SR 22, SR 53, SR 869, Galleria, SR 756 Cambria County - Install DMSs, HARs, and CCTVs along SR 56 in the Johnstown area: DMS & CCTV near the Incline Plane eastbound, DMS/CCTV before Bedford Street Ramp and CCTV 2 the War Memorial. Somerset County - SR 0601 CCIP Corridor—traffic signal closed loop system and signal upgrade. Install DMSs and CCTVs at major locations along N. Center Avenue and along SR 219 btw PA 601 Interchange and Myersdale Interchange Somerset County - Install DMSs and CCTVs along SR 219 at numbered or major Interchanges: SR 403, SR 30, SR 601, and SR 281

Foundational Issues

Needs	Proposed Solutions
Expanded TMC capabilities during off-hours	Perform cost-benefit evaluation of 24/7 TMC operations, considering several factors including: STMC, Regional TMCs, District TMCs, or some combination of the three managing 24/7 operations Investigate alternative strategies to increase effectiveness of TMCs during off-hours, including allowing PSP remote control of systems, training 911 dispatchers in procedures, and virtual TMCs
Elevate operations within PennDOT	Create an ADE of Operations and elevate District ITS Coordinator to a full time position Creation of regional or a statewide signals manager position (full-time) to coordinate and advance traffic signal needs
Lack of funding for ITS	Propose dedicated funding for ITS be included in the TIP Document benefits of ITS system in the District, for use in justifying increased ITS investment
Cost effective equipment deployments	Lobby OA to change restrictions on accessing wireless networks, to take advantage of county's wireless network Investigate other methods to piggy-back onto other agencies' communications systems
Streamlined procurement of communications technology	Seek approval for quality-based procurement method for communications hardware
Need timely, cost-effective, high quality maintenance of ITS equipment	Propose and seek approval for quality-based procurement method for maintenance contracts (RFP or sole-source) Maintain inventory of spare ITS equipment Establish statewide or regional maintenance contracts