ACKNOWLEDGMENTS

Major contributions from the following PennDOT groups; Districts 10-0, 11-0, and 12-0, Bureau of Highway Safety and Traffic Engineering, Center for Program Development and Management, as well as the Southwestern Pennsylvania Commission made the Regional Operations Plan for the Southwestern Region possible. The ROP was developed with input from multiple regional stakeholders.

Regional Champions/Leaders
The Southwestern Pennsylvania Commission’s (SPC) served as ROP champion. In particular, the SPC staff who contributed toward the development of the ROP included:

- Chuck DiPietro  Transportation Planning Director
- Doug Smith  Transportation Planner

PennDOT District Traffic Engineers
The Southwestern ROP included Traffic Engineers from three PennDOT Districts who contributed toward the development of the ROP:

- Paul Koza  PennDOT District 10-0
- Todd Kravits  PennDOT District 11-0
- Rachel Duda  PennDOT District 12-0

PennDOT District ITS Coordinators
The Southwestern ROP included ITS Coordinators from three PennDOT Districts who contributed toward the development of the ROP:

- Paul Koza  PennDOT District 10-0
- Jason Previte  PennDOT District 11-0
- Robb Dean  PennDOT District 12-0

Regional Steering Committee
The ROP was guided by the Regional Steering Committee consisting of the following individuals:

- Paul Koza  PennDOT District 10-0
- Todd Kravits  PennDOT District 11-0
- Frank Cippel  PennDOT District 11-0
- Rachel Duda  PennDOT District 12-0
- Kevin McCullough  PennDOT Program Center
- Brenda Murphy  PennDOT BHSTE
- Chuck DiPietro  Southwestern Pennsylvania Commission
- Rich Feder  Port Authority of Allegheny County
- Jim Hunt  Federal Highway Administration
- Doug Smith  Southwestern Pennsylvania Commission

Consultant Team
PB Americas, Inc., (PB) 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 ..................................................................... 6

2. **SOUTHWESTERN PENNSYLVANIA REGION ACTIVITIES........................................... 7

   2.1 Description of the Region ................................................................................... 7

   2.2 ITS and Operations Activities at the District Level ............................................. 7

   2.3 Regional Initiatives ............................................................................................. 11

   2.4 The Regional Planning Process ........................................................................ 14

   2.5 Integrating the ROP into the Regional Planning Process .................................. 17

3. **REGIONAL OPERATIONS FRAMEWORK..................................................................... 20

   3.1 Regional Operations Strategies ........................................................................... 20

   3.2 Incident and Emergency Management Operations Area .................................... 21

   3.3 Traveler Information Operations Area .................................................................. 22

   3.4 Traffic Signals Operations Area .......................................................................... 23

   3.5 Institutional Issues Operations Area ...................................................................... 24

4. **REGIONAL PROGRAM .................................................................................................. 25

   4.1 Overview .............................................................................................................. 25

   4.2 Project Priorities and Sequences ......................................................................... 25

   4.3 Approach to Funding .......................................................................................... 27

   4.4 Regional Oversight ............................................................................................... 29

   4.5 Measuring Success ............................................................................................... 29

   4.6 Institutional Considerations ................................................................................ 29

5. **CONCLUSION ................................................................................................................. 32

**APPENDIX A - PROJECT DESCRIPTIONS........................................................................... 34

**APPENDIX B - DESCRIPTION OF THE REGION.......................................................... 69

**APPENDIX C - FORUM INVITEES.................................................................................... 75
APPENDIX D - FORUM WORKSHOP MEETING SUMMARIES

Operational Needs Workshop - Meeting Summary
Operational Projects Workshop - Meeting Summary

APPENDIX E - TASK FORCE MEETING SUMMARIES

Task Force Sessions # 1
Task Force Sessions # 2

LIST OF FIGURES

Figure 1: ROP Process
Figure 2: Southwestern ROP Region
Figure 3: Southwestern ROP Implementation Schedule by Operations Area

LIST OF TABLES

Table 1: Summary Of Key It's Equipment In The Southwestern Region
Table 2: Incident And Emergency Management Regional Needs And Projects
Table 3: Traveler Information Regional Needs And Projects
Table 4: Traffic Signals Regional Needs And Projects
Table 5: Institutional Issues Regional Needs And Projects
Table 6: Southwestern Region Population By County, 2005
Table 7: Comparison Of Key Population Demographics Southwestern Region, 2005
Table 8: Comparison Of Commuting Patterns, 2000
Table 9: Southwestern Region Linear Miles, 2005
Table 10: Southwestern Pennsylvania Bridge Infrastructure, 2005
Table 11: Southwestern Daily Vehicle Miles Of Travel, 2005
Table 12: Major Highway Corridors
EXECUTIVE SUMMARY

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

This project served as an extension of the Transportation Systems Operations Plan (TSOP), adopted in September 2005, and defines the Southwestern Pennsylvania Commission (SPC) region’s priorities for improving operations within the Southwestern Region of the Commonwealth.

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 four key operational areas. They are:

- Incident and Emergency Management
- Traveler Information
- Traffic Signals, and
- Institutional Issues.

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.
<table>
<thead>
<tr>
<th>ACRONYMS and ABBREVIATIONS</th>
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1. Background

Transportation agencies today do not always have the luxury of undertaking massive 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 each 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 Southwestern Region.

1.1 Federal Guidance on Operations

Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), the latest federal 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 United States 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 takes 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.


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 Southwestern region specifies the intended approach to transportation operations. It identifies, defines, and prioritizes operationally-focused 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 (Mobility Plan).

ROP stakeholders in every region are presenting the ROP document to their respective metropolitan planning organizations (MPOs) and regional 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 Southwestern 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**

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:

- I-79 Early Deployment Plan (1997),
- 2030 Regional LRTP (July 2003),
- Transportation Improvement Program (June 2004),
- SW Regional ITS Architecture (December 2004),
- Transportation System Operation Plan (September 2005),
- Unified Planning Work Program (March 2006), and
- Mobility Plan (September 2006)
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 in the form of SPC’s regional Transportation Operations and Safety Committee. Meeting summaries from each of the ROP 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 captured these needs into defined groups (i.e., incident and emergency management, traveler information, traffic signals, and institutional issues).

5. Identification and Profiling of Projects

Each of the operations areas was then assigned to a Task Force that reviewed the list of needs associated with its respective operations area, and identified solutions to those needs in the form of potential “projects” (i.e. policies, programs, planning studies, 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, potential sources of funding, and techniques for monitoring performance.

7. Prepare and Adopt a Regional Operations Plan

In the Southwestern Region, the development of the ROP coincided with the development of SPC’s 2035 Transportation and Development Plan for Southwestern Pennsylvania. The ROP is being incorporated and adopted as a component of this long-range plan.
1.5 ROP Oversight and Management

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

Regional Champions/Leaders

The Southwestern Pennsylvania Commission (SPC) is the official MPO for the 10-county Pittsburgh region and served as ROP champion. In particular, the SPC staff who contributed toward the development of the ROP included:

- Chuck DiPietro  Transportation Planning Director
- Doug Smith   Transportation Planner

PennDOT District Traffic Engineers

The Southwestern ROP included Traffic Engineers from three PennDOT Districts who contributed toward the development of the ROP:

- Paul Koza   PennDOT District 10-0
- Todd Kravits  PennDOT District 11-0
- Rachel Duda  PennDOT District 12-0

Regional Steering Committee

The ROP was guided by the Regional Steering Committee consisting of the following individuals:

- Paul Koza   PennDOT District 10-0
- Todd Kravits  PennDOT District 11-0
- Frank Cippel  PennDOT District 11-0
- Rachel Duda  PennDOT District 12-0
- Kevin McCullough  PennDOT Program Center
- Brenda Murphy  PennDOT BHSTE
- Chuck DiPietro  Southwestern Pennsylvania Commission
- Rich Feder  Port Authority of Allegheny County
- Jim Hunt   Federal Highway Administration
- Doug Smith  Southwestern Pennsylvania Commission

Regional Operations Forum

The Forum held two workshops at strategic phases in the ROP process. The first identified the region’s operations needs and the second validated and prioritized potential projects. The names and affiliations of Forum invitees are provided in Appendix C.

Task Forces

Each of the four Task Forces held two meetings. The names and affiliations of Task Force participants are included in the meeting summaries in Appendix E.
2. SOUTHWESTERN PENNSYLVANIA REGION ACTIVITIES AND INITIATIVES

2.1 Description of the Region

This region, in the southwestern part of the state, is comprised of 10 counties and the City of Pittsburgh. The 10 counties include: Allegheny, Armstrong, Beaver, Butler, Fayette, Greene, Indiana, Lawrence, Washington and Westmoreland. As shown in Figure 2, the region encompasses PennDOT Engineering Districts 11-0 and 12-0, and parts of District 10-0 (i.e., District 10-0 minus Clarion and Jefferson counties). These counties also comprise the SPC planning region. A more detailed description of the region is provided in Appendix B.

2.2 ITS and Operations Activities at the District Level

District 10-0

District 10-0 includes Armstrong, Butler, Clarion, Indiana, and Jefferson counties. The district office is located in White Township in Indiana County. District 10-0 is a rural area and is in the preliminary stages of developing an ITS program. The district is unusually situated in that it is surrounded by five other PennDOT districts (1-0, 2-0, 9-0, 11-0, and 12-0) and is the only district in the Commonwealth that does not border another state. Following the boundaries established in the ITS architecture development, Jefferson County’s operation planning was conducted as part of the Region 2 ROP (District 2-0) while Clarion County remained with the Northwest Region ROP (District 1-0).
Coordination and ROP consistency between District 10-0 and its neighboring districts is an important near-term goal for this plan.

In an early effort toward regional coordination, District 11-0 has started operating as a “Regional Transportation Management Center” (RTMC) and District 10-0 has relinquished some control of ITS devices to District 11-0. Districts 1-0, 10-0, 11-0, and 12-0 all worked together on the I-79 Early Deployment Program Study, which was completed in 1997. District 10-0 has also deployed innovative ITS technology that improves safety at intersections along PA-38. This intersection crash avoidance system notifies mainline and side road vehicles of crossing traffic.

**District 11-0**

District 11-0’s TMC became operational in 1998. It is located in a 5,200-square-foot building and includes a fully integrated centralized software system. This system is under complete configuration management control and comprises eight integrated software subsystems including alarm, CCTV, HAR, DMS, vehicle detection, and high occupancy vehicle (HOV) traffic management. Also included are operator workstations, a media partner room, CCTV monitors, a rear projection screen, and a real-time traffic conditions map. TMC workstations also exist at the Fort Pitt and Squirrel Hill Tunnels along with adjacent districts and the Pittsburgh State Police Barracks.

As noted previously, PennDOT has recognized the importance of and need for regional coordination and operations. The District 11-0 Pittsburgh Regional TMC is currently operating devices in neighboring Districts 1-0 (along interstate I-79 and I-80), 10-0 (I-79), and 12-0 (I-70), in addition to the ITS around Pittsburgh (e.g., I-79, I-279, I-376, and I-579), and operates 15 hours per day. In support of these challenges, District 11-0 is working with PennDOT’s Central Office to become the Western Regional Transportation Management Center and expand operations to a 24/7 basis. The TMC expects to be running 24/7 operations by the end of 2007.

Functions of the TMC include:
- detecting and verifying incidents using microwave detectors and CCTV,
- providing traveler information via DMS and HAR,
- coordinating the deployment of the Freeway Service Patrol on I-279, I-579, I-376, US-22/30, PA-60, and HOV lanes during the morning and afternoon peak hours,
- providing an integrated HOV system with interlock safety features with remote operation from the TMC,
- facilitating real-time video sharing with KDKA, WTAE, and WPXI television stations,
- updating real-time camera snapshots on the District website every 1½ minutes;
- partnering with Pittsburgh sports teams by providing travel information on DMSs, and
- partnering with the Port Authority Transit for integration and video sharing of their Wabash HOV facility.
Traveler information has been prominent in District 11-0. PennDOT has worked with Information Service Providers (ISP) to provide motorists with route-specific travel reports and construction/special event information. Metro Traffic broadcasts live from the TMC weekdays from 5:00 a.m. to 7:00 p.m., while KDKA radio and Metro Traffic provide real-time traffic information for the Pittsburgh region from the TMC during the morning and afternoon peak periods. Real-time traffic information is also available on Traffic.com.

Other tools the TMC uses to enhance traffic flow include over-height truck detection and automated reversible HOV lanes. In addition, the TMC can alert the PA State Police, Emergency Medical Services, or any other services needed to respond to highway incidents.

District 12-0

PennDOT District 12-0 is located in the southwestern corner of Pennsylvania and covers four counties: Fayette, Greene, Washington, and Westmoreland. District 12-0 is similar to District 10-0 in that it is primarily a rural district and is in the early stages of establishing an ITS program. District 12-0 shares control of some of their ITS devices with District 11-0.

ITS devices deployed in the district include; AFLADS, ATR, DMS, HAR, OIP, RWIS, as well as ATRWS system and a truck preemption system utilizing ATRWS technology. In the future District 12-0 will investigate the need for a TMC for the following purposes:

- gather roadway data from sensors and CCTV cameras,
- control various ITS field devices,
- disseminate information to the public and other agencies, and
- coordinate incident response throughout the district.

District 12-0 was a partner with the surrounding districts in developing the I-79 Early Deployment Program Study reviewed as part of this plan.

Pennsylvania Turnpike

The Pennsylvania Turnpike Commission (PTC) plays a vital role in regional travel within and through the Southwestern region. These facilities include the Pennsylvania Turnpike (I-76) mainline, the Mon-Fayette Expressway (S.R. 43), a portion of the Beaver Valley Expressway (S.R. 060), Toll 66 in Westmoreland County, and the Findlay Connector (Turnpike Route 576).

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, HAR, OIP, and 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 to which all agencies can subscribe.

**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.travelboard.com.

**Alternate 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**

Table 1 includes a comparison of existing ITS devices and services in the region.

**Table 1: Summary of Key ITS Equipment in the Southwestern Region**

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<tr>
<th>Region-wide ITS Device and Services</th>
<th>District 10-0</th>
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<th>District 12-0</th>
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<td>0</td>
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</tbody>
</table>

(Source: PennDOT Districts and PennDOT Bureau of Planning and Research)

*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)**
Freeway Service Patrols

The Pittsburgh region has also expanded Freeway Service Patrol services. Since 1996, PennDOT District 11-0’s services have encompassed expeditious removal of disabled or accident vehicles and small, non-hazardous debris from the Parkway West, Parkway East, Parkway North, and Interstate 79. This continuous service also helps reduce the total time needed to clear incidents and allows travel times to remain more reliable.

The Pennsylvania Turnpike Commission (PTC) in a partnership with State Farm has recently begun its own “safety” patrol program along its roadways. Its fleet of 28 vehicles:

- responds to accidents/incidents;
- provides traffic control for scene stabilization;
- delivers an initial maintenance response (debris clean-up, spill control, etc.);
- communicates with the Turnpike Operations Center and other responders regarding the incident’s nature and severity;
- supplies critical incident-scene reconnaissance to determine the emergency resources needed to respond;
- patrols the roadway to identify and report problems; and
- renders customer assistance.

2.3 Regional Initiatives

Traffic Signals

SPC conducted a traffic signal survey in 1996, entitled Survey of Municipal Traffic Practices, which captured data from 81 municipalities concerning ownership, staffing, maintenance, signal types, inspection, capital programming, funding, and needed improvements.

The report also initiated a regional ITS Kickoff Conference in 1998. Following this event, SPC assembled an ITS Steering Committee with a diverse membership of more than 70 people from the public and private sectors. SPC and its ITS Steering Committee has since identified a program for regional traffic signal system improvements.

This program contains the following three focus areas: management and oversight (running the program), equipment / system upgrades, and ongoing retiming and coordination. SPC has also compiled a regional inventory of traffic signal installations through information provided by each of the Districts for the 10-county region using GIS.

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1 Southwestern Pennsylvania Regional Planning Commission, March 1996.
The 10-county SPC region includes approximately 2,500 signalized intersections spread out amongst 266 municipalities in the region. The traffic signals at these locations are in widely varying condition. Only a few of these signals are part of modern computerized systems that move traffic efficiently. Others include basic components that have not been updated in 30 or 40 years. Most signals in the region fall somewhere in between these two extremes.

One of the key building blocks of an effective regional signal program is the advancement of TSOP 8 - Development of a Statewide Traffic Signal Asset Management System (TSAMS). TSAMS is planned as a tool to improve traffic signal planning, design, installation, maintenance, and operation by serving as a repository of traffic signal information (e.g., locations, type and age of equipment, traffic signal permits, signal conditions, and other pertinent information). SPC and PennDOT Districts 10-0, 11-0, and 12-0 are currently working with PennDOT’s Central Office to develop a consistent platform for inventorying signals.

Additionally, through SPC’s Unified Planning Work Program (UPWP), SPC has started implementing other components of their Regional Traffic Signal Program. These include development of a website that will serve as a clearinghouse for information and provide tools including multi-municipal agreements, cost/benefit information on signal maintenance and upgrades, and training opportunities. Additionally, SPC has begun developing outreach materials that municipalities can use to describe the benefits of efficient signals to their decision-makers.

Further efforts under this program include identification of manpower needs, as well as cost estimates and options for funding an upgrade and maintenance program. SPC’s 2035 Plan also looks toward starting integrated corridors in the region through identifying which corridors or sub-areas would provide significant benefits for interconnected signal systems.

These earlier and current SPC traffic signal initiatives help lay the foundation for projects identified in the ROP.

**Transit Operations**

The transit agencies serving the Southwestern region differ in size, staffing, funding and service delivery methods. For example, the agencies that serve as the region’s ten transit operators were created under differing enabling legislation. The agencies were created to meet different needs at different times. Seven agencies were created under the Municipal Authorities’ Act, one was created under the Second Class County Port Authority Act, one is a department of City Government and one is a department of County Human Services.

Today, Southwestern Pennsylvania relies on these ten public agencies that provide fixed-route bus service and other coordinated programs and services, such as Transportation Management Associations (TMAs), access to work programs, shared ride, medical transportation, persons with disabilities and ridesharing to assist in providing services.
Together, the region’s 10 fixed route transit agencies operate nearly 250 bus routes with more than 300 bus shelters, utilizing 1,125 vehicles to cover a service area of 3,846 sq. miles resulting in 63M annual passenger trips. Close to 75% of the region’s population is within ¼ mile of transit service.

Transit initiatives in the Southwestern Region have been led by the Beaver County Transit Authority (BCTA) and Port Authority of Allegheny County (PAAC). BCTA in particular has been in the vanguard since adopting a bus AVL system in the early 1990s. Currently, BCTA’s entire fleet of 32 fixed route buses has a Global Positioning System (GPS) based AVL system. Many of the Port Authority of Allegheny County’s fleet of 1,066 fixed route buses and 83 light rail vehicles are also equipped with GPS, however real-time monitoring and dissemination of traveler information is not currently being implemented.2

BCTA’s two major transfer centers are equipped with real-time arrival and departure information on electronic message boards. BCTA has found that this technology is popular with customers, as well as with planners who use the data on actual running times to create more realistic and effective schedules. BCTA has also purchased additional software to assist with data management, analysis, and reporting, beyond the reporting capabilities available with the AVL software.3

BCTA is planning to make more traveler information available through the agency website, such as next stop arrival predictions and current vehicle locations, as well as an online ticket purchase feature. Making these capabilities available through a telephone system is also being considered.

Future transit initiatives for the region include an integrated smart card/regional fare collection project. PAAC, in cooperation with Beaver County Transit (and other transit agencies in the region), is developing a Request for Proposal to design and implement a new Automated Fare Collection System (AFCS). The AFCS project would require replacement of all existing fare collection and cash-handling components and processes with a contact-less, proximity smart card system.

The transit operators through the regional Transit Operators Committee are working collectively on several broader regional initiatives as part of the reform effort that will result in both cost savings and enhanced service. These collaborative efforts include:

- Regional Fare System – examination and implementation of a regional “smart card” electronic fare system that will allow riders to seamlessly travel throughout the region from system to system to simplify fare payment, improve fare collection and enhance the transportation experience for the rider.

- Regional Solutions – the examination and implementation of other coordinated and cooperative cost-savings strategies including the sharing of customer information, marketing, procurement, trip planning and information technologies.

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3 TCRP SA-17 Bus AVL Synthesis (Currently in draft format).
2.4 The Regional Planning Process

As the Metropolitan Planning Organization (MPO) for the region, SPC is required by federal regulations 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.

The Southwestern Pennsylvania Commission manages this regional planning process and determines how federal transportation funds are spent in Southwestern Pennsylvania. In addition, as EDA’s Economic Development District and ARC’s Local Development District the agency receives state and federal support to promote regional economic development through a variety of planning programs and services.

In 2006, SPC merged its long-standing Intelligent Transportation Systems (ITS) Steering Committee with its Interagency Task Force on Congestion Management to create a regional Transportation Operations & Safety Committee. This committee provides a centralized forum for coordinating transportation operations and safety planning with a diverse group of stakeholders from across the region. It also helps to integrate ITS, safety, and congestion management efforts and improve communication between practitioners in these different specialty areas.

Over the last year, one of the key initiatives of SPC’s regional Transportation Operations & Safety Committee has been the development of this Regional Operations Plan.

Unified Planning Work Program

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

Currently the UPWP identifies the individual programs and initiatives to be undertaken within six broader program areas: Data Systems and Modeling, Transportation Plans and Programs (including Environmental Justice Report), Modal Planning and System Operations/Management, Projects to assist PennDOT, Outreach and Coordination (including Public Participation and Communications), and Program Administration.

The UPWP also lists the federally-funded transportation studies and tasks to be performed by other regional partners during the upcoming fiscal year. Also identified are the significant state or local planning activities to be conducted without federal funds in the region during the fiscal year, as well as the source of funds and responsible agency.
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 Southwestern Pennsylvania. SPC is the one public agency that is working to ensure that plans and efforts in both of these arenas support each other. The 2035 Transportation and Development Plan for Southwestern Pennsylvania (the 2035 Regional Plan) links more than $26 billion in transportation projects with proposed economic and business development initiatives into a single, integrated document.

The 2035 Regional Plan represents an update of the agency’s 2030 plan, which was adopted in July 2003 after a multi-year, broad-based process involving hundreds of people from Southwestern Pennsylvania. The 2035 Regional Plan is a living document; it will undergo revisions and refinements over time. It is imperative that the 2035 Regional Plan be flexible in order to constantly improve and reflect the realities of regional priorities, funding levels, development patterns, as well as key goals and objectives. The 2035 Regional Plan also lays the foundation for identifying critical transportation infrastructure deficiencies and for using public policy and investment decisions to spur regional economic growth.

Federal law requires regional planning agencies to revisit and update their long-range plans at least every four years. SPC uses this requirement as an opportunity to actively reach out to its member counties. For the 2035 Plan, SPC engaged over 1,500 people from around the region in extensive planning discussions regarding the region’s future. This process, entitled Project Region, was among the most extensive public engagement processes undertaken in the country.

Transportation Improvement Program

Federal regulations also require SPC, as the designated MPO, to develop and maintain a Transportation Improvement Program. The TIP identifies the region’s highest priority transportation projects, develops a multi-year program of implementation, and identifies available federal and non-federal funding for the identified projects. The TIP covers a four-year period of investment and is updated every two years through a cooperative effort of local, state, and federal agencies, and the general public.

The 2007-2010 TIP for Southwestern Pennsylvania identifies the priority highway and transit improvements programmed for advancement from October 1, 2006, through September 30, 2010 (federal fiscal years 2007-2010). The 2007-2010 TIP specifies the priorities for the region and includes reasonable estimates of both available funds and anticipated project expenditures. Individual improvement projects must be included on the 2007-2010 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.

Two SPC technical committees—the Transportation Technical Committee (TTC) and Transit Operators Committee (TOC)—work cooperatively to develop the recommended program of projects. Staff representatives from SPC, PennDOT, the planning departments of each member county and the City of Pittsburgh, and the region’s urban
and rural transit operators, actively participate in the development and ongoing maintenance of the TIP.

Projects are prioritized with help from a technical advisory committee that develops recommendations with the most current data available. The region’s transportation partners screen proposed projects to assure consistency with the regional plan, and where they are consistent, prioritize them into a fiscally-constrained program.

The Transportation Improvement Program documentation includes three main reports:

- the TIP Summary Report,
- the Transportation (Air Quality) Conformity Determination for the Pittsburgh Transportation Management Area, and
- the Public Participation Report.

Projects included on the TIP are identified by phase: studies, preliminary engineering, final design, utilities, right-of-way acquisition, and construction. For each project, the TIP identifies the cost and schedule (by year) for each project phase, as well as the total project cost and funding source. The federal, state, local, and private funds programmed for each project are identified as reported by the project sponsors. Total program costs match anticipated revenues.

The SPC is currently beginning its process for developing the 2009-2012 TIP. It is expected that this ROP will serve as an input into the TIP development. The 2009-2012 TIP is expected to be updated by SPC by July 21, 2008.

**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 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 the public 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 reveal 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 and 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:
  o 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;
  o provide operations data and expertise to improve forecasts of future conditions, broaden the understanding of existing conditions, and analyze the effectiveness of alternative investments;
  o 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
  o reveal 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:
  o provide regional leadership and greater participation by stakeholders in regional operations efforts,
  o clarify the role of operations in meeting a region's transportation vision and goals,
  o direct attention to the value of operations strategies, and
  o increase resources assigned to operations projects and programs.

- To ensure benefits to travelers in terms of:
  o enhanced transportation network reliability,
  o improved emergency preparedness,
  o greater access to information, and
  o consideration of a broader array of potential travel alternatives.

The ROP, once adopted by each region in Summer/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 programmed 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.

For the Southwestern Region, the ROP is being incorporated and adopted as a component of the LRTP.
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 Southwestern Region could adapt to its specialized conditions and circumstances.

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

- incident and emergency management,
- traveler information,
- traffic signals, and
- institutional 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 Southwestern Region, many of the ROP projects tend to be planning, policy and program related. First, there appeared to be a desire to implement programs that improved the use, integration and benefits of current operations deployments. Second, while there are some deployment projects, in many cases, ROP participants did not believe that there was adequate information available at the time this plan was being developed to justify advancing specific projects. For example, while most believed that signal integration projects would likely be a genuinely good investment, they did not believe that they had adequate information to determine which corridors might be the best investments. The Forum group therefore recommended the development of a comprehensive regional program that would include investigating which corridors would be best for signal integration.

Discussions by the Task Forces and Forum produced nearly 30 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 (IEM) 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.
- Strengthening relationships among incident management partners and developing regional IM Response Teams.

The original IEM 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

<table>
<thead>
<tr>
<th>IEM Needs</th>
<th>IEM Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enhance real-time communications between PennDOT, PSP, PEMA and city/county agencies to improve: o Emergency and security management o Incident management Communicate information to travelers. Ensure first responders understand the need to manage traffic during incidents Properly respond and manage traffic during a natural or man-made event Better manage event-related traffic and clearly articulate PennDOT’s role and responsibilities in different types of situations.</td>
<td>IEM 1 - US 22 DMS Expansion IEM 2 - Improve Incident Command and Response Procedures IEM 3 - Prepare to Close Regional Equipment Gaps IEM 4 - Develop Detour and Evacuation Routes IEM 5 - Develop Evacuation Plans and Procedures IEM 6 - Close Regional Equipment Gaps IEM 7 - Develop Quick Clearance Program IEM 8 - Expand Freeway Service Patrols IEM 9 - Explore Co-Location of Operations Centers IEM 10 - Venues Prepare Special Event Traffic Management Plans IEM 11 - Establish IM Teams IEM 12 - I-279 CCTV Expansion IEM 13 - I-70 DMS and CCTV Expansion</td>
</tr>
</tbody>
</table>

See Appendix A for complete project descriptions.
3.3 Traveler Information Operations Area

The Traveler Information (TI) Operations Area builds on the statewide incident management 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 vendor and infrastructure to deliver traveler information.
- Define means, media, and methods for delivering reliable traveler information, especially so travelers can make informed pre-trip and en-route decisions.

The original TI 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**

<table>
<thead>
<tr>
<th>TI Needs</th>
<th>TI Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Getting information to users in a timely manner (i.e., in advance and while en-route)</td>
<td>TI 1 - Expand Traveler Information Communication Network</td>
</tr>
<tr>
<td>Customizing information for users</td>
<td>TI 2 - Institute Real-Time Information Systems</td>
</tr>
<tr>
<td>Providing timely information on travel times for better reliability</td>
<td>TI 3 - Explore Data Sharing with Public and Private Entities</td>
</tr>
<tr>
<td>Providing information to users before getting on or off the Turnpike</td>
<td>TI 4 - Develop Regional Traveler Information Business Plan</td>
</tr>
<tr>
<td>Providing real-time transit information to users</td>
<td>TI 5 - Institute Travel Time Postings on DMS Signs</td>
</tr>
</tbody>
</table>

See Appendix A for complete project descriptions.
3.4 Traffic Signals Operations Area

The Traffic Signals (TS) Operations Area paves the way for a more centralized traffic signal program that holistically plans and coordinates activities, as well as operates and maintains signals at the corridor and regional levels. It builds on the findings and recommendations contained in earlier efforts by SPC and its planning partners. In particular it will:

- Implement an asset management system for signals.
- Pilot corridor-wide integrated freeway/arterial signal management, and multi-jurisdictional traffic signal operations and maintenance (O&M) programs.
- Define new or expanded mechanisms needed for funding signal systems operations and maintenance.

The original TS 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: Traffic Signals Regional Needs and Projects

<table>
<thead>
<tr>
<th>TS Needs</th>
<th>TS Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improving understanding of cost-effectiveness of signal upgrade/integration</td>
<td>TS 1 - Signal Upgrades</td>
</tr>
<tr>
<td>Making signals a priority to decision-makers</td>
<td>TS 2 - Create Signal Management System</td>
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<tr>
<td>Upgrading existing signals into an integrated controllable system</td>
<td>TS 3 - Develop Program for Funding Signal Maintenance and Upgrades</td>
</tr>
<tr>
<td>Maintaining and retiming signals</td>
<td>TS 4 - Prepare Top 10 Intersections to Upgrade</td>
</tr>
<tr>
<td>Addressing software issues</td>
<td>TS 5 - Develop Regional Signal Maintenance and Upgrade Plan</td>
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<td></td>
<td>TS 6 - Integrated Corridor Management</td>
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<td></td>
<td>TS 7 - Implement Top 10 Intersections Upgrades</td>
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<tr>
<td></td>
<td>TS 8 - Institute Signal Decommissioning Program</td>
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</tbody>
</table>

See Appendix A for complete project descriptions.
3.5 Institutional Issues Operations Area

Institutional issues were discussed heavily during the ROP outreach sessions. Several of the earlier “institutional” needs discussed by ROP Forum participants were either bundled into one of two ROP projects included in other operational areas, or were dropped due to their statewide scope (see Section 4.6 – Institutional Consideration).

The original Institutional Issues (IN) priorities and finalized initiatives are listed in Table 5, demonstrating the translation from regional operations needs to defined projects that are planned to be addressed by the ROP.

Table 5: Institutional Issues Regional Needs and Projects

<table>
<thead>
<tr>
<th>IN Needs</th>
<th>IN Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Organizational structure to handle the elevated role of Operations</td>
<td>IN 1 - Create Operations Coordinator Position</td>
</tr>
<tr>
<td>• Dedicated funding</td>
<td>IN 2 - Create Operations Outreach Program</td>
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<tr>
<td>• IT and communications infrastructure</td>
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<tr>
<td>• Standardization of and agreements for the collection, storage, sharing</td>
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<tr>
<td>and monitoring of transportation operations data and information</td>
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<tr>
<td>• Gap assessment</td>
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<tr>
<td>• Operations education and outreach</td>
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<tr>
<td>• Coordination between PennDOT and transit authorities, and among transit authorities</td>
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</tbody>
</table>

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 SPC, including the 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

Individual project priority was determined by the ROP Forum. The final implementation schedule of prioritized projects to be addressed by the ROP involved further consideration by the Steering Committee to fine tune the sequencing of regional projects to create a structured program. This display of prioritized projects to be implemented is shown in Figure 3. It is anticipated that the TOSC will periodically refine each of the projects including scheduling and costs prior to inclusion in the TIP.

Often these projects depended on an initial study or policy prior to starting a physical deployment (as noted by dashed line in the Implementation Schedule), but several projects were standalone efforts. A twelve-year programming horizon was selected because it corresponded with the State’s Twelve-Year Transportation Program. A few ROP projects have been identified as having a longer implementation schedule or are anticipated to continue beyond the twelve-year timeframe.

The majority of the Traffic Signal projects (indicated in yellow) are expected to be programmed and implemented through SPC, due to their existing traffic signals efforts and position as coordinating planning partner in the 10-county region. The majority of the incident and emergency management projects (indicated in red), on the other hand, are anticipated to be executed through coordination between PennDOT’s Districts and the Central Office.

The Pennsylvania Emergency Management Agency (PEMA) and State Police were identified as having a lead role in developing evacuation plans and procedures, with support from PennDOT. A mix of SPC, PennDOT Districts, and public transit providers were identified to champion traveler information projects (indicated in blue), including providing real-time information as part of an improved and expanded regional traveler information network. Institutional issues (indicated in purple) were perceived as an SPC initiative where the proposed operations coordinator and outreach programs could tie into existing regional committees to bolster support and have direct access to senior decision-makers. Other institutional issues were forwarded to PennDOT Central Office for consideration in the 2007 TSOP update. The implementation schedule of ROP Projects is shown in Figure 3.
### Figure 3: Southwestern Pennsylvania ROP Implementation Schedule by Operations Area

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<tr>
<td>Month</td>
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<td>Apr</td>
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<td>Apr</td>
<td>July</td>
<td>Oct</td>
<td>Jan</td>
<td>Apr</td>
</tr>
</tbody>
</table>

**Legend**

- Incident and Emergency Management Operations Area
- Traveler Information Operations Area
- Traffic Signals Operations Area
- Institutional Operations Area
- Added Operations Study

**Legend**

- Create Operations Outreach Program
- Create Signal Management Center
- Develop Program for Funding Signal Maintenance
- Develop Signal Maintenance and Upgrade Plan
- Prepare Top 10 Intersections to Upgrade
- Institute Signal Decommissioning Program
- Develop Regional Traveler Information Business Plan
- Create Operation Coordinator Position
- Develop Regional Traveler Information Business Plan
- Implement Top 10 Intersections Upgrades
- Improve Incident Command and Response Procedures
- Develop Quick Clearance Program
- Prepare to Close Regional Gaps
- Improve Freeway Service Patrols
- Institute Real-Time Information Systems
- Institute Signal Decommissioning Program
- Institute Real-Time Information Systems
- Institute Real-Time Information Systems

**Legend**

- PB Americas, Inc.
- Final

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**Figure 3**

**Southwestern Region ROP Implementation Schedule by Operations Area**

- SPC
- PennDOT CO
- PennDOT Districts
- PEMA and PSP
- Transit

### SPC
- Create Operations Outreach Program
- Create Signal Management Center
- Develop Program for Funding Signal Maintenance
- Develop Signal Maintenance and Upgrade Plan
- Prepare Top 10 Intersections to Upgrade
- Institute Signal Decommissioning Program
- Develop Regional Traveler Information Business Plan
- Create Operation Coordinator Position
- Develop Regional Traveler Information Business Plan
- Implement Top 10 Intersections Upgrades
- Improve Incident Command and Response Procedures
- Develop Quick Clearance Program
- Prepare to Close Regional Gaps
- Improve Freeway Service Patrols
- Institute Real-Time Information Systems
- Institute Signal Decommissioning Program

### PennDOT CO
- Create Operations Outreach Program
- Create Signal Management Center
- Develop Program for Funding Signal Maintenance
- Develop Signal Maintenance and Upgrade Plan
- Prepare Top 10 Intersections to Upgrade
- Institute Signal Decommissioning Program
- Develop Regional Traveler Information Business Plan
- Create Operation Coordinator Position
- Develop Regional Traveler Information Business Plan
- Implement Top 10 Intersections Upgrades
- Improve Incident Command and Response Procedures
- Develop Quick Clearance Program
- Prepare to Close Regional Gaps
- Improve Freeway Service Patrols
- Institute Real-Time Information Systems
- Institute Signal Decommissioning Program

### PennDOT Districts
- Create Operations Outreach Program
- Create Signal Management Center
- Develop Program for Funding Signal Maintenance
- Develop Signal Maintenance and Upgrade Plan
- Prepare Top 10 Intersections to Upgrade
- Institute Signal Decommissioning Program
- Develop Regional Traveler Information Business Plan
- Create Operation Coordinator Position
- Develop Regional Traveler Information Business Plan
- Implement Top 10 Intersections Upgrades
- Improve Incident Command and Response Procedures
- Develop Quick Clearance Program
- Prepare to Close Regional Gaps
- Improve Freeway Service Patrols
- Institute Real-Time Information Systems
- Institute Signal Decommissioning Program

### PEMA and PSP
- Create Operations Outreach Program
- Create Signal Management Center
- Develop Program for Funding Signal Maintenance
- Develop Signal Maintenance and Upgrade Plan
- Prepare Top 10 Intersections to Upgrade
- Institute Signal Decommissioning Program
- Develop Regional Traveler Information Business Plan
- Create Operation Coordinator Position
- Develop Regional Traveler Information Business Plan
- Implement Top 10 Intersections Upgrades
- Improve Incident Command and Response Procedures
- Develop Quick Clearance Program
- Prepare to Close Regional Gaps
- Improve Freeway Service Patrols
- Institute Real-Time Information Systems
- Institute Signal Decommissioning Program

### Transit
- Create Operations Outreach Program
- Create Signal Management Center
- Develop Program for Funding Signal Maintenance
- Develop Signal Maintenance and Upgrade Plan
- Prepare Top 10 Intersections to Upgrade
- Institute Signal Decommissioning Program
- Develop Regional Traveler Information Business Plan
- Create Operation Coordinator Position
- Develop Regional Traveler Information Business Plan
- Implement Top 10 Intersections Upgrades
- Improve Incident Command and Response Procedures
- Develop Quick Clearance Program
- Prepare to Close Regional Gaps
- Improve Freeway Service Patrols
- Institute Real-Time Information Systems
- Institute Signal Decommissioning Program
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 provides more hardship 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/RPOs 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 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, projects may arrange pooled funding to achieve multi-jurisdictional benefit. PennDOT’s Central Office may also decide to fund multiple cross-jurisdictional efforts using A-140$^4$ 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, travel 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 involving communications maintenance (routine or corrective) it would not be eligible for Interstate Maintenance.

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$^4$A-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 SPC’s Transportation Operations and Safety Committee will 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 Forum and Task Force attendees raised numerous institutional issues and proposed various remedies. Many of the identified issues fell outside of the purview of the region. While this type of feedback did not neatly fit into the ROP, it was important to capture. Participants believed that to be appropriately addressed many of these suggestions and recommendations needed to be raised at a level higher than the PennDOT District or the region – either by PennDOT Central Office or the state government. This section identifies and discusses those institutional concerns that were identified as most critical in the opinion of ROP participants.

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

- elevate operations within PennDOT,
- establish dedicated funding for operations,
- strengthen a work force for operations, and
- permit the use of wireless communication systems.
Elevate operations within PennDOT

One item of great interest within the Forum and Task Forces was the perceived limited visibility and importance of ITS and operations within PennDOT. Participants felt that for operations to receive the attention necessary to “do it right”, PennDOT and elected leadership need to elevate this topic. One step is to ensure that PennDOT is institutionally organized to address operations. The Federal Highway Administration (FHWA) has supported this concept and recently issued guidance calling on DOTs around the U.S. to prepare to better operate the transportation system5.

Recognizing that PennDOT’s mandate to design, build and maintain is evolving to possibly include operating the transportation system, PennDOT should ensure that it has the organization, skills and expertise to be able to adequately meet this challenge.

Recommendations to consider:
• in Districts with considerable operations-related duties, the creation of an ADE of Operations,
• elevation of a District ITS Coordinator to a full time position,
• creation a full-time regional or statewide signals manager position to coordinate and advance traffic signal needs, and
• “complements” to district traffic units for operations support

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 capacity expansion and rehabilitation projects. Too often when difficult decisions are being made about which projects to program, operations projects are pushed by the wayside as “non-critical”. Without a plan or systematic approach, the current approach of addressing operations and ITS deployment will continue to be performed haphazardly, often based more on opportunity than need. Better education and outreach to elected officials about the cost-benefit of ITS and operations is also needed.

To ensure that operations is treated on equal footing as other needs within the Department, PennDOT should dedicate funds toward the operations program. A majority of the Forum believed that the only real way that this will occur is through the creation of separate funding for an operations program, similar to other statewide programs such as “Smooth Operator”, “Click It or Ticket”, etc.

Recommendations to consider:
• work with the TF&RC to create dedicated funding for operations, and
• seek dedicated funding for a signal program.

Strengthen a work force for operations

Historically, PennDOT’s mission has been to be the designer, builder and maintainer of the state roadway system. Due to the recognition of increasing congestion, the advent

5 Regional Transportation Operations Collaboration and Coordination. FHWA, publication FHWA-OP-03-008, 2002.
of new technologies, and fiscal constraints, it is now being asked to also better operate
the transportation system. Unfortunately this requires some skill sets that have not
historically been available in the marketplace or contained within DOTs. In most cases,
the traffic engineering staff has taken on these responsibilities, requiring them to become
experts on a wide range of skills from systems engineering to communications
equipment to hardware to software.

While DOT engineers, which traditionally come from civil or traffic backgrounds have
risen to the challenge, it has required a major shift in Departmental thinking. Many
future transportation professionals might instead come from a host of technical
specialties that will greatly enhance the Department’s ability to better function as an
organization that is prepared for operations. In addition to considering new hires, there is
a recognition that PennDOT also needs to better capture and share the knowledge that
currently exists within the organization, especially with a recent surge of retirements.

Recommendations to consider:

• establishment of a mentoring program for operations,
• expand information sharing among District Operations and ITS staff,
• consider succession planning and knowledge transfer practices,
• consider recruiting new types of staff with IT backgrounds and knowledge of
  software, hardware and communication platforms,
• increase supplemental technical training for operations staff, and
• work with Pennsylvania universities and institutions to better support the
  education and training of ITS and operations professionals.

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 community continues to develop enhanced
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 PEMA have offered to share their wireless
communication systems, at little or no cost to PennDOT. Revising these restrictions
can make deployments significantly more cost-effective.

Recommendations to consider:

• work with Office of Administration to change policy on using wireless
  communication systems, and
• seek opportunities for piggy-backing on communication infrastructure of other
  state agencies, such as PEMA.
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 on its transportation system. 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. So, 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 relies on 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, and 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

INCIDENT AND EMERGENCY MANAGEMENT (IEM)
### IEM 1: US 22 DMS Expansion

**Project Description and Scope:** DMS deployments along US 22 in Indiana County (District 10-0, MPMS #95921) and along US 22 in Westmoreland County (District 12-0).

**Stakeholders:** PennDOT District 10-0, PennDOT District 12-0, PennDOT CO, SPC

**Pertinent TSOP Projects:** 1, 2, 3, 4, 5, 9, 10, 14, 15, and 16

<table>
<thead>
<tr>
<th>Estimated Schedule:</th>
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<tbody>
<tr>
<td>Study: Pre-engineering scheduled 2007</td>
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<tr>
<td>Design: Pre-engineering scheduled 2007</td>
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<td>Construction: scheduled for 2008</td>
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<th>Estimated Costs:</th>
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<tr>
<td>Capital: $1,100,000 (District 10-0 only)</td>
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<td>Annual O&amp;M: Less than $50k (District 10-0 only)</td>
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**Project Type:** Deployment  
**Level of Effort:** Moderate

**Technology Components (if applicable):** TBD

**Prerequisites and Dependencies:** None

**Performance Measures:** % change in number of accidents (or secondary incidents) along corridor; average peak-hour travel speeds; average peak-hour delay.

**Benefits:** Improved notification of incidents and emergencies along the region’s highways.

**Other Considerations and Issues:**
IEM 2: IMPROVE INCIDENT COMMAND AND RESPONSE PROCEDURES

PROJECT DESCRIPTION AND SCOPE: This project would entail establishing a command structure and response procedures for managing various types of incidents and emergencies. This project would be strongly dependent on TSOP 2 and 5. An element of this program would likely involve opportunities for training.

STAKEHOLDERS: PennDOT CO, PSP, PEMA, County/City EMAs, PennDOT Districts

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

ESTIMATED SCHEDULE: 1-2 yrs
- Study:
- Design:
- Construction:

ESTIMATED COSTS: $50k to $250k
- Capital: N/A
- Annual O&M: N/A

PROJECT TYPE: Policy Development
LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS (if applicable): NA

PREREQUISITES AND DEPENDENCIES: Project is anticipated to be in conjunction with IEM #4 and IEM #5 requiring coordination with external agencies.

PERFORMANCE MEASURES: % change in time to respond to an incident; % change in time to clear an incident; % change in number of accidents (or secondary incidents) along corridor

BENEFITS: to develop clearly defined, universally understood procedures for responding to and managing roadway incidents, as well as to improve the time required to respond to and clear incidents.

OTHER CONSIDERATIONS AND ISSUES:
IEM 3: PREPARE TO CLOSE REGIONAL EQUIPMENT GAPS

**PROJECT DESCRIPTION AND SCOPE:** PennDOT’s Central Office has recently conducted a statewide ITS equipment gap analysis for PA’s Interstate system. Similarly, the region may wish to develop desired ITS coverage standards and identify where any such gaps exist in the most critical links on the regional system including transit and freight components. ITS devices, such as DMS signs, etc. provide motorists with effective travel information at interchanges, off-ramps and other entry points along the freeway system. Currently ITS coverage is being expanded on a project by project basis.

**STAKEHOLDERS:** PennDOT Districts, PennDOT CO, SPC

**PERTINENT TSOP PROJECTS:** 3

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<th><strong>ESTIMATED SCHEDULE:</strong></th>
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<tr>
<td>Construction:</td>
<td>Capital: N/A</td>
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<td>Annual O&amp;M: N/A</td>
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**PROJECT TYPE:** Plan/Study  **LEVEL OF EFFORT:** Moderate

**TECHNOLOGY COMPONENTS (if applicable):** NA

**PREREQUISITES AND DEPENDENCIES:** Regional plan should be consistent with state guidance.

**PERFORMANCE MEASURES:** None

**BENEFITS:** A regional programmatic listing for planning and funding ITS equipment needs (i.e., surveillance, detection, verification and notification needed for incident management, highway operations and providing traveler information) consistent with PennDOT Central Office efforts.

**OTHER CONSIDERATIONS AND ISSUES:**
IEM 4: DEVELOP DETOUR AND EVACUATION ROUTES

PROJECT DESCRIPTION AND SCOPE: Well planned and widely available pre-planned detour and evacuation routes for key roadway segments can help mitigate the impact of incidents and emergency situations. This project would be related to TSOP 2, 5 and 12. Elements of this program might include;

- Instituting a web-based detour routing program accessible by all emergency responders
- Linking to PennDOT’s Road Closure Reporting System

STAKEHOLDERS: PennDOT Districts, PSP, PEMA, County/City EMAs, PennDOT CO

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

ESTIMATED SCHEDULE:
- Study: 1-2 yrs
- 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): Need to develop GIS and database to detour routing information. Need to develop access privileges. Possible link to Road Closure Reporting System.

PREREQUISITES AND DEPENDENCIES: This project anticipated to be in conjunction with IEM #2 and #5

PERFORMANCE MEASURES: % of roadways (by classification) with pre-planned detour routes; time to institute detour routing

BENEFITS: to develop clearly defined guidance for detour routings along major facilities, to reduce delays to the traveling public caused by incidents and emergencies

OTHER CONSIDERATIONS AND ISSUES:
IEM 5: DEVELOP EVACUATION PLANS AND PROCEDURES

PROJECT DESCRIPTION AND SCOPE: The region’s transportation system should be prepared to respond adequately to a natural or man-made emergency event. While plans are being developed, it appeared that greater involvement of transportation providers (namely PennDOT and transit agencies) may be warranted. 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: PEMA, County/City EMAs, PSP, PennDOT Districts, PennDOT CO, Transit Agencies

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

ESTIMATED SCHEDULE:  
Study: 1-2 yrs  
Design:  
Deployment:

ESTIMATED COSTS:  
Greater than $250k  
Capital:  
Annual O&M: $50k to $250k

PROJECT TYPE: Plan/Study & Program  
LEVEL OF EFFORT: Complex

TECHNOLOGY COMPONENTS (if applicable): NA

PREREQUISITES AND DEPENDENCIES: This project anticipated to be in conjunction with IEM #2 and #4.

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 man-made emergency event.

OTHER CONSIDERATIONS AND ISSUES:
IEM 6: CLOSE REGIONAL EQUIPMENT GAPS

PROJECT DESCRIPTION AND SCOPE: This project would implement the ITS deployments identified in the earlier gap analysis plan (IEM #3) as funding becomes available.

STAKEHOLDERS: PennDOT Districts, PennDOT CO, SPC

PERTINENT TSOP PROJECTS: 3

ESTIMATED SCHEDULE: 5-10 yrs
- Study: 5-10 yrs
- Design: 2-5 yrs
- Deployment: 5-10 yrs

ESTIMATED COSTS:
- Capital: Greater than $250k
- Annual O&M: Greater than $250k

PROJECT TYPE: Deployment
LEVEL OF EFFORT: Complex

TECHNOLOGY COMPONENTS (if applicable): NA

PREREQUISITES AND DEPENDENCIES: Proper implementation would require preparation of the gap analysis plan (IEM#3).

PERFORMANCE MEASURES: % of lane-miles of facilities (by classification) covered by CCTV, detection devices, etc.; reduction in non-recurring hours of delay per million VMT

BENEFITS: Improved surveillance, detection, verification and notification of incidents and emergencies along the region’s highways.

OTHER CONSIDERATIONS AND ISSUES:
IEM 7: DEVELOP QUICK CLEARANCE PROGRAM

PROJECT DESCRIPTION AND SCOPE: Quick clearance policies generally focus on the timely and prudent clearance of incidents. This project would include a development of a “playbook” on how to quickly remove incidents from the roadway. This type of program has been instituted in other States, such as Ohio’s “QuickClear” program. This project would likely be guided by TSOP 5. Elements of this program could include;

- Creation of a “playbook”
- Institute LTAP training

STAKEHOLDERS: PennDOT CO, PSP, PennDOT Districts

PERTINENT TSOP PROJECTS: 1, 2, 5, 6 and 9

ESTIMATED SCHEDULE:
Study: 1-2 yrs
Design:
Deployment:

ESTIMATED COSTS:
Capital: $50k to $250k
Annual O&M: $50k to $250k

PROJECT TYPE: Program
LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS (if applicable): NA

PREREQUISITES AND DEPENDENCIES: None

PERFORMANCE MEASURES: change in time to clear an incident; average peak-hour travel speeds; average peak-hour delay; number of secondary crashes.

BENEFITS: Quicker removal of incidents providing reduced travel times and delay, and can help reduce the number of secondary crashes and incidents.

OTHER CONSIDERATIONS AND ISSUES:
IEM 8: EXPAND FREEWAY SERVICE PATROLS

PROJECT DESCRIPTION AND SCOPE: Roving along major corridors, freeway service patrol vehicles can help remove debris from travel lanes and assist motorists with disabled vehicles. This service has proven to have a very high benefit to cost ratio when used in high volume corridors. The service has also proved to be very successful in reducing secondary accidents. Presently D-11 has a seven patrols (two PennDOT owned service patrol vehicles and five vehicles under contract) operating on the Parkway West, Parkway East, Parkway North and Interstate 79 and has recently expanded onto I-79 (from the I-279 split to PA 50 in Bridgeville) during hours of peak traffic. Expanded coverage could include I-79 to the Turnpike.

STAKEHOLDERS: PennDOT Districts

PERTINENT TSOP PROJECTS: 1, 2, 5, 6 and 9

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<td>Design:</td>
<td>Annual O&amp;M: Greater than $250k</td>
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PROJECT TYPE: Deployment LEVEL OF EFFORT: Simple

TECHNOLOGY COMPONENTS (if applicable): NA

PREREQUISITES AND DEPENDENCIES: None

PERFORMANCE MEASURES: Number of service patrol vehicles in service. Number of motorists served. Change in time to clear an incident.

BENEFITS: Keeps corridors safe and helps reduce travel time and delay. The current program in District 11-0 and on the Pennsylvania Turnpike is well received by the region’s motorist.

OTHER CONSIDERATIONS AND ISSUES:
IEM 9: EXPLORE CO-LOCATION OF OPERATIONS CENTERS

PROJECT DESCRIPTION AND SCOPE: Currently, all three PennDOT Districts in the Southwestern ROP region operate a Traffic Management Center. In addition, Port Authority also has an operation center for its fleet. Allegheny County operates an emergency management center. Recently D-11 has been given the authority to conduct 24/7 operations at their TMC (which will also serve as western PA’s regional TMC). These facilities should be linked in a real or virtual manner to effectively manage and respond to incidents, as well as disseminate timely information amongst regional/state emergency responders other government agencies and the traveling public.

STAKEHOLDERS: PennDOT Districts, PSP, PEMA, County/City EOCs, Transit Agencies, PennDOT CO

PERTINENT TSOP PROJECTS: 9, 13, 16

ESTIMATED SCHEDULE:
Study: 1-2 yrs  |  ESTIMATED COSTS: Greater than $250k
Design:  |  Capital: N/A
Deployment:  |  Annual O&M: N/A

PROJECT TYPE: Plan/Study  |  LEVEL OF EFFORT: Complex

TECHNOLOGY COMPONENTS (if applicable): NA

PREREQUISITES AND DEPENDENCIES: This project would likely require additional guidance from TSOP 9, as well as coordination with various emergency management stakeholders.

PERFORMANCE MEASURES: None

BENEFITS: Unified incident command and response. Additional benefits include data-sharing and communications streamlining.

OTHER CONSIDERATIONS AND ISSUES:
IEM 10: VENUES PREPARE SPECIAL EVENT TRAFFIC MANAGEMENT PLANS

PROJECT DESCRIPTION AND SCOPE: While the districts do currently work with many of the larger regional venues, greater coordination and traffic planning could further reduce the impacts of special events. By working in coordination with regional entertainment and special events venues, PennDOT can help provide the region with better traffic management and incident response during special events. As the D-11 TMC (and regional TMC) transitions to 24/7 operations, evening and weekend coverage should be incorporated into these plans.

STAKEHOLDERS: Regional Venues, PennDOT Districts

PERTINENT TSOP PROJECTS: 1, 2, 4, 5, 9, 17

ESTIMATED SCHEDULE:
- Study: 1-2 yrs
- Design:
- Deployment:

ESTIMATED COSTS:
- Capital: N/A
- Annual O&M: N/A
- $50k to $250k

PROJECT TYPE: Plan/Study
LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS (if applicable): NA

PREREQUISITES AND DEPENDENCIES: None

PERFORMANCE MEASURES: None

BENEFITS: Better traffic management and incident response.

OTHER CONSIDERATIONS AND ISSUES:
IEM 11: ESTABLISH IM TEAMS

PROJECT DESCRIPTION AND SCOPE: Currently no officially designated regional Incident Management Teams exist but this additional level of coordination would likely improve on-site communication and interaction of parties at incidents. This project would be related to TSOP 5. Several elements of this program might include:

- Conducting periodic meetings with transportation organizations, law enforcement and emergency responders to improve relationships, operational perspectives and communication.
- Identify and address critical needs for improved coordinated incident response on corridors with the highest concentrations of incidents and regional expressways.
- Conducting training for improved understanding of requirements/perspectives at crime/accident scenes.

STAKEHOLDERS: PennDOT Districts, PEMA, PSP, County/Local EMAs, SPC

PERTINENT TSOP PROJECTS: 1, 2, 5, 6, 9

ESTIMATED SCHEDULE:
Study: 
Design: 
Deployment: 3-5 yrs

ESTIMATED COSTS:
Capital: 
Annual O&M: Less than $50k

PROJECT TYPE: Program
LEVEL OF EFFORT: Simple

TECHNOLOGY COMPONENTS (if applicable): NA

PREREQUISITES AND DEPENDENCIES: Project anticipated to be led by newly created “Operations Coordination Position (IN #1).

PERFORMANCE MEASURES: Change in time to respond to an incident; % change in time to clear an incident;

BENEFITS: Reduction in the time to respond and clear incidents on major corridors.

OTHER CONSIDERATIONS AND ISSUES:
IEM 12: I-279 ITS CCTV Expansion

**Project Description and Scope:** Programmed CCTV deployments and safety improvements along I-279 from Camp Horne Road in Ross Twp to I-79 in Franklin Park Borough, in Allegheny County (District 11-0). (MPMS #76440)

**Stakeholders:** PennDOT District 11-0, PennDOT CO, SPC

**Pertinent TSOP Projects:** 1, 2, 3, 4, 5, 9, 10, 14, 15, 16

**Estimated Schedule:**
- Study:
- Design:
- Deployment: Construction scheduled for 2010

**Estimated Costs:**
- Capital: $4,125,000
- Annual O&M: $50k to $250k

**Project Type:** Deployment

**Level of Effort:** Moderate

**Technology Components (if applicable):** NA

**Prerequisites and Dependencies:** None

**Performance Measures:** % change in time to respond to an incident; % change in time to clear an incident; % change in number of accidents (or secondary incidents) along corridor; average peak-hour travel speeds; average peak-hour delay.

**Benefits:** Improved surveillance, detection, verification and notification of incidents and emergencies along the region’s highways.

**Other Considerations and Issues:**
## IEM 13: I-70 DMS and CCTV Expansion

### Project Description and Scope:
I-70 DMS and CCTV projects planned for Washington and Westmoreland Counties from US 119 to the Ohio State Line (District 12-0).

### Stakeholders:
- PennDOT District 12-0,
- PennDOT Central Office, SPC

### Pertinent TSOP Projects:
1, 2, 3, 4, 5, 9, 10, 14, 15, 16

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### Project Type:
Plan/Study

### Level of Effort:
Moderate

### Technology Components (if applicable):
NA

### Prerequisites and Dependencies:
None

### Performance Measures:
- change in time to respond to an incident;
- % change in time to clear an incident;
- % change in number of accidents (or secondary incidents) along corridor;
- average peak-hour travel speeds;
- average peak-hour delay;
- reduction in delays resulting from incidents and emergencies.

### Benefits:
Improved surveillance, detection, verification and notification of incidents and emergencies along the region’s highways. The ability to communicate the occurrence of incidents to travelers on I-70 and permit travelers to take alternative routes such as I-76 and I-79.

### Other Considerations and Issues:
TRAVELER INFORMATION (TI)
TI 1: EXPAND TRAVELER INFORMATION COMMUNICATION NETWORK

**PROJECT DESCRIPTION AND SCOPE:** This project could expand the traveler information communication network through partnerships with businesses, TMAs, non-profit groups, public institutions and other interested organizations to convey critical traveler information through low-cost/no-cost media (e.g., e-mail distribution lists) in a timely fashion.

**STAKEHOLDERS:** PennDOT Districts, SPC, Transit Agencies, TMAs, Regional Businesses

**PERTINENT TSOP PROJECTS:** 4

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**PROJECT TYPE:** Program

**LEVEL OF EFFORT:** Simple

**TECHNOLOGY COMPONENTS (if applicable):** Establishing communication databases or listservs.

**PREREQUISITES AND DEPENDENCIES:** None

**PERFORMANCE MEASURES:** Number of recipients of e-mail alerts.

**BENEFITS:** Low-cost method for effectively disseminating traveler information to a wide audience.

**OTHER CONSIDERATIONS AND ISSUES:**
TI 2: INSTITUTE REAL-TIME TRANSIT INFORMATION SYSTEMS

PROJECT DESCRIPTION AND SCOPE: All of Beaver County Transit and many of Port Authority of Allegheny County’s fixed-route buses are equipped with GPS-based AVL. With this technology commercial providers can process real-time arrival and departure information to users through kiosks, pole mounted devices, the internet, e-mail, and phones. This project is to pilot the use of one of these services for a trial period and assess the use and benefit to transit riders for several transit routes.

STAKEHOLDERS: Transit Agencies, SPC

PERTINENT TSOP PROJECTS: 4, 16, 17

ESTIMATED SCHEDULE:
Study: 1-2 yrs
Design: Deployment: 1-2yrs

ESTIMATED COSTS:
Capital: Greater than $250k
Annual O&M: $50k to $250k

PROJECT TYPE: Plan/Study and Deployment
LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS (if applicable): NA

PREREQUISITES AND DEPENDENCIES: None

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

BENEFITS: This type of information would likely benefit users who make daily trips on long-distance, low-frequency routes that are often most susceptible to delays.

OTHER CONSIDERATIONS AND ISSUES:
TI 3: EXPLORE DATA SHARING WITH PUBLIC AND PRIVATE ENTITIES

**PROJECT DESCRIPTION AND SCOPE:** Expanding the use of agreements public and private entities for data-sharing opportunities can widen the coverage area, reduce equipment redundancies, and provide the region’s transportation system users with better information. Currently District 11-0 has an agreement with Traffic.com to share information. However, the original agreement limits what information can currently be shared. This agreement, and others like it, should be reevaluated to determine if additional information sharing can benefit both parties.

**STAKEHOLDERS:** PennDOT Districts, Public and Private Entities

**PERTINENT TSOP PROJECTS:** 4, 16

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**PROJECT TYPE:** Plan/Study and Program  
**LEVEL OF EFFORT:** Simple

**TECHNOLOGY COMPONENTS (if applicable):** TBD

**PREREQUISITES AND DEPENDENCIES:** None

**PERFORMANCE MEASURES:** None

**BENEFITS:** Greater information coverage area for travelers.

**OTHER CONSIDERATIONS AND ISSUES:**
TI 4: DEVELOP REGIONAL TRAVELER INFORMATION BUSINESS PLAN

PROJECT DESCRIPTION AND SCOPE: Timely and reliable traveler information can increase shipping productivity and permit the public to make more informed decisions on their trip-making – both in terms of mode and route choice. The foundation of this project is to set a direction and goals for future traveler information needs and to determine how best to collect and disseminate timely and reliable information to both highway and transit users. This entails understanding the types of information users want, how to collect it, and how to most effectively communicate it to users. While extensive work has been done on this front, technology is evolving rapidly and is changing how we communicate, so revisiting this topic periodically and assessing what are the needs of the Pittsburgh region will be beneficial in ensuring that money invested in traveler information is being cost-effectively spent.

STAKEHOLDERS: SPC, Transit Agencies, PennDOT Districts

PERTINENT TSOP PROJECTS: 4, 14, 15

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PROJECT TYPE: Plan/Study LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS (if applicable): NA

PREREQUISITES AND DEPENDENCIES: Project anticipated to be led by newly created “Operations Coordination Position (IN #1). This project’s components are to be developed consistent with the Statewide 511 system and TSOP 4.

PERFORMANCE MEASURES: None

BENEFITS: This project would result in a plan that would explore new, innovative and effective ways to communicate with system users within the Pittsburgh region, before and during their trips.

OTHER CONSIDERATIONS AND ISSUES:
**TI 5: INSTITUTE TRAVEL TIME POSTINGS ON DMS SIGNS**

**PROJECT DESCRIPTION AND SCOPE:** This pilot project’s intent is to use PennDOT collected information or information from partners such as Traffic.com to provide real "travel time" information to motorists through dynamic message signs.

**STAKEHOLDERS:** PennDOT Districts

**PERTINENT TSOP PROJECTS:** 4, 14, 15

**ESTIMATED SCHEDULE:**
- Study: 1-2 yrs
- Design:
- Deployment: 3-5 yrs

**ESTIMATED COSTS:**
- Capital: Greater than $250k
- Annual O&M: $50k to $250k

**PROJECT TYPE:** Program

**LEVEL OF EFFORT:** Moderate

**TECHNOLOGY COMPONENTS (if applicable):** TBD

**PREREQUISITES AND DEPENDENCIES:** None

**PERFORMANCE MEASURES:** % of regional DMS signs that can post travel time information

**BENEFITS:** Real-time dissemination of travel times allows motorists and businesses to make better route decisions saving them time and money.

**OTHER CONSIDERATIONS AND ISSUES:**
TRAFFIC SIGNALS (TS)
## TS 1: SIGNAL UPGRADES

**PROJECT DESCRIPTION AND SCOPE:** Various traffic signal upgrades and intersection improvements are currently described in the region’s TIP. These projects could be incorporated into a regional signal maintenance and upgrade program.

**STAKEHOLDERS:** PennDOT Districts, Various Municipalities

**PERTINENT TSOP PROJECTS:** 8, 10, 14

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**PROJECT TYPE:** Deployment  
**LEVEL OF EFFORT:** Moderate

**TECHNOLOGY COMPONENTS (if applicable):** NA

**PREREQUISITES AND DEPENDENCIES:** None

**PERFORMANCE MEASURES:** None

**BENEFITS:** Upgraded signals can reduce travel times, emissions, and fuel consumption.

**OTHER CONSIDERATIONS AND ISSUES:**
**TS 2: CREATE SIGNAL ASSET MANAGEMENT SYSTEM**

**PROJECT DESCRIPTION AND SCOPE:** This project focuses on the creation of a GIS-based Signal Asset Management System (SAMS) to better assist in identifying key corridors for developing a signal upgrade and integration plan.

**STAKEHOLDERS:** PennDOT CO, SPC, PennDOT Districts, Various Municipalities

**PERTINENT TSOP PROJECTS:** 8, 10, 14

**ESTIMATED SCHEDULE:**
- Study: 3-5 yrs
- Design:
- Deployment:

**ESTIMATED COSTS:**
- Capital: $50k to $250K
- Annual O&M: $50k to $250K

**PROJECT TYPE:** Program

**LEVEL OF EFFORT:** Moderate

**TECHNOLOGY COMPONENTS (if applicable):** NA

**PREREQUISITES AND DEPENDENCIES:** This system will be developed in a manner that will permit its integration with the statewide TSAMS, which is under development and TSOP 8.

**PERFORMANCE MEASURES:** None

**BENEFITS:** As a repository for of traffic signal information this tool can also improve traffic signal planning, design, installation, maintenance and operation.

**OTHER CONSIDERATIONS AND ISSUES:**
TS 3: DEVELOP PROGRAM FOR FUNDING SIGNAL MAINTENANCE AND UPGRADES

PROJECT DESCRIPTION AND SCOPE: This project was suggested in the event a dedicated source of funding is committed on the state or regional level. Such a program for allocating funding dollars would be intended to help prioritize municipal signal maintenance and upgrades, and could include both incentives and punitive measures.

STAKEHOLDERS: SPC, PennDOT Districts, Various Municipalities

PERTINENT TSOP PROJECTS: 8, 10, 14

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PROJECT TYPE: Policy Development & Program  
LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS (if applicable): NA

PREREQUISITES AND DEPENDENCIES: Anticipated that the TS 2: Signal Asset Management System (SAMS) data will help to develop this project.

PERFORMANCE MEASURES: None

BENEFITS: Systematic process of maintaining, upgrading, and operating physical assets cost-effectively.

OTHER CONSIDERATIONS AND ISSUES:
**TS 4: PREPARE TOP 10 INTERSECTIONS TO UPGRADE**

**PROJECT DESCRIPTION AND SCOPE:** This project would be to prepare a “hit list” of intersection improvement projects that could be proposed for the TIP. By developing a list of proper name projects, the possibility that these types of projects remain on the TIP improves. Pairing intersection upgrades with roadway expansion projects can additionally improve chances for implementation. An additional component of this project may be to incorporate signal prioritization at several of these intersections for transit vehicles, etc.

**STAKEHOLDERS:** SPC, PennDOT Districts

**PERTINENT TSOP PROJECTS:** 8, 10, 14

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**PROJECT TYPE:** Plan/Study  
**LEVEL OF EFFORT:** Moderate

**TECHNOLOGY COMPONENTS (if applicable):** NA

**PREREQUISITES AND DEPENDENCIES:** Anticipated that the TS 2: Signal Asset Management System (SAMS) data will help to develop this project.

**PERFORMANCE MEASURES:** None

**BENEFITS:** Improved intersection operations. Improved pedestrian safety.

**OTHER CONSIDERATIONS AND ISSUES:**
### TS 5: DEVELOP REGIONAL SIGNAL MAINTENANCE AND UPGRADE PLAN

**PROJECT DESCRIPTION AND SCOPE:** This project calls for the development of a regional signal maintenance and upgrade plan. This would likely include the development of various policy standards for maintenance and replacement cycles for equipment, and the development of budgets required to fulfill these standards. There may also be opportunities to revisit how best to enforce signal maintenance agreements, perhaps through a mix of incentives and punitive measures. Additionally, this plan may consider the creation of a municipal or county-based model ordinance for a one-time “perpetual” fee to be paid by developers, placed in escrow and used by municipalities for ongoing maintenance needs of new signals.

**STAKEHOLDERS:** SPC, PennDOT Districts, Various Municipalities

**PERTINENT TSOP PROJECTS:** 8, 10, 14

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**PROJECT TYPE:** Plan/Study, Policy & Program  
**LEVEL OF EFFORT:** Moderate

**TECHNOLOGY COMPONENTS (if applicable):** NA

**PREREQUISITES AND DEPENDENCIES:** Anticipated that the TS 2: Signal Asset Management System (SAMS) data will help to develop this project.

**PERFORMANCE MEASURES:** None

**BENEFITS:** Creation of a plan for maintaining, upgrading, and operating physical assets cost-effectively. Supplemental funding source for maintenance needs of new signals.

**OTHER CONSIDERATIONS AND ISSUES:**
**TS 6: INTEGRATED CORRIDOR MANAGEMENT**

**PROJECT DESCRIPTION AND SCOPE:** This project would be to identify critical corridors that could benefit from an integrated signal system. The first step in this process would be to use the Signal Asset Management System and screening criteria (e.g., receptive municipalities, require little infrastructure, few jurisdictions) to identify corridors that would be good candidates. The strategy would culminate with the development of two or three pilot projects that can be used to evaluate the benefits (and cost-effectiveness) of these types of projects.

**STAKEHOLDERS:** SPC, PennDOT CO, PennDOT Districts, Transit Agencies, Various Municipalities

**PERTINENT TSOP PROJECTS:** 8, 10, 14

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**TECHNOLOGY COMPONENTS (if applicable):** NA

**PREREQUISITES AND DEPENDENCIES:** This project would be in conjunction with Statewide ICM efforts and TSOP 8. Anticipated that the Signal Management System (SMS) data will help to develop this project.

**PERFORMANCE MEASURES:** % change in peak travel times; delay reduction.

**BENEFITS:** Integrated signals can reduce delay, travel times, emissions, and fuel consumption. TMC-control of traffic signals has the capability to adjust signal timings along adjacent corridors when needed for incident management.

**OTHER CONSIDERATIONS AND ISSUES:**
### TS 7: Implement Top 10 Intersections Upgrades

**Project Description and Scope:** This project would implement the “hit list” of intersection improvements funded on the TIP.

**Stakeholders:** PennDOT Districts, SPC, Various Municipalities

**Pertinent TSOP Projects:** 8, 10, 14

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**Project Type:** Deployment  
**Level of Effort:** Moderate

**Technology Components (if applicable):** TBD

**Prerequisites and Dependencies:** Proper implementation would require preparation of the intersection upgrade plan (TS #4).

**Performance Measures:** None

**Benefits:** Improved intersection operations. Improved pedestrian safety.

**Other Considerations and Issues:**
TS 8: INSTITUTE SIGNAL DECOMMISSIONING PROGRAM

PROJECT DESCRIPTION AND SCOPE: This project was intended to develop a process and procedures to evaluate whether signals within the region are no longer warranted. In many cases conditions no longer warrant signals.

STAKEHOLDERS: PennDOT Districts, SPC, Various Municipalities

PERTINENT TSOP PROJECTS: 8, 10, 14

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PROJECT TYPE: Program

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS (if applicable): NA

PREREQUISITES AND DEPENDENCIES: None

PERFORMANCE MEASURES: Number of signals decommissioned.

BENEFITS: Municipalities would benefit by the reduced cost of operating and maintaining their signals.

OTHER CONSIDERATIONS AND ISSUES:
INSTITUTIONAL
(IN)
IN 1: CREATE OPERATIONS COORDINATOR POSITION

PROJECT DESCRIPTION AND SCOPE: This project is designed to fund a “regional operations coordinator” position to champion this plan and operations within the region. Potential job duties may include:

- Champion of the ROP; role is to implement, maintain and update the ROP
- Coordinates inter-agency committees and task forces (e.g., Regional IM Team)
- Clearinghouse for regional transportation operations coordination – this may meld with existing SPC TOSC
- Obtains MOU and buy-in from transportation partners
- Document operations’ successes and helps bring operations to forefront of transportation issues
- Leads public involvement efforts and educational outreach
- Communicates the value of a balanced transportation plan and importance of dedicated funding
- Increase linkages between MPO, PennDOT District, and transit authority planning and project development processes

STAKEHOLDERS: SPC, PennDOT Districts

PERTINENT TSOP PROJECTS: 14

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PROJECT TYPE: Policy Development & Program  LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS (if applicable): NA

PREREQUISITES AND DEPENDENCIES: None

PERFORMANCE MEASURES: None

BENEFITS: Position to management and provide oversight of ROP projects.

OTHER CONSIDERATIONS AND ISSUES: This position may require additional support staff.
IN 2: CREATE OPERATIONS OUTREACH PROGRAM

**PROJECT DESCRIPTION AND SCOPE:** This project would entail the development of an educational program including a brochure, presentation and website for internal (SPC, PennDOT, PAAC) and external decision-makers and the public.

**STAKEHOLDERS:** SPC, PennDOT Districts

**PERTINENT TSOP PROJECTS:** 14

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**PROJECT TYPE:** Program

**LEVEL OF EFFORT:** Simple

**TECHNOLOGY COMPONENTS (if applicable):** NA

**PREREQUISITES AND DEPENDENCIES:** This project would likely be one of the responsibilities of the Operations Coordinator.

**PERFORMANCE MEASURES:** Number of stakeholder meetings attended.

**BENEFITS:** Additional public and stakeholder awareness of the importance and benefits of operations.

**OTHER CONSIDERATIONS AND ISSUES:**
STUDY A: HOV TO HOT FACILITY CONVERSION STUDY

PROJECT DESCRIPTION AND SCOPE: This study would investigate the feasibility including costs and benefits associated with conversion of regional HOV lanes to High Occupancy Toll facilities.

STAKEHOLDERS: SPC, PennDOT Districts

PERTINENT TSOP PROJECTS: 14

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PROJECT TYPE: Plan/Study

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS (if applicable): NA

PREREQUISITES AND DEPENDENCIES: None

PERFORMANCE MEASURES: None

BENEFITS: Maximizes the use of any underutilized HOV facilities by “selling off” excess capacity. In addition to the benefits of attracting vehicles off of un-tolled roadways, HOT lanes can also produce additional revenue.

OTHER CONSIDERATIONS AND ISSUES:
**STUDY B: AUTOMATED FARE COLLECTION SYSTEM STUDY**

**PROJECT DESCRIPTION AND SCOPE:** The purpose of this study was to advance ongoing efforts toward an Automated Fare Collection System (AFCS) and thereby integrating all ten transit agencies throughout the region under a standardized fare payment technology. The Port Authority of Allegheny County (PAAC) in cooperation with Beaver County Transit (and other transit agencies in the region) are developing a Request for Proposal to design and implement a new, smart card-based, fare collection system and related farebox and cash-handling system. The AFCS project would require a turnkey replacement of all existing fare collection and cash-handling components and processes with a contact-less, proximity smart card system.

**STAKEHOLDERS:** Transit Agencies, SPC

**PERTINENT TSOP PROJECTS:** 17

**ESTIMATED SCHEDULE:**
- Study: 1-2 yrs
- Design: Deployment:

**ESTIMATED COSTS:**
- Greater than $250k
  - Capital:
  - Annual O&M:

**PROJECT TYPE:** Plan/Study  **LEVEL OF EFFORT:** Moderate

**TECHNOLOGY COMPONENTS (if applicable):** Smart card interfaces or contact-less readers, card encoders, additional IT hardware and software infrastructure.

**PREREQUISITES AND DEPENDENCIES:** Project is dependent on ongoing RFP efforts with PAAC.

**PERFORMANCE MEASURES:** None

**BENEFITS:** Enhanced rider experience, increased operational efficiency and increased transit ridership. Smart card would benefit commuters for single or multi-zone rides and parking services. Benefit to other transit agency patrons through specifying a standard technology that other regional transit authorities may adopt, enabling them to integrate with PAAC system. The system would be designed to handle inter-transit-systems transactions and related financial clearinghouse functions.

**OTHER CONSIDERATIONS AND ISSUES:**
APPENDIX B - Description of the Region

This Southwestern Pennsylvania Region covers 7,112 square miles and is comprised of 10 counties and 549 municipal governments including the City of Pittsburgh. The counties include: Allegheny, Armstrong, Beaver, Butler, Fayette, Greene, Indiana, Lawrence, Washington and Westmoreland. As shown in the map below, the region encompasses PennDOT Engineering Districts 11-0 and 12-0, and parts of District 10-0 (i.e., District 10-0 minus Clarion and Jefferson counties). These counties also comprise the area of the Southwestern Pennsylvania Commission MPO.

The city of Pittsburgh, in Allegheny County, is the economic hub of the region, with the overwhelming majority of the region’s residents living in the Pittsburgh metropolitan area. Indeed, virtually all of the interstate highways that traverse the region pass near or through Pittsburgh. Though the core of the region has a predominantly urban character, the outlying parts of the region are decidedly rural in nature.

Table 6 below reveals that 2.5 million people—or more than one in every five statewide residents of the Commonwealth of Pennsylvania—live in the Southwestern Region. Nearly one-half of the region’s population resides in Allegheny County, with the remainder scattered among the other nine counties of the region. The population of the City of Pittsburgh, as reported by the 2005 American Communities Survey, is 284,366. The population of the entire Pittsburgh metropolitan statistical area (MSA) is over 2.5 million people.
Table 6: Southwestern Region Population by County, 2005

<table>
<thead>
<tr>
<th>County</th>
<th>Number</th>
<th>% Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allegheny</td>
<td>1,235,817</td>
<td>47.4</td>
</tr>
<tr>
<td>Armstrong</td>
<td>70,779</td>
<td>2.7</td>
</tr>
<tr>
<td>Beaver</td>
<td>177,514</td>
<td>6.8</td>
</tr>
<tr>
<td>Butler</td>
<td>186,923</td>
<td>7.2</td>
</tr>
<tr>
<td>Fayette</td>
<td>148,418</td>
<td>5.7</td>
</tr>
<tr>
<td>Greene</td>
<td>39,682</td>
<td>1.5</td>
</tr>
<tr>
<td>Indiana</td>
<td>88,531</td>
<td>3.4</td>
</tr>
<tr>
<td>Lawrence</td>
<td>92,824</td>
<td>3.6</td>
</tr>
<tr>
<td>Washington</td>
<td>201,412</td>
<td>7.7</td>
</tr>
<tr>
<td>Westmoreland</td>
<td>365,494</td>
<td>14.0</td>
</tr>
</tbody>
</table>

Total Population in the SW Region 2,607,394

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

Table 7 compares specific population traits in the Southwestern region to those across Pennsylvania and the U.S. generally. For instance, the residents of the region are somewhat more homogeneous than are their statewide and national counterparts. Whereas 11 percent of the residents of the southwestern region are characterized as minorities, the minority population is 15 percent statewide and 25 percent nationwide. Also, the population in Southwestern skews marginally older—and mean family size slightly lower—than the corresponding state and national populations. Per capita income in the region is very slightly lower than the state and national totals.

Table 7: Comparison of Key Population Demographics Southwestern Region, Pennsylvania, and the United States, 2005

<table>
<thead>
<tr>
<th>Demographic Factor</th>
<th>SW Region</th>
<th>Pennsylvania</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Population</td>
<td>2,528,607</td>
<td>11,979,147</td>
<td>288,378,137</td>
</tr>
<tr>
<td>% Minority Population</td>
<td>10.82%</td>
<td>15.42%</td>
<td>25.33%</td>
</tr>
<tr>
<td>Median Age (in Years)</td>
<td>41.2</td>
<td>39.7</td>
<td>36.4</td>
</tr>
<tr>
<td>Mean Family Size</td>
<td>2.34</td>
<td>2.46</td>
<td>2.60</td>
</tr>
<tr>
<td>Per Capita Income</td>
<td>$21,409</td>
<td>$24,591</td>
<td>$25,035</td>
</tr>
</tbody>
</table>

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

Table 8 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 Southwestern workers drive to work alone, just a bit higher than the state and national “drive-alone” rates. Ten percent of workers in the region carpool to work, comparable to
the statewide average. Approximately 5.6 percent of workers use public transportation, marginally better than state and national transit usage trends. The average one-way commute time for Southwestern Region workers is 24 minutes, which compares favorably to the 25-26 minutes for Pennsylvania and U.S. workers generally.

**Table 8:** Comparison of Commuting Patterns among Workers 16 & Over Southwestern Region, Pennsylvania, and the United States, 2000

<table>
<thead>
<tr>
<th>Commuting Pattern</th>
<th>SW Region</th>
<th>Pennsylvania</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Workers 16 &amp; Over</td>
<td>1,179,218</td>
<td>5,556,311</td>
<td>128,279,228</td>
</tr>
<tr>
<td>% Commuters Driving Alone</td>
<td>77.8%</td>
<td>76.5%</td>
<td>75.7%</td>
</tr>
<tr>
<td>% Commuters Carpooling</td>
<td>9.7%</td>
<td>10.4%</td>
<td>12.2%</td>
</tr>
<tr>
<td>% Commuters Using Public Transportation</td>
<td>5.6%</td>
<td>5.2%</td>
<td>4.7%</td>
</tr>
<tr>
<td>Mean Travel Time to Work (Minutes)</td>
<td>24.2</td>
<td>25.2</td>
<td>25.5</td>
</tr>
</tbody>
</table>

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

As shown in Table 9, the Southwestern Region encompasses a substantial network of roadways. As reported in PennDOT’s 2005 Highway Statistics, the region contains 24,903.4 linear miles of roadway, signifying 20.6 percent of the Commonwealth’s total linear mileage. This includes 7,914.2 linear miles of roadway maintained by PennDOT, with the remaining road miles maintained by the PTC, municipalities, etc.

**Table 9:** Southwestern Region Linear Miles, 2005

<table>
<thead>
<tr>
<th>County</th>
<th>PennDOT Linear Miles</th>
<th>Total Linear Miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allegheny</td>
<td>1,178.7</td>
<td>5,739.0</td>
</tr>
<tr>
<td>Armstrong</td>
<td>657.6</td>
<td>1,821.6</td>
</tr>
<tr>
<td>Beaver</td>
<td>605.4</td>
<td>1,676.5</td>
</tr>
<tr>
<td>Butler</td>
<td>655.2</td>
<td>2,278.3</td>
</tr>
<tr>
<td>Fayette</td>
<td>756.8</td>
<td>2,076.8</td>
</tr>
<tr>
<td>Greene</td>
<td>573.7</td>
<td>1,519.3</td>
</tr>
<tr>
<td>Indiana</td>
<td>801.4</td>
<td>2,087.0</td>
</tr>
<tr>
<td>Lawrence</td>
<td>387.0</td>
<td>1,194.9</td>
</tr>
<tr>
<td>Washington</td>
<td>1,095.5</td>
<td>2,857.0</td>
</tr>
<tr>
<td>Westmoreland</td>
<td>1,202.9</td>
<td>3,653.0</td>
</tr>
<tr>
<td>Regional Total</td>
<td>7,914.2</td>
<td>24,903.4</td>
</tr>
<tr>
<td>Statewide Total</td>
<td>39,889.6</td>
<td>120,667.2</td>
</tr>
</tbody>
</table>

(Source: PennDOT’s 2005 Highway Statistics)
PennDOT also maintains over 75 percent of bridge assets in the region or over 80 percent of the total bridge deck area as indicated in Table 10.

**Table 10**: Southwestern Pennsylvania Bridge Infrastructure, 2005*

<table>
<thead>
<tr>
<th>PennDOT District</th>
<th>State-Owned Bridges</th>
<th>Bridge Deck Area (million square ft)</th>
<th>County &amp; Local Bridges</th>
<th>Bridge Deck Area (million square ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>District 10-0</td>
<td>1,154</td>
<td>4.155</td>
<td>297</td>
<td>0.406</td>
</tr>
<tr>
<td>District 11-0</td>
<td>1,784</td>
<td>14.633</td>
<td>723</td>
<td>3.58</td>
</tr>
<tr>
<td>District 12-0</td>
<td>2,360</td>
<td>6.438</td>
<td>513</td>
<td>0.681</td>
</tr>
<tr>
<td>Regional Total</td>
<td>5,298</td>
<td>25.226</td>
<td>1,533</td>
<td>4.667</td>
</tr>
</tbody>
</table>

(Source: PennDOT’s 2005 Highway Statistics)

*Includes all state bridges greater than 8 feet in length and generally includes local bridges over 20 feet in length.

Table 11 depicts the daily vehicle miles of travel (DVMT) across the region, which is substantial. Total DVMT on all roadways in the region, as reported in the 2005 Highway Statistics was approximately 61 million miles. The DVMT on PennDOT roadways was approximately 44.6 million miles.

**Table 11**: Southwestern Daily Vehicle Miles of Travel, 2005

<table>
<thead>
<tr>
<th>County</th>
<th>PennDOT DVMT</th>
<th>Total DVMT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allegheny</td>
<td>17,000,927</td>
<td>25,469,060</td>
</tr>
<tr>
<td>Armstrong</td>
<td>1,507,265</td>
<td>1,742,385</td>
</tr>
<tr>
<td>Beaver</td>
<td>2,999,986</td>
<td>4,059,578</td>
</tr>
<tr>
<td>Butler</td>
<td>4,087,349</td>
<td>4,841,286</td>
</tr>
<tr>
<td>Fayette</td>
<td>2,380,067</td>
<td>2,985,579</td>
</tr>
<tr>
<td>Greene</td>
<td>1,063,064</td>
<td>1,247,872</td>
</tr>
<tr>
<td>Indiana</td>
<td>1,974,520</td>
<td>2,310,645</td>
</tr>
<tr>
<td>Lawrence</td>
<td>1,578,577</td>
<td>2,173,286</td>
</tr>
<tr>
<td>Washington</td>
<td>5,547,999</td>
<td>6,482,744</td>
</tr>
<tr>
<td>Westmoreland</td>
<td>6,440,476</td>
<td>9,685,352</td>
</tr>
<tr>
<td>Regional Total</td>
<td>44,580,230</td>
<td>60,997,787</td>
</tr>
<tr>
<td>Statewide</td>
<td>224,176,551</td>
<td>295,628,006</td>
</tr>
</tbody>
</table>

(Source: PennDOT’s 2005 Highway Statistics)
The Southwestern Region contains significant highway corridors, including:

**Table 12: Major Highway Corridors**

<table>
<thead>
<tr>
<th>Interstates</th>
<th>United States (U.S.) Routes</th>
<th>Pennsylvania (PA) Routes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interstate 70 (I-70)</td>
<td>US Route 22 (US-22)</td>
<td>PA Route 8 (PA-8)</td>
</tr>
<tr>
<td>Interstate 76 (I-76)</td>
<td>US Route 30 (US-30)</td>
<td>PA Route 28 (PA-28)</td>
</tr>
<tr>
<td>Interstate 79 (I-79)</td>
<td>US Route 40 (US-40)</td>
<td>PA Route 60 (PA-60)</td>
</tr>
<tr>
<td>Interstate 279 (I-279)</td>
<td>US Route 119 (US-119)</td>
<td>PA Route 88 (PA-88)</td>
</tr>
<tr>
<td>Interstate 376 (I-376)</td>
<td>US Route 322 (US-322)</td>
<td></td>
</tr>
<tr>
<td>Interstate 579 (I-579)</td>
<td>US Route 422 (US-422)</td>
<td></td>
</tr>
</tbody>
</table>

A range of public and private providers offer transit services in the Southwestern Region, including:

- Beaver County Transit Authority,
- Butler Township-City Joint Municipal Transit Authority,
- Fayette Area Coordinated Transportation,
- GG&C Bus Company,
- Greyhound,
- Indiana County Transit Authority,
- Mid Mon Valley Transit Authority,
- Myers Coach Lines,
- New Castle Area Transit Authority,
- Port Authority of Allegheny County,
- Town and Country Transit,
- Washington County Transit Authority, and
- Westmoreland County Transit Authority,

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

- The Pittsburgh International Airport,
- Arnold Palmer Regional Airport,
- Freight and shipping centers located at Pitcairn Yards,
- The Port of Pittsburgh, and
- Other waterway terminals located along the region’s rivers.

The region houses a variety of information service providers (ISP), including:

- Metro Traffic,
- Mobility Technologies,
- Pittsburgh-based TV and radio stations (i.e., KDKA),
- The Weather Channel,
- Traffic.com, and
- WPCB-TV 40 Greensburg-Pittsburgh.
TMA’s operating within the region include the Airport Corridor Transportation Association (ACTA), Oakland Transportation Management Association (OTMA), and the Pittsburgh Downtown Partnership (PDP). These organizations work in conjunction to respond to the transportation issues within the immediate communities as well as regional transportation needs throughout Southwestern Pennsylvania. The TMA ultimate role is to communicate the public sector position, while bringing the message of the community back to the transportation decision-makers in the public sector.

The region also houses one of the nine nuclear power facilities in Pennsylvania in Shippingport.

The Southwestern Region also contains stadiums that house major sporting and recreational events in Pittsburgh, and other major recreational destinations, including:

- CONSOL Energy Park (Washington),
- county fairgrounds,
- Heinz Field (Pittsburgh),
- The Meadows (Meadow Lands),
- Mellon Arena (Pittsburgh),
- PNC Park (Pittsburgh) and
- Post Gazette Pavilion at Star Lake (Burgettstown),

Several significant ongoing planning initiatives are underway in the region, including the following:

- Regional Transportation Improvement Plan update,
- Route 30 Master Plan, and
- Washington County Transit Study.
## APPENDIX C - Forum Invitees

<table>
<thead>
<tr>
<th>Participant Name</th>
<th>Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brian Allen</td>
<td>PennDOT District 10-0</td>
</tr>
<tr>
<td>Alan Bailey</td>
<td>PennDOT District 12-0</td>
</tr>
<tr>
<td>Lucinda Beattie</td>
<td>Pittsburgh Downtown Partnership</td>
</tr>
<tr>
<td>William Beaumariage</td>
<td>PennDOT District 12-0</td>
</tr>
<tr>
<td>Maureen Bertocci</td>
<td>Port Authority of Allegheny County</td>
</tr>
<tr>
<td>Randy Brink</td>
<td>PennDOT District 1-0</td>
</tr>
<tr>
<td>Bracken Burns</td>
<td>SPC Commission Chair (Washington County Commissioner)</td>
</tr>
<tr>
<td>Mike Castellano</td>
<td>FHWA</td>
</tr>
<tr>
<td>Anthony Castellone</td>
<td>PSSJ</td>
</tr>
<tr>
<td>Frank Cippel</td>
<td>PennDOT District 11-0</td>
</tr>
<tr>
<td>Steve Cline</td>
<td>Beemac Trucking</td>
</tr>
<tr>
<td>Lou Cortellazzi</td>
<td>PA Turnpike Commission</td>
</tr>
<tr>
<td>Eddie Curtis</td>
<td>FHWA - Research Center</td>
</tr>
<tr>
<td>Robb Dean</td>
<td>PennDOT District 12-0</td>
</tr>
<tr>
<td>John Degory</td>
<td>SSI Services, Inc.</td>
</tr>
<tr>
<td>Ray Demichiei</td>
<td>City of Pittsburgh, Emergency Mgmt and Homeland Security</td>
</tr>
<tr>
<td>Chuck DiPietro</td>
<td>Southwestern Pennsylvania Commission</td>
</tr>
<tr>
<td>Tom Donatelli</td>
<td>Allegheny County Public Works</td>
</tr>
<tr>
<td>Rachel Duda</td>
<td>PennDOT District 12-0</td>
</tr>
<tr>
<td>Toby Fauver</td>
<td>PennDOT Bureau of Public Transportation (Director)</td>
</tr>
<tr>
<td>Rich Feder</td>
<td>Port Authority of Allegheny County</td>
</tr>
<tr>
<td>Michael Feisen</td>
<td>Norfolk Southern Corporation</td>
</tr>
<tr>
<td>Ken Flack</td>
<td>Southwestern Pennsylvania Commission</td>
</tr>
<tr>
<td>David Freudenrich</td>
<td>Maguire Group Inc.- SPC Consultant</td>
</tr>
<tr>
<td>Darlene Garrett</td>
<td>Greene County Economic Development</td>
</tr>
<tr>
<td>David Gault</td>
<td>PennDOT District 12-0</td>
</tr>
<tr>
<td>Dave Ginns</td>
<td>SPC</td>
</tr>
<tr>
<td>Pat Hassett</td>
<td>City of Pittsburgh Public Works</td>
</tr>
<tr>
<td>Lynn Heckman</td>
<td>Allegheny County Department of Economic Development</td>
</tr>
<tr>
<td>Jim Hunt</td>
<td>FHWA</td>
</tr>
<tr>
<td>Terri Johnson</td>
<td>Traffic.com</td>
</tr>
<tr>
<td>Ron Kimmel</td>
<td>PEMA</td>
</tr>
<tr>
<td>Steven Koser</td>
<td>PennDOT BHSTE</td>
</tr>
<tr>
<td>Paul Koza</td>
<td>PennDOT District 10-0</td>
</tr>
<tr>
<td>Jason Kratsas</td>
<td>Cranberry Township, Butler County</td>
</tr>
<tr>
<td>Todd Kravits</td>
<td>PennDOT District 11-0</td>
</tr>
<tr>
<td>Bill Laubach</td>
<td>PennDOT BHSTE</td>
</tr>
<tr>
<td>James D. MacKay</td>
<td>DMJM+HARRIS</td>
</tr>
<tr>
<td>Lynn Manion</td>
<td>Airport Corridor Transportation Management Association</td>
</tr>
<tr>
<td>Richard Marquis</td>
<td>FHWA</td>
</tr>
<tr>
<td>Robbie Matesic</td>
<td>SPC Commission (Greene County)</td>
</tr>
<tr>
<td>James McCarville</td>
<td>Executive Director Port of Pittsburgh Commission</td>
</tr>
<tr>
<td>Tom McClelland</td>
<td>PennDOT District 1-0</td>
</tr>
<tr>
<td>Leslie McCoy</td>
<td>PennDOT BHSTE</td>
</tr>
<tr>
<td>Kevin McCullough</td>
<td>PennDOT Program Center</td>
</tr>
<tr>
<td>Duane McKee</td>
<td>Cranberry Township, Butler County</td>
</tr>
<tr>
<td>Mariss Mednis</td>
<td>SSI Services, Inc.</td>
</tr>
<tr>
<td>Tony Mento</td>
<td>FHWA</td>
</tr>
<tr>
<td>Gary Modi</td>
<td>PennDOT BHSTE</td>
</tr>
<tr>
<td>Cheryl Moon-Sirianni</td>
<td>PennDOT District 11-0</td>
</tr>
<tr>
<td>Mary Jo Morandini</td>
<td>Beaver County Transit Authority</td>
</tr>
<tr>
<td>Participant Name</td>
<td>Affiliation</td>
</tr>
<tr>
<td>------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Larry Morris</td>
<td>SPC Commission (Westmoreland County Transit)</td>
</tr>
<tr>
<td>Renee Mosura</td>
<td>Beaver County Transit Authority</td>
</tr>
<tr>
<td>Dominic Munizza</td>
<td>DMJM+Harris</td>
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<td>Brenda Murphy</td>
<td>PennDOT BHSTE</td>
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<tr>
<td>Michael Pack</td>
<td>PennDOT BHSTE</td>
</tr>
<tr>
<td>Bill Peduto</td>
<td>SPC Commission (Pittsburgh City Councilman)</td>
</tr>
<tr>
<td>Bob Pento</td>
<td>PennDOT BHSTE</td>
</tr>
<tr>
<td>Tim Pieples</td>
<td>PennDOT District 10-0</td>
</tr>
<tr>
<td>Jason Previte</td>
<td>PennDOT District 10-0</td>
</tr>
<tr>
<td>Stacey Rabatin</td>
<td>PennDOT District 12-0</td>
</tr>
<tr>
<td>Mavis Rainey</td>
<td>Oakland Transportation Management Association</td>
</tr>
<tr>
<td>Craig Reed</td>
<td>PennDOT BHSTE</td>
</tr>
<tr>
<td>Bernie Rossman</td>
<td>Allegheny County Public Works</td>
</tr>
<tr>
<td>Carmen Rozzi</td>
<td>SPC Commission (Public Involvement Specialist, USACOE)</td>
</tr>
<tr>
<td>John Rudiak</td>
<td>PennDOT District 11-0</td>
</tr>
<tr>
<td>Tim Scanlon</td>
<td>PA Turnpike Commission</td>
</tr>
<tr>
<td>Mike Schoss</td>
<td>PennDOT District 11-0</td>
</tr>
<tr>
<td>Lisa Kay Schweyer</td>
<td>SPC CommuteInfo</td>
</tr>
<tr>
<td>Mike Silvestri</td>
<td>SPC Commission (Peters Township, Washington County)</td>
</tr>
<tr>
<td>Doug Smith</td>
<td>Southwestern Pennsylvania Commission</td>
</tr>
<tr>
<td>Matt Smoker</td>
<td>FHWA</td>
</tr>
<tr>
<td>Anthony Tarone</td>
<td>FTA Region 3</td>
</tr>
<tr>
<td>Dave Tomaswick</td>
<td>PennDOT District 10-0</td>
</tr>
<tr>
<td>Doug Tomlinson</td>
<td>PennDOT BHSTE</td>
</tr>
<tr>
<td>Carol Uminski</td>
<td>Southwestern Pennsylvania Commission</td>
</tr>
<tr>
<td>Ron Uriah</td>
<td>Pitt Ohio Express and PA Motor Truck Association</td>
</tr>
<tr>
<td>Lt Peter J. Vogel</td>
<td>PSP Troop D Butler</td>
</tr>
<tr>
<td>Matt Weaver</td>
<td>PennDOT BHSTE</td>
</tr>
</tbody>
</table>

**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 Southwestern Region
September 14, 2006 @ 1:00 PM
Regional Enterprise Tower, Pittsburgh, PA

<table>
<thead>
<tr>
<th>Participating</th>
<th>Representing</th>
</tr>
</thead>
<tbody>
<tr>
<td>William Beaumariage</td>
<td>PennDOT District 12-0</td>
</tr>
<tr>
<td>Michael Brinza</td>
<td>Port of Pittsburgh Commission</td>
</tr>
<tr>
<td>Lou Cortellazzi</td>
<td>Pennsylvania Turnpike Commission (via phone)</td>
</tr>
<tr>
<td>Robb Dean</td>
<td>PennDOT District 12-0</td>
</tr>
<tr>
<td>Chuck DiPietro</td>
<td>Southwestern Pennsylvania Commission</td>
</tr>
<tr>
<td>Rachel Duda</td>
<td>PennDOT District 12-0</td>
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<td>Rich Feder</td>
<td>Port Authority of Allegheny County</td>
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<td>Ken Flack</td>
<td>Southwestern Pennsylvania Commission</td>
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<td>David Freudenrich</td>
<td>Maguire Group</td>
</tr>
<tr>
<td>David Ginnis</td>
<td>Southwestern Pennsylvania Commission</td>
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<tr>
<td>Jim Hunt</td>
<td>Federal Highway Administration</td>
</tr>
<tr>
<td>Paul Koza</td>
<td>PennDOT District 10-0</td>
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<tr>
<td>Todd Kravits</td>
<td>PennDOT District 11-0</td>
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<tr>
<td>Bill Laubach</td>
<td>PennDOT BHSTE</td>
</tr>
<tr>
<td>Lynn Manion</td>
<td>Airport Corridor Transportation Association</td>
</tr>
<tr>
<td>Richard Marquis</td>
<td>FHWA, Pennsylvania Division</td>
</tr>
<tr>
<td>Mariss Meduis</td>
<td>SSI Services</td>
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<tr>
<td>Kevin McCullough</td>
<td>PennDOT Program Center</td>
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<tr>
<td>Dominic Munizza</td>
<td>PennDOT District 11-0 TMC</td>
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<tr>
<td>Brenda Murphy</td>
<td>PennDOT BHSTE</td>
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<tr>
<td>Jason Previte</td>
<td>PennDOT District 10-0</td>
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<tr>
<td>Stacey Rabatin</td>
<td>PennDOT District 12-0</td>
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<tr>
<td>Mavis Rainey</td>
<td>Oakland Transportation Management Association</td>
</tr>
<tr>
<td>Bernie Rossman</td>
<td>Allegheny County</td>
</tr>
<tr>
<td>John Rudik</td>
<td>PennDOT District 11-0</td>
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<tr>
<td>Doug Smith</td>
<td>Southwestern Pennsylvania Commission</td>
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<tr>
<td>Carol Uminske</td>
<td>Southwestern Pennsylvania Commission</td>
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<tr>
<td>Darlene Urban Garrett</td>
<td>Greene County, Economic Development</td>
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<tr>
<td>Ron Uriah</td>
<td>Pitt Ohio Express</td>
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<tr>
<td>Lt. Peter Vogel</td>
<td>Pennsylvania State Police, Troop D</td>
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<thead>
<tr>
<th>Staffing</th>
<th>Representing</th>
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<tr>
<td>Steve Buckley</td>
<td>PB</td>
</tr>
<tr>
<td>Mike Harris</td>
<td>PB</td>
</tr>
<tr>
<td>Ryan Long</td>
<td>PB</td>
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<tr>
<td>Maureen Frumen</td>
<td>Olszak Management Consulting</td>
</tr>
</tbody>
</table>
I. Introductions
At 1:00 P.M., Doug Smith welcomed everyone and began introductions.

II. ROP Overview
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- IM 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:
  o Provide and support foundational transportation operations uniformly in all engineering districts;
  o Provide consistent interstate incident response on all sections of the interstate system;
  o Share incident information for all hazards among state, federal, and responsible regional/local emergency management agencies;
  o Provide timely, reliable traveler information through low-cost, no-cost media;
  o Manage the transportation system cost effectively through linked management centers, sized to suit regional needs;
  o Use standard incident management and reporting software and device control software in every TMC;
  o 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.

SPC’s Long Range Transportation Plan (LRTP) and Transportation Improvement Program (TIP) will be key mechanisms in delivering ROP priorities. As such, analyses and conclusions from the ROP will be used in the development of the LRTP, which is currently underway, and in the development of the 2009 TIP.

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 Southwestern ROP will include Districts 12-0, 11-0, and 10-0 (except Clarion & Jefferson Counties).

The Southwestern ROP is currently on Task 3: Define Regional Needs and Priorities.

Chuck DiPietro reinforced that the ROP schedule was critical for SPC because the intent is for SPC to have the final ROP ready for the programming and prioritization process, as well as their LRTP update.

### III. Needs Areas/Needs Identification

The remainder of the meeting focused on identifying various needs and specific “Needs Areas” for the Southwestern 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:
1. Incident and Emergency Management

2. Traveler Information

3. Traffic Signals

4. Institutional
   a. Interagency and Joint-Municipal Cooperation:
      i. Resource-sharing
      ii. Operations and Maintenance Responsibilities
      iii. Communication Infrastructure and Procedures
   b. Agency Organizational Structures
   c. Funding
      i. Capital Projects
      ii. Operations and Maintenance

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 and Emergency Management

Transportation Management Centers
- Consider co-locating PTC (Pennsylvania Turnpike Commission) Operations Center with PennDOT. This would allow for better coordination, better communication effort on detour routing between PTC and PennDOT
- There needs to be better detour routing and coordination between PTC, PennDOT and the State Police
- Turnpike does not have enough pre-entry information, such as message boards.
- PennDOT District 12 is currently working on equipment gaps
- Congested corridors, such as the Route 8 CCIP corridor in Wilkinsburg, need to interface with Transportation Management Center (TMC)
- Communication and integration of freeway/ signals/ transit/ other
  - Coordination efforts should include operations centers for transit
  - The Regional Traffic Management Center should be able to control signals and ITS devices on arterials
  - Use pilot programs to bolster support
  - Need to articulate what is in it for municipalities
- There is a push for 24/7 staffing at TMCs

Work Zones
- There is a need to better coordinate mobility in work zones
- LS Bridge project work zone information
Coordination of all entities difficult

**Emergency Management**
- Homeland Security Grant; D-11 TMC and City of Pittsburgh

**2. Traveler Information**
- PTC is working with Mobility Technologies and with PennDOT
- PTC would like to improve pre-entry information to trucks/travelers
- A joint transit and police operations center may make sense in the City
- Media linkages to TMC (e.g., radio, TV, private video to cable)
- Radio Intercept for T1
- “Real Time” communication for transit riders and highway travelers should become the standard
- GPS locator devices are on many buses, so they should be a source of information on traffic flow and for users
- GIS detour/road closure mapping
- Payment systems need to be electronic and tied together and we need to tackle a common fare “smart-card” system for transit and possibly highway travel
- 511 – PTC ready to data pump
- Who will be the central clearinghouse for 511?

**3. Traffic Signals**
- Traffic signals
  - Highlight successes such as Route 51 (improved travel time, reduced energy)
  - Need oversight, enforcement of maintenance agreements
  - Need programmed staff and dedicated funds
- Maintenance of signals on detour and road closure routes (i.e., Unified Standard & Control in Philadelphia)
- Isolated islands of software among jurisdictions
- Traffic signal enhancement would improve with coordinated signals however, the issue is about monitoring and maintaining the system. It is difficult to enforce in many municipalities.
  - Make funding available to encourage municipal buy-in
  - District 2 and District 9 additional Signal Module
  - Signals/corridors in rural areas
- Mavis Rainey mentioned that PennDOT District 11 has been working with the TMAs to provide interval signals for pedestrian movement
- Pedestrian movements along State Routes
  - Signal upgrade needed to consider pedestrians
  - Consider student vehicle crossings: University of Pittsburgh, Carnegie Mellon University
4. Institutional

Interagency and Joint-Municipality Cooperation
- Operations and maintenance of ITS devices is a major issue
- Lack of incentives for maintenance of ITS devices; needs dedicated funds
- There is a need to deal with “interagency” issues and to go beyond “just talking” about issues
- Coordination is needed for various projects that impact one another (i.e., spillover effects of construction, etc.)
- Coordination with other agencies to integrate PennDOT statewide system to include TMAs etc.
- State Police need to work together with PennDOT, PTC and local police. Need to improve the interface with State Police and consider revising current policies and procedures.
- State Police interface with PennDOT and municipalities

Communication Infrastructure and Procedures
- PSP/PennDOT Communications
- Non-standard ITS operations software necessitating inter-jurisdictional agreements
- Software coordination is needed
- Standardization of information sharing

PennDOT Organizational Structure
- Staffing issues (i.e. create new “operations” position or ADE of Operations)
- Currently District ITS Coordinator is a collateral duty added to traffic engineers within the Districts
- ITS coordinator is a funding issue; it is not funded separately in some Districts.
- 24/7 Staffing recommendations at TMC

Funding
- Dedicated funding source for operations needed
- Funding is needed for maintenance, monitoring, and programming time for improved travel
- Lack of funds for operations and maintenance

5. Other comments

Rural Issues
• In rural areas, congestion management resources do not exist. Resources go to urbanized areas and congestion is getting worse in rural areas that connect to major interstates.
• ITS devices in rural areas

Freight and Intermodal
• Motor truck issues:
  o Importance of just-in-time inventory
  o Reliability of highway system
  o Congestion impact on drivers hours of service
• Wireless communication devices (i.e., Smartlock System) at USACE Locks and Dams – Port of Pittsburgh Commission
• Lack of connections between modes for travelers

ROP Framework and Support
• Revise design manuals to incorporate benefits of ITS – not standard practice (AASHTO/PennDOT)
• ROP projects incorporated into other regional priorities like land use through LRTP
• Documents tend to use the term “highway” infrastructure when in fact it should be “transportation” infrastructure
• It is important to lay the foundation for the program – things that may seem unlikely to be prioritized still need to be kept on agenda – so the “need” doesn’t disappear

IV. Next Steps
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.

It was additionally mentioned that each Task Force group will be meeting separately once or twice during the months of October and November. The consultant team along with SPC will help facilitate individual Task Force participants and leads, as well as meeting dates and other logistics. Meeting adjourned approximately at 3:30 PM.
Operational Projects Workshop - Meeting Summary (FINAL)

PennDOT Planning Services and Implementation
Regional Operations Plan for the Southwestern Region
March 22, 2007 @ 9:00 AM
Regional Enterprise Tower, Pittsburgh, PA

Participating
Lucinda Beattie  Pittsburgh Downtown Partnership
Mike Brinza   Port of Pittsburgh Commission
Anthony Castellone  PBS&J
Robb Dean  PennDOT District 12-0
Chuck DiPietro   SPC
Rachel Duda  PennDOT District 12-0
Robert Dudash  URS Corporation
Richard Feder  Port Authority of Allegheny County
David Freudenrich  Maguire Group, Inc.
Dave Ginnz  SPC
Paul Koza  PennDOT District 10-0
Todd Kravitz  PennDOT District 11-0
Bill Laubach  PennDOT BHSTE
Jeffrey Leithauser  Washington County Planning Commission
James McCarville  Port of Pittsburgh Commission
Jim MacKay  DMJM Harris
Amy Mathiesm  ACTA
Mary Jo Morandini  Beaver County Transit Authority
Dominic Munizza  DMJM Harris
Brenda Murphy  PennDOT BHSTE
Jason Previte  PennDOT District 11-0
Liz Nahn  Oakland Transportation Management Association
Lou Rocchini  Maguire Group, Inc.
Steve Schillero  DMJM Harris
Doug Smith  SPC
Scott Thompson-Graves  Whitman Requardt & Associates
Dave Tomaswick  PennDOT District 10-0
Carol Uminski  SPC

Staffing
Steve Buckley                  PB
Mike Harris   PB
Ryan Long   PB
Jada Beaufford              Olszak Management Consulting

I. Purpose of Today
At 9:00 AM, Steve Buckley and Doug Smith welcomed everyone, began introductions and explained the purpose of today’s Operational Projects Forum was to further define and prioritize the regions’ operations projects developed from the previous Task Force groups.

II. ROP Project Status
Steve Buckley reviewed the status of the ROP Work Order and led a discussion of the proposed projects developed as a result of the work of the four Task Forces. It was noted based on today’s rankings a prioritized list of suggested projects will be included in the ROP, however all the projects below will be included in the draft ROP as an appendix item.

It was also mentioned that the projects identified today will most likely fall into five categories for implementation; SPC initiatives (plans or policies), PennDOT initiatives (plans and procedures), PEMA/State Police initiatives, projects to be programmed and lastly efforts requiring either further guidance or to be executed by the state.

Operations projects undertaken by SPC could be incorporated into their yearly UPWP or as a separate program. PEMA and PSP could lead in the development of regional joint emergency procedures, consistent with PennDOT’s incident management efforts. Programmed items could be mainstreamed through each TIP update (development of the 2009 SPC TIP will begin soon) while the remaining projects may require further direction from PennDOT’s Central Office or could be conducted under the TSOP 2007 document currently being created.

III. Discussion and Prioritization of Projects
The following potential projects were identified:

**ROP# 1** - Establish IM Teams on corridors with the highest concentrations of incidents
**ROP# 2** - Improve incident management (incident command) and response procedures for various types of incidents and emergencies
**ROP# 3** - Explore real or virtual co-location of the operations centers (e.g., transit, PSP, EMAs and 911 Centers)
**ROP# 4** - Develop pre-planned detour routings for key roadway segments
**ROP# 5** - Increase publicity for a “Move It!” or “Steer It and Clear It” program
**ROP# 6** - Develop and implement a “Quick Clear” or “Clear the Road” program
**ROP# 7** - Explore expanded use of Freeway Service Patrols
**ROP# 8** - Work with utility companies to ensure quicker response times when utility-related incidents require the closure of facilities, especially in rural areas
**ROP# 9** - Have venues prepare traffic management plans in conjunction with PennDOT
**ROP# 10** - Develop and implement a plan to close existing “regional” equipment gaps
**ROP# 11** - Develop evacuation plans and procedures for emergency events (either natural or man-made; flooding, HAZMAT etc.)
**ROP# 12** - Develop a Regional Traveler Information Business Plan
**ROP# 13** - Explore additional opportunities for data sharing with public and private entities
**ROP# 14** - Institute a real-time information system for several transit routes
**ROP# 15** - Institute pilot project showing travel time information postings on VMS signs
**ROP# 16** - Expand partnerships with organizations to utilize their communication (e.g., e-mail distribution lists) networks for distributing critical traveler information
**ROP# 17** - Create a GIS-based Signal Management System
ROP# 18 - Develop a signal maintenance and upgrade plan
ROP# 19 - Develop a regional program for allocating funding dollars for municipal signal upgrades
ROP# 20 - Prepare a list of "top 10" intersections to upgrade
ROP# 21 - Institute one-time "signal maintenance fees" to developers
ROP# 22 - Institute a signal decommissioning program
ROP# 23 - Integrated Corridor Management (ICM) Pilot Project
ROP# 24 - Create a regionally funded operations coordinator position
ROP# 25 - Create an “operations outreach program” including a brochure, presentation and website

In addition to these projects the Forum participants included four new studies to examine transportation operations they believe were missing from the original list. These projects were included in the prioritization exercise and included the following:

ROP A - Automated fare collection system
ROP B - Tolling study of regional highways; suggested as a first step toward use of cordon or congestion pricing along several regional interstates
ROP C - Study the conversion of High-Occupancy Vehicle (HOV) lanes to High-Occupancy Toll (HOT) facilities
ROP D - Freight study of parallel corridors

The Forum participants then prioritized the proposed projects using a scale of 1 to 5, with 5 being the highest priority and 1 being the lowest. Using a cordless voting system, each participant ranked each project immediately after receiving a description of the project. It was noted that after all the projects were prioritized the group was allowed to revisit the list in a holistic manner. The following voting results and calculated averages are shown below:

<table>
<thead>
<tr>
<th>Proposed ROP Projects</th>
<th>High (5)</th>
<th>(4)</th>
<th>(3)</th>
<th>(2)</th>
<th>Low (1)</th>
<th>Total Votes</th>
<th>Priority Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROP# 1 Establish IM Teams on corridors with the highest concentrations of incidents</td>
<td>7</td>
<td>4</td>
<td>11</td>
<td>3</td>
<td>2</td>
<td>27</td>
<td>3.41</td>
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<tr>
<td>ROP# 2 Improve incident management (incident command) and response procedures for various types of incidents and emergencies</td>
<td>9</td>
<td>10</td>
<td>8</td>
<td>0</td>
<td>1</td>
<td>28</td>
<td>3.93</td>
</tr>
<tr>
<td>ROP# 3 Explore real or virtual co-location of the operations centers (e.g., transit, PSP, EMAs and 911 Centers)</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>2</td>
<td>28</td>
<td>3.50</td>
</tr>
<tr>
<td>ROP# 4 Develop pre-planned detour routings for key roadway segments</td>
<td>10</td>
<td>5</td>
<td>9</td>
<td>4</td>
<td>0</td>
<td>28</td>
<td>3.75</td>
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<td>ROP# 5 Increase publicity for a “Move It!” or “Steer It and Clear It” program</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>17</td>
<td>28</td>
<td>1.86</td>
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<tr>
<td>ROP# 6 Develop and implement a “Quick Clear” or “Clear the Road” program</td>
<td>1</td>
<td>5</td>
<td>9</td>
<td>6</td>
<td>6</td>
<td>27</td>
<td>2.59</td>
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<tr>
<td>ROP# 7 Explore expanded use of Freeway Service Patrols</td>
<td>9</td>
<td>7</td>
<td>6</td>
<td>2</td>
<td>3</td>
<td>27</td>
<td>3.63</td>
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<tr>
<td>ROP# 8 Work with utility companies to ensure quicker response times when utility-related incidents require the closure of facilities, especially in rural areas</td>
<td>0</td>
<td>1</td>
<td>10</td>
<td>9</td>
<td>8</td>
<td>28</td>
<td>2.14</td>
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<tr>
<td>ROP# 9 Have venues prepare traffic management plans in conjunction with PennDOT</td>
<td>1</td>
<td>5</td>
<td>15</td>
<td>4</td>
<td>3</td>
<td>28</td>
<td>2.89</td>
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The prioritized results are as follows:

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<tr>
<th>Proposed ROP Projects</th>
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<th>(4)</th>
<th>(3)</th>
<th>(2)</th>
<th>Low (1)</th>
<th>Total Votes</th>
<th>Priority Rating</th>
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<tr>
<td>ROP# 10 Develop and implement a plan to close existing &quot;regional&quot; equipment gaps</td>
<td>13</td>
<td>2</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>25</td>
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<td>ROP# 11 Develop evacuation plans and procedures for emergency events (either natural</td>
<td>11</td>
<td>5</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>24</td>
<td>3.83</td>
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<td>or man-made; flooding, HAZMAT etc.)</td>
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<tr>
<td>ROP# 12 Develop a Regional Traveler Information Business Plan</td>
<td>7</td>
<td>8</td>
<td>5</td>
<td>3</td>
<td>1</td>
<td>24</td>
<td>3.71</td>
</tr>
<tr>
<td>ROP# 13 Explore additional opportunities for data sharing with public and private</td>
<td>4</td>
<td>6</td>
<td>9</td>
<td>5</td>
<td>1</td>
<td>25</td>
<td>3.28</td>
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<td>ROP# 14 Institute a real-time information system for several transit routes</td>
<td>8</td>
<td>6</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>25</td>
<td>3.48</td>
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<td>ROP# 15 Institute pilot project showing travel time information postings on VMS signs</td>
<td>9</td>
<td>2</td>
<td>2</td>
<td>7</td>
<td>4</td>
<td>24</td>
<td>3.21</td>
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<tr>
<td>ROP# 16 Expand partnerships with organizations to utilize their communication (e.g.,</td>
<td>8</td>
<td>7</td>
<td>7</td>
<td>3</td>
<td>2</td>
<td>27</td>
<td>3.59</td>
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<td>e-mail distribution lists) networks for distributing critical traveler information</td>
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<td>ROP# 17 Create a GIS-based Signal Management System</td>
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<td>8</td>
<td>7</td>
<td>0</td>
<td>0</td>
<td>26</td>
<td>4.15</td>
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<td>ROP# 18 Develop a signal maintenance and upgrade plan</td>
<td>13</td>
<td>7</td>
<td>6</td>
<td>1</td>
<td>1</td>
<td>28</td>
<td>4.07</td>
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<tr>
<td>ROP# 19 Develop a regional program for allocating funding dollars for municipal signal upgradues</td>
<td>16</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>26</td>
<td>4.23</td>
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<tr>
<td>ROP# 20 Prepare a list of &quot;top 10&quot; intersections to upgrade</td>
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<td>7</td>
<td>9</td>
<td>2</td>
<td>2</td>
<td>27</td>
<td>3.56</td>
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<tr>
<td>ROP# 21 Institute one-time &quot;signal maintenance fees&quot; to developers</td>
<td>11</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>1</td>
<td>27</td>
<td>3.74</td>
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<td>ROP# 22 Institute a signal decommissioning program</td>
<td>6</td>
<td>2</td>
<td>12</td>
<td>2</td>
<td>5</td>
<td>27</td>
<td>3.07</td>
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<td>ROP# 23 Integrated Corridor Management (ICM) Pilot Project</td>
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<td>6</td>
<td>2</td>
<td>0</td>
<td>25</td>
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<td>ROP# 24 Create a regionally funded operations coordinator position</td>
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<td>7</td>
<td>1</td>
<td>2</td>
<td>26</td>
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<tr>
<td>ROP# 25 Create an &quot;operations outreach program&quot; including a brochure, presentation</td>
<td>6</td>
<td>6</td>
<td>7</td>
<td>6</td>
<td>2</td>
<td>27</td>
<td>3.30</td>
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<tr>
<td>and website</td>
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**New Projects added on 3/22/07 Meeting**

<table>
<thead>
<tr>
<th>Proposed ROP Projects</th>
<th>High (5)</th>
<th>(4)</th>
<th>(3)</th>
<th>(2)</th>
<th>Low (1)</th>
<th>Total Votes</th>
<th>Priority Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROP A Automated fare collection system</td>
<td>7</td>
<td>4</td>
<td>8</td>
<td>2</td>
<td>3</td>
<td>24</td>
<td>3.42</td>
</tr>
<tr>
<td>ROP B Tolling study of regional highways</td>
<td>2</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>6</td>
<td>23</td>
<td>2.57</td>
</tr>
<tr>
<td>ROP C Study of conversion to HOT facilities</td>
<td>5</td>
<td>10</td>
<td>3</td>
<td>5</td>
<td>2</td>
<td>25</td>
<td>3.44</td>
</tr>
<tr>
<td>ROP D Freight Study of parallel corridors</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>4</td>
<td>6</td>
<td>20</td>
<td>2.80</td>
</tr>
</tbody>
</table>

The prioritized results are as follows:
### Proposed ROP Projects

<table>
<thead>
<tr>
<th>Proposed ROP Projects</th>
<th>High</th>
<th>(5)</th>
<th>(4)</th>
<th>(3)</th>
<th>Low</th>
<th>(1)</th>
<th>Total Votes</th>
<th>Priority Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROP# 23 Integrated Corridor Management (ICM) Pilot Project</td>
<td>7</td>
<td>10</td>
<td>6</td>
<td>2</td>
<td>0</td>
<td>25</td>
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<td>3.88</td>
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<td>ROP# 24 Create a regionally funded operations coordinator position</td>
<td>11</td>
<td>5</td>
<td>7</td>
<td>1</td>
<td>2</td>
<td>26</td>
<td></td>
<td>3.85</td>
</tr>
<tr>
<td>ROP# 11 Develop evacuation plans and procedures for emergency events (either natural or man-made; flooding, HAZMAT etc.)</td>
<td>11</td>
<td>5</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>24</td>
<td></td>
<td>3.83</td>
</tr>
<tr>
<td>ROP# 10 Develop and implement a plan to close existing “regional” equipment gaps</td>
<td>13</td>
<td>2</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>25</td>
<td></td>
<td>3.80</td>
</tr>
<tr>
<td>ROP# 4 Develop pre-planned detour routings for key roadway segments</td>
<td>10</td>
<td>5</td>
<td>9</td>
<td>4</td>
<td>0</td>
<td>28</td>
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<tr>
<td>ROP# 21 Institute one-time &quot;signal maintenance fees&quot; to developers</td>
<td>11</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>1</td>
<td>27</td>
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<td>ROP# 12 Develop a Regional Traveler Information Business Plan</td>
<td>7</td>
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<td>5</td>
<td>3</td>
<td>1</td>
<td>24</td>
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<td>3.71</td>
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<td>ROP# 7 Explore expanded use of Freeway Service Patrols</td>
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<td>7</td>
<td>6</td>
<td>2</td>
<td>3</td>
<td>27</td>
<td></td>
<td>3.63</td>
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<tr>
<td>ROP# 16 Expand partnerships with organizations to utilize their communication (e.g., e-mail distribution lists) networks for distributing critical traveler information</td>
<td>8</td>
<td>7</td>
<td>7</td>
<td>3</td>
<td>2</td>
<td>27</td>
<td></td>
<td>3.59</td>
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<tr>
<td>ROP# 20 Prepare a list of “top 10” intersections to upgrade</td>
<td>7</td>
<td>7</td>
<td>9</td>
<td>2</td>
<td>2</td>
<td>27</td>
<td></td>
<td>3.56</td>
</tr>
<tr>
<td>ROP# 3 Explore real or virtual co-location of the operations centers (e.g., transit, PSP, EMAs and 911 Centers)</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>2</td>
<td>28</td>
<td></td>
<td>3.50</td>
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<tr>
<td>ROP# 14 Institute a real-time information system for several transit routes</td>
<td>8</td>
<td>6</td>
<td>4</td>
<td>4</td>
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<td>2</td>
<td>25</td>
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<tr>
<td>ROP A Automated fare collection system</td>
<td>7</td>
<td>4</td>
<td>8</td>
<td>2</td>
<td>3</td>
<td>24</td>
<td></td>
<td>3.42</td>
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<tr>
<td>ROP# 1 Establish IM Teams on corridors with the highest concentrations of incidents</td>
<td>7</td>
<td>4</td>
<td>11</td>
<td>3</td>
<td>2</td>
<td>27</td>
<td></td>
<td>3.41</td>
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<tr>
<td>ROP# 25 Create an “operations outreach program” including a brochure, presentation and website</td>
<td>6</td>
<td>6</td>
<td>7</td>
<td>6</td>
<td>2</td>
<td>27</td>
<td></td>
<td>3.30</td>
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<tr>
<td>ROP# 13 Explore additional opportunities for data sharing with public and private entities</td>
<td>4</td>
<td>6</td>
<td>9</td>
<td>5</td>
<td>1</td>
<td>25</td>
<td></td>
<td>3.28</td>
</tr>
<tr>
<td>ROP# 15 Institute pilot project showing travel time information postings on VMS signs</td>
<td>9</td>
<td>2</td>
<td>2</td>
<td>7</td>
<td>4</td>
<td>24</td>
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<td>3.21</td>
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<td>ROP# 22 Institute a signal decommissioning program</td>
<td>6</td>
<td>2</td>
<td>12</td>
<td>2</td>
<td>5</td>
<td>27</td>
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<td>3.07</td>
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<td>ROP# 9 Have venues prepare traffic management plans in conjunction with PennDOT</td>
<td>1</td>
<td>5</td>
<td>15</td>
<td>4</td>
<td>3</td>
<td>28</td>
<td></td>
<td>2.89</td>
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<tr>
<td>ROP D Freight Study of parallel corridors</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>4</td>
<td>6</td>
<td>20</td>
<td></td>
<td>2.60</td>
</tr>
<tr>
<td>ROP# 6 Develop and implement a “Quick Clear” or “Clear the Road” program</td>
<td>1</td>
<td>5</td>
<td>9</td>
<td>6</td>
<td>6</td>
<td>27</td>
<td></td>
<td>2.59</td>
</tr>
<tr>
<td>ROP B Tolling study of regional highways</td>
<td>2</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>6</td>
<td>23</td>
<td></td>
<td>2.57</td>
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<tr>
<td>ROP# 8 Work with utility companies to ensure quicker response times when utility-related incidents require the closure of facilities, especially in rural areas</td>
<td>0</td>
<td>1</td>
<td>10</td>
<td>9</td>
<td>8</td>
<td>28</td>
<td></td>
<td>2.14</td>
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<tr>
<td>ROP# 5 Increase publicity for a “Move It!” or “Steer It and Clear It” program</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>17</td>
<td>28</td>
<td></td>
<td>1.86</td>
</tr>
</tbody>
</table>

Additional comments on each project:
• ROP# 2 - Consider adding PEMA to list of key agencies as noted in the candidate project description handout.
• ROP# 10 - Consider adding transit gaps to project description including need for ITS and other operations equipment.
• ROP# 10 - Participants discussed breaking up project into two separate efforts; one to identify the approach to closing the existing regional equipment gap (includes Central Office input) and another to explain the work plan and potential implementation schedule.
• ROP# 11 - It was noted that there are industries throughout the region that could be potential targets and should be included in the candidate project description. The City of Pittsburgh is also starting a revision of their Emergency Operations Plan (EOP) which should be incorporated into this effort.
• ROP# 12 - Consider adding transit in the candidate project description for its regional transit trip planner capabilities.
• ROP# 15 - Examine developing policies and procedures based on FHWA guidance to display emergency or security alert messages on VMS.
• ROP# 16 - Examine use of regional TMA databases for dissemination of relevant traveler information. It was noted that the airport corridor TMA database can reach many businesses and up to 12,000 individuals.
• ROP# 17 and #18 - Consider increasing stated Level of Effort to Complex instead of Moderate as noted in the candidate project handout due to the vast stakeholder coordination anticipated.
• ROP# 18 - Consider switching the lead agency role to SPC instead of PennDOT as noted in the candidate project handout.
• ROP# 18 and #19 - SPC noted that a similar regional signal maintenance and upgrade program is underway (including examination of possible dedicated funding) however a liaison is needed between municipalities and PennDOT. This project could tie into GIS database efforts under ROP# 17.
• ROP# 19 - Consider revising the Time to Complete timeframe to 1-2 years instead of 3-5 years as noted in the candidate project handout.
• ROP# 21 - One participant noted that some municipalities already have up-front fees for tenants of new developments (e.g., Washington County).
• ROP# 24 - Participants felt strongly that the Regional Operations Coordinator position is paramount to the success of many of the proposed ROP projects.
• ROP D – This study may be more appropriately handled as part of SPC’s regional Freight Forum rather than being a ROP initiative.

It was also noted that project deletions would most likely include the following two projects receiving a score of roughly 1 (out of 5);

• Work with utility companies to ensure quicker response times when utility-related incidents require the closure of facilities, especially in rural areas
• Increase publicity for a “Move It!” or “Steer It and Clear It” program

Both of these projects were in the Incident and Emergency Management Operation Area.

The group also voted on ten additional institutional suggestions. These recommendations originating from the Task Forces were not included in the original
projects since it was discussed that most were likely to be undertaken by PennDOT Central Office leadership or would require a statewide policy direction to be implemented. The prioritized voting results were as follows:

<table>
<thead>
<tr>
<th>Proposed Institutional Suggestions</th>
<th>High (5)</th>
<th>(4)</th>
<th>(3)</th>
<th>(2)</th>
<th>Low (1)</th>
<th>Total Votes</th>
<th>Priority Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Create an ADE of Operations to elevate District ITS coordinator to a full time position</td>
<td>17</td>
<td>4</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>24</td>
<td>4.50</td>
</tr>
<tr>
<td>8. Seek dedicated funding for signal program</td>
<td>15</td>
<td>5</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>24</td>
<td>4.46</td>
</tr>
<tr>
<td>2. Creation of regional or statewide signals manager position (full-time) to coordinate and advance traffic signal needs</td>
<td>12</td>
<td>11</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>25</td>
<td>4.28</td>
</tr>
<tr>
<td>4. Seek opportunities for piggy-backing on communication infrastructure with other state agencies or PEMA</td>
<td>7</td>
<td>10</td>
<td>7</td>
<td>1</td>
<td>0</td>
<td>25</td>
<td>3.92</td>
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<tr>
<td>9. Lobby for the creation of dedicated funding from the TF&amp;RC</td>
<td>12</td>
<td>0</td>
<td>7</td>
<td>3</td>
<td>1</td>
<td>23</td>
<td>3.83</td>
</tr>
<tr>
<td>7. Need for new types of staff with IT backgrounds and knowledge of software, hardware and communications platforms</td>
<td>10</td>
<td>4</td>
<td>8</td>
<td>1</td>
<td>2</td>
<td>25</td>
<td>3.76</td>
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<tr>
<td>3. Break down restrictive OA barriers to sharing communication infrastructure (wireless, etc.)</td>
<td>7</td>
<td>5</td>
<td>7</td>
<td>3</td>
<td>1</td>
<td>23</td>
<td>3.61</td>
</tr>
<tr>
<td>6. Increase supplemental technical training for operations staff</td>
<td>4</td>
<td>8</td>
<td>9</td>
<td>1</td>
<td>2</td>
<td>24</td>
<td>3.46</td>
</tr>
<tr>
<td>5. Establish a knowledge transfer program for PennDOT operations staff through a mentoring and training program</td>
<td>6</td>
<td>8</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>25</td>
<td>3.32</td>
</tr>
<tr>
<td>10. Establish “real-time” operations portal on PennDOT website similar to Maryland’s DOT CHART and Delaware’s DelTrac sites</td>
<td>3</td>
<td>7</td>
<td>4</td>
<td>7</td>
<td>3</td>
<td>24</td>
<td>3.00</td>
</tr>
</tbody>
</table>

**IV. Next Steps**

Steve Buckley will distribute via email the minutes for review. The draft ROP was expected to be completed by the end of April 2007 for comment by Steering Committee. Adoptions of the plan will be conducted by SPC soon after all revisions are completed.
APPENDIX E - TASK FORCE MEETING SUMMARIES

TASK FORCE SESSIONS # 1

PennDOT Planning Services and Implementation
Regional Operations Plan for the Southwestern Region
Incident and Emergency Management Task Force (FINAL)
November 30, 2006 @ 9:00 AM
PennDOT District 11, Bridgeville, PA

Participating Representing
Frank Cippel PennDOT District 11-0
John Degory SSI Services
Jim Hunt Federal Highway Administration
Ron Kimmel PEMA
Mariss Mednis SSI Services
Brenda Murphy PennDOT BHSTE
Tim Pieples PennDOT District 10-0
Doug Smith Southwestern Pennsylvania Commission
Ron Uriah Pitt Ohio Express
Tom McClelland PennDOT District 1-0

Staffing Representing
Steve Buckley PB
Mike Harris PB
Ryan Long PB
Jada Beaufford Olszak Management Consulting

I. Introductions / Purpose of Today
At 9:00 AM, Steve Buckley welcomed everyone and began introductions and explained the purpose of today’s Incident and Emergency Management Task Force meeting.

II. Overview / Operations Concepts and Projects
Steve Buckley reviewed a presentation that outlined the process for developing the Regional Operations Plan (ROP)—highlighting the importance of operations, process overview and schedule, ROP needs areas, Task Force work items and suggestions heard at the September meeting.

III. Discussion
The Task Force then engaged in a discussion of needs specific to Incident and Emergency Management. The following comments were collected during the discussion:
• Need to do a better job of communicating the benefits of Operations.
• For the purpose of discussion, emergency management was defined to include a broad range of critical incidents that can impact the transportation system.
• What communication exists today between PEMA Region 13 and TMC?
  o Virtual and physical EOC; incident command structure ingrained in system.
• Gaps: being able to respond instantaneously to incidents—web-based software allows everyone to use NIMs, communicate using the same language—ease of use.
• State police interested in and starting to take a look at web-based software.
• Information collected and disseminated to first responders—all the way down to fire stations—but not motorists.
• Missing link: information flow from emergency management folks to PennDOT.
• No IM teams, but software can assist.
• Concern for definition of who’s in control and coordination of staff during natural disasters, miscommunication, understanding hazardous materials and what is being transported on [freight] trucks.
• Need to understand just-in-time delivery system and [freight] commerce.
• Re-routing commercial vehicles off of PennDOT roads—trucks may contain time sensitive materials.
• Working through major catastrophic events.
• PEMA has joint EOC with Western Pennsylvania—share resources
  o How do we bring in more players (such as PTC, PennDOT, motor carriers, etc.)?
• Redundancy built into system to address communication failure.
• Get information from PTC, state police, truck associations, FHWA, Homeland Security.
• Communication gap on PennDOT roads.
  o Road closure reporting system may be a solution if maintained 24/7.
• Coalition of business owners to catalog all resources and liabilities in the event of disaster.
• Make effort to identify vulnerable resources (schools, nursing homes, etc.) in event of disaster.
• Effort currently underway to identify equipment gaps across the state—will be on hand pretty soon—also gets information to motorists.
• May be able to adapt community emergency alert system for truckers.
• 511 coming to Pennsylvania—regions will have input into implementation.
  o SSI getting involved in implementation in LA.
• How can PennDOT assist with freight operations?
  o Provide notification to central dispatch of major road closures over a period of time.
• Using GPS technology on all phones for motorists—communicate travel times.
• Look at hardware system along evacuation routes—integrate new technologies (GPS, cell phones and toll tags) into IMS.
• PennDOT not prepared with evacuation routes from Pittsburgh—central office has decided not to deal with evacuation routes right now—may end up in update to TSOP in 2007.
• Region 13 has contractor currently looking at study for evacuation planning.
• Transit authorities need to be involved in evacuation routing.
• 10 transit authorities coordination critical — support transit coordination projects — participate in monthly meeting of Transit Operators Committee.
• Region 13 touted as “best practices region” for overall incident command structure.
• Volunteerism down, finding trained volunteers are a challenge in rural areas, need to train the trainer, high volunteer turnover.
• PennDOT meets with sports organizations before home games (Steelers games, for example), but need to work on event venue gaps.
• How close is media linked with PennDOT, PEMA and SSI?
  o PennDOT has media partnerships.
  o KDKA radio broadcasts traffic information all day; KDKA TV only in the morning.
• Not prepared for simultaneous event management and security incidents.
• Use lessons learned from past planning efforts to develop a standard operating procedure.
• Federal funding can be used to pay for TMC operations.
• STP funds can be used for operations.
• Three PennDOT DEs should screen joint initiatives and bring candidate projects to SPC.
• Complement positions have been an issue, but not addressed—needs to be a part of the Regional Operations Plan.
• District 10 and District 1 systems are inadequate—need communication among paid employees, not volunteers.
• Be willing to challenge the status quo.
• Identify PEMA’s anticipated role.
• PennDOT and PEMA geographic regions differ.
• Need a clear procedure for personnel involvement in the event of an emergency (i.e., location—who should be where).
• Pennsylvania State Police and fire academy offered training to PennDOT.
• Training operators should be included in the process.

IV. Needs Identification (from flip charts)

Strengths
• Overall incident command structure – Region 13 touted
• PennDOT participates in the EOC

Areas of Focus
1. Emergency Management
• Emergency policy and procedures
  o Consistency (with NIMS structure) on incidents
  o Communication interoperability
  o Shared-resources
• Are there IMS teams? (no but software can assist)
• List of businesses that have resources (food, water, supplies, etc.)
• Link between emergency operations center to PennDOT TMC either through a physical or virtual co-location of centers
• Means for PEMA to communicate with truckers
2. Commercial Vehicle Operations
   - Linkage between CVO and transportation system
   - CVO communication
     - Incidents to CVO
     - For emergency, CVO to emergency management

3. Goods Movement
   - Relationships with goods movement communications as an asset for emergency management
   - Freight currently gets info from multiple sources
   - Rerouting of freight
     - Ways to know what is being moved
     - Critical in large scale event

4. Event Management
   - Standard operating procedures to meet with various major venues
   - Not prepared for simultaneous event management and security incidents

5. Transit
   - 10 authorities need improved coordination for:
     - Emergency management - evacuation routing
     - Planning together
     - Operations dialogue
     - Transit operations communication support activities
   - Transit needs to be involved in evacuation routing

6. PennDOT Institutional
   - Issue of complement staffing for PennDOT
     - D-10 relies on off-hours staff
     - Communication is the common denominator but can’t rely on volunteers
     - Challenge to the status quo

Challenges/Barriers
   - Need to do a better job of communicating the benefits of Operations
   - Need top-level PennDOT management to lead this charge
   - Improved PennDOT understanding of freight industry including just-in-time delivery system and [freight] commerce
   - PennDOT and stakeholders to identify what it is they think PEMA’s role should be
• First responders rely on 60% volunteers yet volunteerism is down.
  o Train the trainers programs

V. Closing Remarks
Jim Hunt from the FHWA then distributed a packet entitled “A Joint Operations Policy Statement” as well as a hard copy of the “Traffic Incident Management (TIM) Program Self Assessment.” Ryan Long will distribute the assessment via email, and asked that all Task Force members complete and return.

Steve Buckley said that he anticipates that the Task Force will reassemble in mid January.
I. Introductions / Purpose of Today
At 1:00 PM, Steve Buckley welcomed everyone, began introductions and explained the purpose of today’s Traveler Information Task Force meeting.

II. Overview / Operations Concepts and Projects
Steve Buckley reviewed a presentation that outlined the process for developing the Regional Operations Plan (ROP)—highlighting the importance of operations, process overview and schedule, ROP needs areas, Task Force work items and suggestions heard at the September meeting.

III. Discussion
The Task Force then engaged in a discussion of needs specific to Traveler Information. The following comments were collected during the discussion:

- Traffic.com has offered services similar to 511 to PennDOT.
- CommutInfo program is a resource—2,000 contacts, quarterly newsletters.
- What information do travelers get, and from where? Is there a comprehensive list? No.
  - A comprehensive list would be a starting point for creating a consistent message.
- Motorists want real-time information.
- Think about the information people can get in advance and on a continual basis—requires an ongoing contact with a group of people. Need private sector involvement.
- Public needs education on how to take advantage of some resources.
• No problem getting information out due to accessibility of KDKA and KQV, but the problem is receiving information in to distribute back out.
  o Need input from transit authorities.
  o Parkways East, West and North have the best information.
• Information coordination between the PTC and PennDOT is important.
  o ITS connections with Findlay, the Mon/Fayette and Southern Beltway.
  o Current infrastructure makes it difficult to share information with motorists.
• Motorists want to see messages on VMS all the time—this may cause people to miss important messages.
• Motorists want to know estimated travel times.
• Timeliness of incident reporting and updates—often depend on drivers to relay information. Need verification mechanisms.
• How does the public want to receive their information?
  o Traffic.com phone service is growing—also provides email alerts.
• Who does the public want to see providing the information?
  o Build on PennDOT TMC.
  o Doesn’t matter for freight.
• Need to marry highway and transit information via joint management center to achieve congestion management.
• Communication across 10 transit authorities is critical and complicated.
• Need to make it as easy as possible for the public to access information through means with which they are already familiar.
• Need to think in terms of Western PA region, not just Southwestern PA region.
• Weather information is critical in Districts 1 & 12, which are mainly rural.
• Need central clearinghouse for information for motorists, tourists, special events and freight—511 will be very useful for the freight industry.
• Need alerts to changes in traffic patterns in work zones in advance in order to adjust travel direction or follow appropriate detour.
• Construction zones and county maintenance centers are “islands” – need to connect them and have a central clearing house.
• The winter warnings put out by the PTC are helpful.
• Mentality for some is that mobility does not matter—need to combat congestion on city streets.
• Trucks not following permitting procedures cause congestion.
• Traffic.com provides information to all local media stations, but has a problem getting the information—especially from 911.
• Need more information on reliability of the collection and analysis of data.
  o Little uniformity / consistency in state-wide data collection.
• Traffic.com data warehouse is a good resource.
  o PennDOT too understaffed to utilize.
• Freeway Service Patrols (FSP) starting to collect data, but it’s difficult to analyze.
• Need advance traveler information on expectations for PTC exits.
• What information should be provided at pre-entry?
  o Parcel out 511 to provide information specific and relative to various locations.
    ▪ How would this system work?
• Engineers need to put thought into the human dynamics of 511—if it fails many times when used, people will not be inclined to continue to use it as a resource.
• Public may want information delivered via different sources at different points in the day.
• FHWA has been encouraged to look at reiterating travel times on a dynamic messaging service.
  o Should be a default.
• PennDOT is considering ground mount boards with destination information and dynamic travel times.
• Would like to see “normal travel time” and “estimated travel time.”
  o Travel.com provides these two figures.
• SAFETEA-LU requires a real time data sharing system—FHWA is awaiting interpretation.

IV. Needs Identification (from flip charts)

Strengths
• PennDOT District 11-0 getting information in (two issues: in, then out)
• Traffic.com data warehouse

Areas of Focus
• Where do travelers get their information? (comprehensive list)
• Info “real time” but advance information is just as important
• Need to have private sector involved
• Simple, low-cost – may be valuable (transit schedules)
• Users probably don’t care, but build on what we have
• Needs to be convenient
• Get weather information from locations to the users (Dist. 1-0 & Dist. 12-0)
• Clearinghouse needs to update things
• Special event information should be included
• FHWA – information on reliability
  o Power in collection and analysis of data
• FSP – starting to collect but difficult to analyze
• Pre-entry information
  o Not an easy item – what information do you provide?
• Regional 511 – How do you structure?
• Information coordination between the PTC and PennDOT is important
  o ITS connections with Findlay, the Mon/Fayette and Southern Beltway
  o On new projects advance coordination is occurring
• People seeking 24/7 VMS
• Point A to point B information (on roads)
• Work zone information for freight
• Visitor information
• Construction zones are “islands” – need to have central clearing
• County maintenance centers are “islands”
• Wireless issues
• Specific information on hazards (PTC – “water freezing at milepost xx.x”)
• 911 – information not being passed to Traffic.com
• Need to marry highway and transit information via joint transit center to achieve congestion management.
• Enforcement
• Investment and thought into the human aspects
  o May vary throughout the day
• D-12 incidents – large pass through
  o Biggest issue is obtaining the information
• Emergency response
  o Should be able to communicate with them about conditions
• VMS signs – should be able to convey travel times

**Challenges/Barriers**
- Traveler information should be expanded to include input from transit agencies.
- Many unknowns still need to be answered:
  o How does the public want to receive their information?
  o What types of information should be gathered?
  o Who does the public want to see providing the information?
  o How will this information be used?
  o How and by whom will information be collected and disseminated?
  o Does the public actually respond to information?
  o What happens when conditions change? How to convey the information? **Customizable information?**

**V. Closing Remarks**
Steve Buckley will distribute the Task Force meeting minutes to the group and said that he anticipates that the Task Force will reassemble in mid January.
PennDOT Planning Services and Implementation
Regional Operations Plan for the Southwestern Region
Traffic Signals Task Force (FINAL)
December 1, 2006 @ 9:00 AM
Regional Enterprise Tower, Pittsburgh, PA

Participating
Frank Cippel       PennDOT District 11-0
Robb Dean       PennDOT District 12-0
Rachel Duda   PennDOT District 12-0
David Freudenrich       Maguire Group
Jim Hunt      Federal Highway Administration
Paul Koza      PennDOT District 10-0
Bill Laubach   PennDOT BHSTE
James MacKay  DMJM Harris
Jason Previte  PennDOT District 10-0
John Rudiak  PennDOT District 11-0
Doug Smith     Southwestern Pennsylvania Commission
Chuck DiPietro Southwestern Pennsylvania Commission

Representing
Steve Buckley                  PB
Ryan Long                        PB
Jada Beaufford              Olszak Management Consulting

I.  Introductions / Purpose of Today
At 9:00 AM, Steve Buckley welcomed everyone, began introductions and explained the purpose of today’s Traffic Signals Task Force meeting.

II.  Overview / Operations Concepts and Projects
Steve Buckley reviewed a presentation that outlined the process for developing the Regional Operations Plan (ROP)—highlighting the importance of operations, process overview and schedule, ROP needs areas, Task Force work items and suggestions heard at the September meeting.

III. Discussion
The Task Force then engaged in a discussion of needs specific to Traffic Signals. The following comments were collected during the discussion:

- Need to look beyond state roads—many roads that carry heavy traffic are not state roads (example: 5th Avenue and Bower Hill). Need to reemphasize the importance of local roads.
- Lack of ongoing financial support to municipalities for signals from PennDOT. Lack of enforcement of agreements.
- Some municipalities want control of their signals while others do not.
• Should include a process to evaluate upgrading signals when projects are developed.
  o Need to upgrade equipment (requires funding) and regular maintenance and retiming (requires personnel and organizational structure).

• Money is the reason it doesn’t get done.
• Need statewide policy.
• Signals are looked at as amenities, not essentials.
• Outreach and solutions should be different for different corridors.
• Can SPC be a buffer between the municipalities and PennDOT to help facilitate the process?
• Some municipalities don’t use their funds on signals for accounting reasons.
• Need better management practices.
• Specific line items exist for funding signals—will have to prioritize signals if money is received.
• New ACS Lite software continually updates signal timing at the end of each day—test projects coming soon.
  o Basic equipment must be in place.

• Who coordinates maintenance?
• Software issues: failure, staffing and monitoring (oversight) and maintenance agreements.
• Create GIS map of all signals, overlay all systems, overlay IT assets and overlay with all maintenance information.
• What would it take, in terms of staffing, for full-time signal maintenance?
  o Three people not enough—need four or five.
  o Could involve higher and lower level employees.
  o Need willing participants (municipalities).
  o Need forums like COGs and ALOM to spread the message.
  o Take advantage of willing participants first.

• Signals have to be in all TIPs at the district level—but line items are the first things to go when demonstrating fiscal constraint.
• Set-asides on the state level are often opposed.
• Revisit and update, as needed, current project evaluation criteria and processes?
  o SPC has a project evaluation subcommittee.

• Need to develop performance measures.
• Many municipalities may not know how to handle signal maintenance, leaving PennDOT to solve their problems. Some refuse to sign agreements to take over signal ownership and maintenance.
• State ownership of signals would be more effective than fragmented local ownership.
• There must be an incentive (carrot) for signal maintenance and there should be enforcement (stick) of agreements.
• Look at opportunities to train municipal officials to maintain signals. AGILITY program?
• Identify starting corridors for pilot program.
• Dream system:
  o Centrally operated; each municipality contributes to a fund for operations and maintenance.
o Standardization of equipment and software, bid and procurement process, as well as training and software.
o Dynamic control.
o Committed staff.
o One point of contact.
o Focus on all corridors, not just state roads.
o Signal maintenance fee charged to developers for new developments—including escrow.
o Developers assessments (NY state) - must integrate new signals with existing systems.
o Standard agreements between developer and municipality
o Each municipality has a comprehensive access management plan.
o Formalized plan and procedures for maintenance and updating signal timing with local municipalities and PennDOT.
o Better design standards all the way around.
o Mandatory certification for maintenance contractors and technicians.
o Data collection capabilities.

• Barriers:
o Funding.
o Organizational structure.
o Institutional inertia.
o Staffing in terms of numbers and quality. Need “certified” technicians with vested interest—whose only focus is signals.
o Need incentives and career opportunities for technicians to want to stay in the field.
o Educational aspects. Traffic Signals field involves a comprehensive knowledge base—not standard civil/electrical engineering skill sets anymore. Now it’s electrical, computer/software and system engineers. Need each specialized field to form a broad-base of technical knowledge.
o Poor communications.
o Local control of equipment.
o Existing mindset in terms of what we can and can’t do is a constraint.
o Explore alternatives to Liquid Fuels Tax.
o Signals viewed as accessories.
o General lack of understanding of Operations benefits.
o Can’t control parking on state roads.
o Legislative issue relating to funding formulas.
o Lack of public relations opportunities—less tangible and visible—no “ribbon” to be cut.
o Political pressure in setting priorities.
o Public perception about priority of getting out of side streets versus through movement on main roads.
o Few consequences for municipalities that don’t maintain signals once installed.

IV. Needs Identification (from flip charts)

Strengths
- PennDOT District 12 – Prioritizing signal improvements (signal enhancement initiative)
- Harrisburg – a great example

**Areas of Focus**
- Dream System (see above discussion)
- Not limiting our view to state roads (critical to Allegheny County – large county system)
- Financial incentives – but enforce agreements (never seen this enforced)
- Some municipalities want control, others seem willing to relinquish
- Old signals can be very expensive to upgrade
- Should include a process to evaluate upgrading signals when projects are developed and a process to remove unwarranted signals
- Prioritize corridors for modernization
- Two priority traffic signal operations issues:
  - Upgrading
  - Maintaining
- Why should PennDOT pay for upgrades when they are supposed to be local?
- How to avoid locals wanting to relinquish signals?
- Is there a role for SPC to “broker”?
- There may be segregated funding from TF&RC
- ACS Lite is being tested
- Who coordinates all of this maintenance?
- Software issues
  - Lots of failures
  - Any tried and true?
  - Are test cases valuable?
  - Need staffing and monitoring
- GIS overlay of signals, systems, ITS to help paint the local picture
- Use of statewide contract to do retimings, etc.
- Need a person to coordinate
- If we had an ADE for Operations
  - How many bodies would be needed?
  - D-11 had three but not enough, need 4 or 5
  - Where does the money come from?
- Use of COGs to help put pressure on municipalities
- Line items for signals?
  - Often gets thrown out
- Set asides on the state level often opposed
- Revisit and update project evaluation processes on an as-needed basis
  - SPC’s project evaluation subcommittee
  - AADT, truck, accidents and other measures
- With education, need to use performance measures to make the case (D-12)
- To do signal operations effectively, the state needs to be more involved;
  - Need a carrot to make incentives for municipalities
  - Liquid fuels might be a good means
  - Need a stick (withhold funding) for enforcement over municipalities
- Means for PennDOT to address
- Identify corridors where opportunity for success
Challenges/Barriers
- Barriers (see above discussion)
- Barrier of public perception (local vs. “through”) – fairly pervasive
- Until municipalities better maintain equipment problems will continue
- When tried to enforce agreements locals balked – any way to segregate a portion of the LFT for signals?
- Those who are “new” to signals don’t know what to do with signals – maintenance, etc.
- 989 signals

V. Closing Remarks
Steve Buckley will distribute the Task Force meeting minutes to the group and said that he anticipates that the Task Force will reassemble in mid January.
PennDOT Planning Services and Implementation
Regional Operations Plan for the Southwestern Region
Institutional Task Force (FINAL)
December 1, 2006 @ 1:00 PM
Regional Enterprise Tower, Pittsburgh, PA

Participating
Robb Dean       PennDOT District 12-0
Rachel Duda     PennDOT District 12-0
David Freudenrich Maguire Group
Paul Koza       PennDOT District 10-0
Todd Kravits    PennDOT District 11-0
Bill Laubach    PennDOT BHSTE
Brenda Murphy   PennDOT BHSTE
Jason Previte   PennDOT District 10-0
John Rudiak     PennDOT District 11-0
Doug Smith      Southwestern Pennsylvania Commission
Lt. Peter Vogel  PA State Police. Troop D

Staffing
Steve Buckley   PB
Ryan Long       PB
Jada Beaufford  Olszak Management Consulting

II. Overview / Operations Concepts and Projects
Steve Buckley reviewed a presentation that outlined the process for developing the Regional Operations Plan (ROP)—highlighting the importance of operations, process overview and schedule, ROP needs areas, Task Force work items and suggestions heard at the September meeting.

III. Discussion
The Task Force then engaged in a discussion of needs specific to Institutional issues. The following comments were collected during the discussion:

- SPC has a regional Transportation Operations & Safety Committee to work through institutional issues.
- Good cooperation between TMCs and City/County 911 centers.
- Good working relationship with state police, media outlets and special event venues/ coordinators.
- Gaps in existing policies create hurdles.
- Challenged to set priorities and make the best use of funding.
- District 12 currently has an agreement with a contractor for ITS.
• District 10 has the beginnings of an inter-municipal agreement for signal maintenance between Cranberry, Adams, Seven Fields and Marshall.
• District 11 has an agreement on the horizon and hopes that the COG will assist in facilitation.
• Although the state police has good relationships with other police departments and PennDOT, communication is hard.
• Areas for improvement:
  o Policy issues that prevent progress and efficiency.
    ▪ Complement policy at PennDOT.
    ▪ Shifting state personnel—one agency suffers at the benefit of another.
  o OA issues with communication—doesn’t use technologies that other departments use.
  o OA forgets that we’re all in Pennsylvania.
  o Very slow to adapt to technological changes needed to meet expectations of programs, motorists, etc.
  o Slow to get through OA for approvals.
  o State government classification system prevents sharing of resources with other agencies (union issues).
  o PennDOT uses C-DART accident reporting system and state police use PROPHECY.
  o Lack of internal knowledge and training to deal with ITS devices.
  o Want in-house control of maintenance or contracted maintenance?
    ▪ Can provide better service to customers with in-house maintenance. Need personnel though.
  o Who will run the message boards 24/7?
  o ITS system was developed independently of IT department.
  o Need someone with engineering, IT and electrical skills to manage ITS.
  o BHSTE has made progress in hiring people with diverse skill sets.
  o Traffic units and TMC have to be pulled out from under maintenance.
  o Could benefit from increased cooperation on operations among 10 transit authorities, as well as between highway operators and transit operators.
    ▪ There are incidences where it would be very helpful to use PAAC busways to get motorists off PennDOT roads.
  o Transit authorities are a good source of information—operators can verify incidents in areas where PennDOT cameras are not available.
  o Camera systems blind at night—has to be addressed when 24/7.
  o Need transit to transit communication—transit vehicles can be probes.
  o Need park and ride information message boards.
  o Little inter-agency sharing because of organizational, personal and financial factors, among others.
  o Dialog and concerns need to be elevated to decision makers—efforts will go nowhere if they don’t buy in.
  o Money issues:
    ▪ If priorities from long range plans don’t make it into the TIP, they will not be implemented.
- Need a target for Operations funding—if overall funding increases, need dedicated set aside funding for Operations at the state level.
- Need new classifications grouping for operations.
  - Operator (2 classes)
  - 1st level supervisor
  - Manager level
- Challenge to compete with other projects.
  - CMAQ process could be improved with more district involvement.
  - Would like to see congestion management process (CMP) tied to CMAQ process - CMP currently has no input into CMAQ.
  - Statewide communication issue is costly—using different radio frequencies.
  - Utilize existing commonwealth infrastructure
    - TMC on an entirely different system.
  - Need dedicated ITS coordinator position—needs to be supported at the highest level of PennDOT.

IV. Needs Identification (from flip charts)

**Strengths**
- Good cooperation between TMC, City 911, PSP media outlets, special events
- SPC has a regional Transportation Operations & Safety Committee

**Areas of Focus**
- Top 5:
  1. Organizational structure to deal with Operations
  2. Dedicated funding
  3. IT infrastructure
  4. Standardization of data collection and sharing
  5. Education and outreach
- See “Areas for improvement” above
- Maintenance agreements for ITS contractors
- Relationships are good; communication is the challenge
- Accident “reporting” (tracking) system
  - PSP – looks at all the incidents (PROPHECY)
  - PennDOT tracks their… (C-DART)
- Highway / transit dialog
- Operations need to move from maintenance
  - Need someone elevated to a level to provide standing and a champion (such as an ADE for Operations at each District)
  - Transit – multiple agencies need to coordinate.
- How to integrate TMCs with one another (off hours)

**Challenges/Barriers**
- Lack of internal knowledge or training to deal with ITS devices (after expiration of warranty) need to currently rely on maintenance agreements
- Institutional arrangements on who is responsible for operating the TMCs
- No classifications for Operations (antiquated)
• PennDOT policy on sharing personnel
• Challenge is competing with other types of projects

V. Closing Remarks
Steve Buckley will distribute the Task Force meeting minutes to the group and said that he anticipates that the Task Force will reassemble in mid January.
I. Goals for Today
At 1:00 PM, Steve Buckley welcomed everyone, began introductions and explained that the purpose of today’s Incident and Emergency Management Task Force meeting is to review key findings; prioritize needs; and discuss possible initiatives, projects and next steps.

II. Summary of First Task Force Meeting
Steve Buckley reviewed key findings summarizing the needs from the first Incident and Emergency Management Task Force meeting.

III. Update on TSOP Initiatives
Doug Tomlinson provided the following TSOP updates:
- RCRS is up and running and ready for PEMA activation
  - RCRS will become a 24/7 reporting tool
• Working on Internet access
• TSOP 1 – incident reporting system – use GATOR platform in PEMA office
• TSOP 9 – strategy for TMCs – 3 across state to act as RTMCs
• TSOP 3 – ITS field device master plan – enhance the way incident management information is being shared amongst agencies
• TSOP 4 – provide information via the web and phone-based 911 systems

Jim Hunt provided the following updates:
• Four national congestion management initiatives
  o Full freeway service patrol
  o Data integration of TMCs and EMSs
  o Vehicle removal
  o Quick clearance

IV. Discussion of Initiatives and Projects
The Task Force was asked to recommend proposed solutions or projects for each key needs area to be implemented through policies, agreements or programmed through the regional TIP.

Incident Management Command and Response
Proposed Solutions

1. Establish quarterly or biannual meetings with PennDOT Districts, PSP, PEMA and local emergency responders within the Southwestern ROP region to build relationships, communicate issues, as well as review incident management procedures and responsibilities across agencies – similar to PEMA’s Council 13 Regional Task Force meeting.
2. Strengthen relationships with utility companies, especially in rural areas to assist in quick clearance of incidents.
3. Explore expanded information sharing among PennDOT, PEMA, PSP, etc.
4. Incorporate additional technologies like live satellite feeds to bolster current incident management detection systems.

Support Equipment Gaps
Proposed Solutions

1. Conduct regional equipment gap studies periodically regarding ITS devices, hardware and software equipment.
2. Work with OA to procure 800mhz equipment.
3. Seek other sources of funding like Homeland Security grants to pay for new wireless infrastructure and equipment.

Training
Proposed Solutions

1. Provide PennDOT Districts more training on NIMS (National Incident Management System) and the ESF (Emergency Support Function), especially managers/foreman in the field (currently managers receive on-line courses).
2. Develop a train-the-trainer program for LTAP on “quick clearance” to educate PennDOT, PSP and responders on managing and clearing incidents.

Evacuation Planning and Event Management
Proposed Solutions

1. Incorporate contingencies for construction and loss of vital corridors when developing evacuation plans.
2. Develop pre-determined detour routes
3. Develop and periodically review traffic management plans for event venues.
4. Incorporate procedures for integrated signal control for evacuation planning and detour routing.

V. Next Steps
With the information collected in this Task Force meeting, Steve Buckley will further refine the initiatives, define key steps and lead roles, and determine how the four Task Forces will work together in development of the ROP. Steve will have a draft document prepared for the next meeting.
PennDOT Planning Services and Implementation
Regional Operations Plan for the Southwestern Region
Traveler Information Task Force #2
January 26, 2007 @ 9:00 AM
Regional Enterprise Tower, Pittsburgh, PA

Participating
Richard Feder   Port Authority Allegheny County
Terry Johnson   Traffic.com
Ron Kimmel     PEMA
Todd Kravits   PennDOT District 11-0
Lynn Manion    Airport Corridor Transportation Management Association
Dominic Munizza DMJM Harris
Brenda Murphy  PennDOT BHSTE
Bob Pento      PennDOT BHSTE
Jason Previte  PennDOT District 11-0
Mavis Rainey   Oakland Transportation Management Association
Dave Tomaswick PennDOT District 10-0
Carol Uminski  SPC

Staffing
Steve Buckley  PB
Mike Harris    PB
Ryan Long      PB
Hannah Bulger  Olszak Management Consulting

I.  Introductions / Purpose of Today
At 9:00 AM, Steve Buckley began introductions and explained that the purpose of today’s Traveler Information Task Force meeting is to review key findings; prioritize needs; and discuss possible initiatives, projects and next steps.

II. Summary of First Task Force Meeting
Steve Buckley reviewed key findings summarizing the needs from the first Traveler Information Task Force meeting.

III. Update on TSOP Initiatives
Bob Pento reviewed a presentation that outlined relevant TSOP initiatives, highlighting the importance of the need for consistent traveler information statewide and ways to incorporate regional needs into a statewide effort. He reviewed the work that has been completed to date and where we are now. He discussed the PA 511 Coalition and Work Group and said that they are looking for participation from all regions to provide statewide service that meets regional needs.

IV. Discussion of Initiatives and Projects
The Task Force was asked to recommend proposed solutions or projects for each key needs area to be implemented through policies, agreements or programmed through the regional TIP.

**Real-time Information**

**Proposed Solutions**

1. Expand connections of PennDOT’s detection equipment to allow Traffic.com (or other information service providers) to utilize data feeds from more sensor locations.
2. Reevaluate terms of original agreement with Traffic.com to provide more robust services including traveler information on; tunnels, interstates, as well as specific rural and urban services.
3. Utilize transit vehicles as probes for feeding traffic data to PennDOT especially for highways and major arterials that are not currently being monitored or as a redundancy sensor.
4. Further utilize VMS to display travel time and road reopening/closure information.
5. Improve reliability of information including; en route information and information on alternative route options to travelers during incidents and emergencies. Monitor reliability of information being disseminated with performance measures.
6. More robust real-time transit information via computer/handheld similar to “nextbus.com” services (Port Authority busses are equipped with GPS), as well as via station/platform.
7. Identify other gaps in PennDOT detection system that prevent timely information collection (e.g., the RCRS only reports roads closed for more than three hours).

**Customizable Information for Users**

**Proposed Solutions**

1. Determine what information the region’s users want and how best to get the information to end-users. Utilize existing partnerships with TMAs and others who can connect best with users.
2. Establish opportunities for data sharing between PennDOT vendors to collect and disseminate region-specific data.
3. Evaluate the process of where PennDOT’s traveler information comes from and how it gets disseminated (e.g., information is paired out of TMC which comes from new RCRS system which collects data from county maintenance or ITS devices), as well as identify other possible sources of additional information that could be incorporated into this process (e.g., other state agency data systems like PEIRS could also be included in RCRS).

**Organizational**

**Proposed Solutions**

1. Creation of a full-time Regional Traveler Information Coordinator with the following proposed duties;
   - Advance the region’s traveler information needs
   - Correct disconnects and resolve institutional barriers that create inefficiencies in collecting and disseminating information between the PTC and PennDOT, as well as between PennDOT and regional transit agencies
To help identify new functionalities and traveler information services for the region
- Lead public outreach and education efforts
- Integrates statewide 511 initiative into regional efforts

V. Next Steps
With the information collected in this Task Force meeting, Steve Buckley will further refine the initiatives, define key steps and lead roles, and determine how the four Task Forces will work together in development of the ROP. Steve will have a draft document prepared for the next meeting.

Bob Pento is looking for people interested in the statewide 511 plan. He can be reached at rpento@state.pa.us or 717-783-6265.
PennDOT Planning Services and Implementation
Regional Operations Plan for the Southwestern Region
Traffic Signals Task Force #2
January 25, 2007 @ 1:00 PM
Regional Enterprise Tower, Pittsburgh, PA

Participating
- Lucinda G. Beattie  Pittsburgh Downtown partnership
- Anthony Castellone  PBS&J
- Frank Cippel  PennDOT District 11-0
- Robb Dean  PennDOT District 12-0 (via phone)
- Chuck DiPietro  Southwestern Pennsylvania Commission
- Rachel Duda  PennDOT District 12-0 (via phone)
- Patrick Hassett  City of Pittsburgh DPW
- Paul Koza  PennDOT District 10-0
- Bill Laubach  PennDOT BHSTE
- Jim MacKay  DMJM Harris
- Tony Mento  Federal Highway Administration
- John Rudiak  PennDOT District 11-0

Representing
- Steve Buckley                  PB
- Mike Harris    PB
- Ryan Long                        PB
- Jada Beaufford              Olszak Management Consulting

II. Summary of First Task Force Meeting
Steve Buckley reviewed key findings summarizing the need from the first Traffic Signals Task Force meeting.

III. Update on TSOP Initiatives
Bill Laubauch provided the following updates on the TSOP signal initiatives:
- Statewide traffic signal asset management system, followed by a separate IT contract
- Develop interim guidelines by spring 2008 for types of information that can be collected now
- Integrate corridor management projects
- District 6 MOUs for sharing operational control
- Ensure signal aspects on parallel routes
• CCIP (Congestion Corridor Improvement Program) – 11 corridors identified
• Work on cost estimates to Transportation Funding and Reform Commission for signal retiming and modernization component

Chuck DiPietro provided the following updates:
• Long range transportation plan will be adopted at the end of June
• TIP will be updated June 2008
• Statewide reengineering groups will be meeting soon to discuss process for sharing funds statewide

IV. Discussion of Initiatives and Projects
The Task Force was asked to recommend proposed solutions or projects for each key needs area to be implemented through policies, agreements or programmed through the regional TIP.

Signal Maintenance and Upgrades
Proposed Solutions

1. Conduct (or compile existing) condition assessment(s) of signals in the region.
2. Develop robust signals inventory on GIS for entire region. Each signal could be plotted on a map and could provide condition information including when signal was last inventoried, retimed etc. This information can then be placed on the web or used for decision-making purposes including;
   o Prioritizing maintenance or upgrades through gap assessments
   o Determine most problematic signals/intersections - justification for funding
   o Demonstrate the need for maintenance agreements between municipalities.
   o Feasibility studies of integrated signals on select corridors
3. Create incentives (carrot) to municipalities for conducting signal maintenance and better enforcement (stick) options for PennDOT when maintenance agreements are not honored (determined by level of performance).
4. Conduct study on feasibility and cost-effectiveness of state ownership and management of signals or centralization of maintenance responsibilities (i.e., each municipality contributes to a fund for operations and maintenance).
5. Develop asset management tools for optimizing signal maintenance dollars.
6. Formalize procedures for maintenance and updating signal timing with local municipalities and PennDOT.
7. Develop standardization of equipment and software, bid and procurement process, as well as training and software.
8. Demonstrate benefits of an integrated (fully synchronized) signal system by conducting a pilot program on one of SPC’s congested corridor.

Organizational
Proposed Solutions

1. Creation of a full-time Regional Signals Manager position with the following proposed duties;
   o Advance the region’s traffic signal needs
- Manage GIS signals inventory
- Administer proposed dedicated funding source for signals maintenance (see below)
- Oversee maintenance agreements
- To facilitate municipality coordination
- Leads public outreach and education efforts

**Funding**

**Proposed Solutions**

1. Create dedicated/restricted funding source for municipalities to be used for signal maintenance only (currently state liquid fuels dollars can be used for anything by municipalities) and possibly for pedestrian upgrades.
2. Create innovative ways to label and describe signals projects on TIP line items.
3. Investigate charging one-time “signal maintenance fee” to developers for integrating new signals with existing system.

**V. Next Steps**

With the information collected in this Task Force meeting, Steve Buckley will further refine the initiatives, define key steps and lead roles, and determine how the four Task Forces will work together in development of the ROP. Steve will have a draft document prepared for the next meeting.
I. Goals for Today
At 9:00 AM, Steve Buckley welcomed everyone, began introductions and explained that the purpose of today’s Institutional Task Force meeting is to review key findings; prioritize needs; and discuss possible initiatives, projects and next steps.

II. Summary of First Task Force Meeting
Steve Buckley reviewed the findings from the first Institutional Task Force meeting.

III. Update on TSOP Initiatives
Brenda Murphy informed the Task Force that the District 2 interim TMC is operational; they hope to construct the rest of their TMC soon.

Mike Harris announced that a statewide telecommunications plan is underway.

IV. Discussion of Initiatives and Projects
Steve Buckley summarized the needs discussed during the first Task Force meeting:

1. Organizational structure to deal with operations
2. Dedicated funding
3. IT and communications infrastructure
4. Standardization of and agreements for the collections, storage, sharing and monitoring of transportations operations data and information
5. Gap assessment
6. Operations education and outreach
7. Coordination between PennDOT and transit authorities, and among transit authorities

Due to the number of needs areas under consideration, the Task Force determined that some of the needs above could be effectively addressed by prioritizing them into A-level (higher priority) or B-level (lower priority) designations. It was also discussed that some of the possible solutions to address these needs would most likely be statewide projects or would require further Central Office guidance prior to implementation. The Task Force was then asked to recommend proposed solutions or projects for each key needs area to be implemented through policies, agreements or programmed through the regional TIP.

Organizational Structure to Deal with Operations (A Level)

Proposed Solutions

1. Creation of a full-time “Regional Operations Coordinator” position to facilitate operations’ policy, coordination, public outreach and mainstreaming efforts. This position was intended to help improve the communication and linkages between PennDOT Districts, SPC, local transit authorities, and local municipalities.

Proposed duties of the Operations Coordinator include:

- Champion of the ROP; role is to implement, maintain and help update ROP
- Coordinates inter-agency committees
- Clearinghouse for regional transportation operations coordination – this may meld with existing SPC TOSC (Transportation Operations and Safety Committee) but may be separate
- Obtains MOU and buy-in from transportation partners
- Documents operations’ successes and helps bring operations to forefront of transportation issues
- Leads public involvement efforts and educational outreach
- Communicates the value of a balanced transportation plan and importance of dedicated funding
- Mainstreaming operations

2. Creation of an ADE for Operations to elevate operations on par with other functional areas within each District.

3. Creation of a full-time PennDOT ITS Coordinator (operational level) – as pay grade 8 manager level.

Operations Education and Outreach (A-Level)

Proposed Solutions

1. Organize a public hearing(s) on what operations are and why operations are important. Opportunity for public to understand the regional issues and benefits.

2. Organize a workshop to educate senior level transportation decision-makers and other regional stakeholders on why operations are important and the benefits derived from a balanced transportation plan and importance of dedicated funding.

3. Engage the public via grass roots outreach (utilizing non-profit groups) to distribute brochures or materials.

4. Engage PennDOT to market operations’ benefits.

Dedicated Funding (B Level)
Proposed Solutions

1. Link Transportation and Reform Commission recommendations to funding operations.
2. Match dollars invested in ITS technology and infrastructure with investment in operations personnel.
3. Seek dedicated funding referendum as done in other states.

IT and Communications Infrastructure (B-Level)
Proposed Solutions

1. Capitalize on existing technology/IT infrastructure or piggyback with other agencies for funding (e.g., Homeland Security grants distributed to PEMA for procurement of equipment).
2. Creation of a county coordinator among EMAs for standardization of communication methods
3. Explore co-location of operations centers (transit and highway)
   - Real or virtual
   - Systems or people
   - Center-to-center or wireless
4. Ensure TMAs are “in the mix” in terms of information dissemination

Standardization of and agreements for the collections, storage, sharing and monitoring of transportsations operations data and information (B-Level)
Proposed Solutions

1. Establish one resource for incident management data collection and storage.
2. Utilize existing PennDOT GIS-based system for monitoring and reporting transportation operations data.

Coordination between PennDOT and Transit Authorities and Among Transit Authorities – this area was not discussed in detail and no proposed solutions were developed.

Gap Assessment - this area was not discussed in detail and no proposed solutions were developed.

V. Next Steps
With the information collected in this Task Force meeting, Steve Buckley stated he will further refine the initiatives, define key steps and lead roles, and determine how the four Task Forces will work together in development of the ROP. Steve will have a draft document prepared for the next meeting.